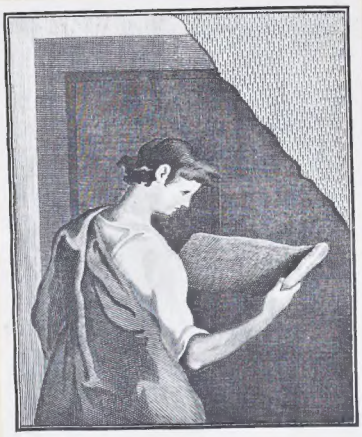
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AN

ILLUSTRATED WEEKLY MAGAZINE,

FOR THE

ARCHITECT, ENGINEER, OPERATIVE, AND ARTIST.

"Every man's proper mansion-house, and home, being the theater of his hospitality, the seate of selfe-fruition, the comfortablest part of his own life, the noblest of his sonne's inheritance, a kinde of private princedome, nay, to the possessors thereof, an epitomie of the whole world, may well deserve, by these attributes, according to the degree of the master, to be decently and delightfully adorned."

"Architecture can want no commendation, where there are noble men, or noble mindes."

SIR HENRY WOTTON.

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The Builder.

NUMBER 152. VOLUME IV. SATURDAY, JAN. 3.

THE OPENING OF A NEW VOLUME.

IN our brief address at the close of last year (a short week ago,—so quickly does the *present* become the *past*) we claimed our readers' belief for any promises we might make for the future, on the ground that we had redeemed all former pledges to their satisfaction,—an assumption somewhat egotistical it must be confessed, but which we have been led implicitly to believe and confidently to assert, chiefly by their own kind and increasing encouragement. We pointed out what had been done, and alluded to some few particulars which, of themselves, rendered the volume indispensably necessary as well to all owners and occupiers of houses, as to the architect, surveyor, builder, and decorative artist. To this therefore, we shall not now refer; our present business is with the future, and to offer an assurance to our readers, that no efforts shall be spared to increase the usefulness and value of the journal, and to render it equal to the great objects it has in view, and worthy of the confidence reposed in it by the public.

We begin the year under very promising circumstances, — our arrangements are more complete than they have ever yet been, and our contributors more numerous and able. We circulate among classes who, for some time after the establishment of THE BUILDER were led by want of full appreciation of the scope of the title, to look no further; and our field of action is extended and extending.

Our means of obtaining information are considerable, and our readers, if they could be induced to take the trouble, might make them perfect and universal. If each of our well wishers throughout the kingdom, would inform us briefly of simple facts, and occurrences connected with the subjects of which we treat, —a novelty in construction; a failure and why; injury to ancient structures, the erection of new; proposed competitions; trials at law relating to buildings; intended improvements, and similar topics,—the result would be a body of information of the most valuable and interesting character. This assistance therefore, we solicit from them: and we further, ask architects to give us early information of the buildings they may have in hand, and publishers to send us notice of the works they issue. Though we cannot promise praise, we do promise to give both buildings and books, unprejudiced and unbiassed consideration, and to commend where commendation is in any degree deserved.

We deal in honey rather than vinegar: we are not disposed to wound feelings merely to appear smart, and to depress struggling merit for the sake of shewing our own taste, or superior knowledge of the subject treated. When, however, the interests of the public demand plain speaking, when corruption is apparent, dishonourable conduct exhibited, when public officers are inefficient or unjust, or a charlatan deserves exposure, we will not be deterred from what we may believe to be our duty, by consideration for individuals or by any personal fears. And though we may not use our arms every week, we promise those who force us to resort to them, a none the less determined and vigourous opponent.

One great object that we have in view is, to render the art and science of architecture familiar to the general reader; to diffuse a knowledge of the subject, and to raise the standard of taste. With a view to this, we shall strive to interest and please as well as instruct. Painting and sculpture, as important accessaries of architecture, will have our care; and archæology, and general science to a certain extent, will fall within our province. To the proposed revision of the Metropolitan Buildings Act, we shall of course give attention, and shall continue to place before our readers all the more important awards of the official referees, which shew its operation, and may serve as precedents.

Among the subjects to which we shall continue to refer, with the hope of effecting improvements are, defective modes of construction; ventilation; drainage, and the administration of competitions; and we shall ever urge the improvement of our operatives, the removal of the window-tax (a tax on cleanliness, health, and architectural propriety), the admission of the people to public monuments, and the establishment and maintenance of a NATIONAL MUSEUM OF ARCHITECTURE.

In consequence of the length of some important papers in our present number, it does not contain the same amount of "news" as usual. Information from the provinces and abroad, railway jottings, and notes on passing events are unavoidably postponed. We mention this that our readers may not suppose less attention will be paid in this respect than heretofore. The reverse will be the case.

BURSTING OF A TANK AT LIVERPOOL.—The late fatal accident at Liverpool calls for a searching examination, with the view of lessening the probability of its recurrence elsewhere. We shall next week discuss the subject, which is of great importance, at some length, and point out the circumstances to be attended to in providing receptacles for fluids.

THE OLD 'CHANGES OF LONDON;

AND REMARKS ON THE RELICS FOUND ON THEIR SITES.

BY W. TITE, ESQ., F.R.S.

AT the last meeting of the Institute of Architects, Mr. W. Tite, V.P., read a paper illustrative of several of the proceedings connected with the two old Exchanges, as derived from the records of the Corporation of London, and of the Mercers' Company; with notices of the antiquities discovered on the site of the former edifices. The title of this discourse naturally indicated its division into three general sections:—some illustrations concerning the first Exchange of Sir Thomas Gresham; some particulars relating to that built after the great fire, and recently destroyed; and some account of the ancient remains found on the site of the old buildings, in making the excavations for the present structure. Mr. Tite exhibited several drawings and plans of the old Exchanges; as well as a large and interesting selection of those antiquities, which were displayed in several glass-cases on the table.

The materials of the first two portions of the discourse having been derived chiefly, from that exceedingly curious and valuable series of "Extracts from the Records of the City of London, and the Books of the Joint-Committee upon Gresham Affairs," printed by the Corporation, Mr. Tite commenced by observing, that British records were the only sure foundations for British history. He then adverted to the high reputation of the national records of this country, as excelling "in age, beauty, correctness, and authority, whatever the choicest archives abroad can produce of the like sort," in the words of the eulogy of Sir Joseph Ayloffe; and then passed on to the peculiar characteristics of the "Records of the Chamber of London," noticing the "Liber Albus," the "Liber Horne," and their printed representative, "Arnold's Chronicle;" ending with a description and recital of the first charter granted to the City of London by William I.

The historical notices concerning the erection of the Burse of Sir Thomas Gresham, as well as of the second Exchange, independently of the official entries now brought forward, are exceedingly indefinite and imperfect; and those extracts formed, perhaps, the most valuable part of the whole discourse. In our account of these portions, therefore, we shall be the most minute; but it is quite impossible to present even a summary of them all in the present limits: more especially, as Mr. Tite stated, that he had marked for reading many more extracts of great curiosity, which the time compelled him to omit.

It is commonly known as the origin of the first Exchange, that "Forasmuch as the meetings of the merchants of London were unpleasant and troublesome, by reason of their walking and talking in a narrow street," in all weathers, Sir Thomas Gresham made to the Corporation his famous offer of erecting a Burse at his own especial charge. Hence Mr. Tite's first extract from the proceedings of the Court of Aldermen, Jan. 4th, 1564 (1565), stated, that "After the gentle and very fryndely, offer made unto the Courte here this daye, for the erectynge and buyldynge at his onely costs and charges of a comely burse for merchauntts to assemble uppon, so that the Cytye, at their charges, wyll provyde and appoynt a mete and apte place for the same, beinge well and rypely

conveyed and understonden by the Courte, yt was fynally grauntyd and agreed by the same Courte, that the Cyte at their charges shall provide an apte and mete place for the saide purpose: and that he shall receyve knowledge of the same here uppon Mondaye next comynge." A committee was then nominated to view and consider of several proposed sites, with the expense of each; "and to make reporte thereof to my L. Mayre, and his brethren the Aldermen, *upon Sondaye next, at viij of the clok, in the Chappell in Poule's Churche wherein they doe usually assemble before the sermontyme.*" On the 8th of the same month, it was "fully assentyd, consentyd, and agreed, by the hole Courte here, that the burse shalle be buyldyd and made bytwene Lumbard-street and Cornhill."

Some notion of the value of the property required, was shewn by the Court authorizing "xxiij yere's purchase" to be given for the houses bought of the Dean and Chapter of Canterbury; and several succeeding extracts exhibited the manner in which the "benevolence and aid of the xij hedd companyes," and "the Governors of the Merchaunt Aventurers, and of the staple beyond the sea," were solicited "towardes the fynisshinge of the Burse." Mr. Tite also read part of a very curious official letter to the former association, requiring their benevolence of 400 marks (266*l.* 13s. 4d.) should "be readye to be paied to us within these two monthes." The mayor's precept was also issued for payment of the different sums allotted to the twelve companies; all which contributions amounted to 1,586*l.* 9s. 7d.: the expenses of the property bought for the site of the Exchange being 2,208*l.* 6s. 8d. for the freehold; 1,222*l.* 14s. for the leasehold; and 101*l.* 16s. 6d. petty charges; making a total of 3,532*l.* 17s. 2d. to be provided by the City. The materials of the buildings taken down sold for 478*l.* 3s. 4d.

Mr. Tite then noticed, that on Feb. 9th, 1565 (1566), Sir Thomas Gresham "did most franckly and lovingly graunte and promysse, that within one moneth next after the buildinge and fully fynisshinge of the Burse and Bursepawnes, and other buildings intended, he would assure to the Citte for the Citie's use, the moytie of all the said Burse, etc. and for the sewer performance of the premysses, the said Sir Thomas, in the presence of the parsons aforenamed, did give his hande to Sir William Garrard, and dranke a carouse to Thomas Rowe." Notwithstanding all this public spirit, however, nearly twelvemonths before the completion of the Burse, a royal proclamation was published against "some very lewde and evell-disposed personne or persones," who had "cutt, mangled, and defaced, the creasts conyzans, and mantell, of the armes of Sir Thomas Gresham, sett upon the west dore of the stares ascending into the pawne, on the south side of the said building, to the greate discomforte and discourage of the said Sir Thomas Gresham." It will be remembered, that the Royal Exchange was at length opened and named by Queen Elizabeth, on Jan. 23rd, 1571.

Sir Thomas Gresham died suddenly, at his house, in Bishopsgate-street, between six and seven o'clock in the evening of Nov. 21, 1579, on his return from the Exchange: and another extract, cited by Mr. Tite, dated 1610, noticed his "being cut off by untymely death, having left a parte of his royall monument unperformed; that is, xxx Pictures of Kings and Queenes of this land; and to that purpose left 30 roomes (niches) to place them in." The same document contained a proposal, that before any citizen should be finally elected alderman, he should be "enjoyned to pay the charge of making and fynishing one of the forsaid Kings or Queenes theire pictures, to be erected in the places aforesaid in the Exchange, not exceeding 100 nobles (66*l.* 6s. 8d.); the pictures to be graven on wood, covered with lead, and then gilded and paynted in oyle-cullors." This scheme was partly adopted, by the Court of Common Council making the erection of one such statue a part of the fine for being freed from the office of Sheriff. So long as thirty years before the destruction of the Exchange by the great fire, it appears to have been considered as being placed in considerable danger; an order of the Court of Aldermen declaring that the Court being "informed that certaine feather-makers and others that keepe shopp in the Upper-Pawne of the Royall Exchange, London, doe commonly use and keepe pannes of fyer in their said shoppe, upon pretence of use thereof for their trades, which are conceived to be verie daingerous for firing the said shoppe; it is thought fitt, and soe ordered by this Court, that from henceforth noe manner of fyer, either in panns, or any other thing whatsoever, shall be had or used in any of the shopps aforesaid."* The destruction of the first Royal Exchange in the Fire of London, on Monday, Sept. 4, 1666, closed the first division of Mr. Tite's discourse.

So early as Oct. 23, a survey of the ruins was presented; and on Nov. 16, Mr. (Dr. Robert) Hooke, made a very curious report on them, which Mr. Tite read at length. In this it is stated, that "by makeing a particular estimate of the several thinges to bee done in order to the rebuilding of the Exchange anew, in the same forme as itt was of heretofore (abateing only the statues of the Kinges in the nicches, and the arched roofe of stone over the walke, which I thinke would bee better if made of plastered seeling, whereby all the cross-irons might bee spared); to make the pillars, arches, architrave, freez, and cornice, and the borders of the nicches, and the fower windowes, of Portland-stone, and to pave the walkes with squared Purbeck-stone; that the whole charge will amount to betweene £4000 & £5000, supposing all the materialls to bee new bought; but the paveing for the most parte seemes good. The pedestals of all the pillars are very little damnifyed by the fyre."

Down to the time of the death of Sir Thomas Gresham, the affairs of the Royal Exchange had been conducted by himself and the Corporation of London; but they then passed under the management of the Gresham Committee, as the trustees appointed under his will, in connection with certain members nominated by the Corporation. Thus originated the Grand, or Joint-Committee, under whose direction was executed the rebuilding of the Royal Exchange, after the Great Fire. Mr. Tite next proceeded to shew that the real architect of that edifice was Edward Jerman; but as we have already printed a very curious paper on that subject, we refer our readers to it, for much of the information contained in this part of the discourse. Two large and beautiful drawings of Jerman's designs for the building, executed in Indian ink upon vellum, illustrated this division of the subject. These drawings belong to R. W. Jupp, Esq., of Carpenters' Hall, and are considered to be cotemporary with Jerman's building.

Mr. Tite noticed it was a remarkable coincidence, that immediately after the fire, the Court of Aldermen "ordered that the Exchange shall bee in the gardens or walkes of Gresham House;" being the site of the very spot on which the temporary Exchange was erected in 1838—the great court-yard of the Excise Office. Some curious particulars of payments, and of the providing and cost of materials for the second Exchange, were here introduced, of which we may notice a few. Thus, the clerk of the works was to receive 12s. per week; the working of "all mouldings whatsoever," was to be paid at 5s. 9d. per foot; all the smaller pillars, fluted, were to be 8*l.* each, and the four greater 12*l.*; and on Dec. 9th, 1667, "the Committee, considering that Mr. Jerman, who was chosen surveyor for rebuilding the Exchange, in April last, hath not yet received any gratification for his paines about drawing drafts, and directing the building;—ordered that 50*l.* shall be paid him upon account, until further consideration of his merits." Another payment, remarkably characteristic of the manners of the period, was also made at this time. It was, by the Committee, to Sir John Denham, the poet, "His Majestie's Surveyor-General of his Workes, for his trouble from time to time, in coming down to view the Exchainge, and streetes adjoining; as also in furthering theire addresses to His Majesty, and giving them full warrants for Portland-stone;" and the Committee, therefore, ordered provision to be made "of six or eight dishes of meate att the Sun Tavern, on Wednesday next, to intertayne him withal at his comeing downe, and to present him with thirty guinney pieces of gold, as a toaken of theire gratitude."

On Oct. 23rd, in the same year, King Charles II. fixed the first pillar for the re-edifying of the Exchange, on the west side of the north entrance. "He was entertained," says the official entry of the event, "by the City and Company, with a chine of beef, grand dish of fowl, gammons of bacon, dried tongues, anchoves, caviare, etc., and plenty of several sorts of wine. He gave 20*l.* in gold to the workmen. The interteynment was in a shedd built and adorned on purpose, upon the Scotch walke." On the 31st, the Duke of Yorke founded the corresponding pier; and on Nov. 18th, Prince Rupert fixed the pillar on the east side of the south entrance; both being similarly entertained.

The King interested himself so far in the architectural appearance of the edifice, as to desire, that portions might be built on all sides of the Exchange; and hence, Mr. Tite took occasion to notice the difficulties which arose between the Committee and the possessors of the property required; and in especial, with Van Swieten, or Sweetings, as he is usually called. About seven hundred superficial feet were wanted of his ground at the east end of the Exchange, and about one thousand four hundred feet more for a street or passage; for which he declared that he expected to be paid according to the *cheapest* rate that any other ground should be bought at. When, however, he appeared before the sub-committee, he demanded 1,000*l.* for six hundred and twenty-seven feet, which was thought so unreasonable that they laid it aside.

The architect, Jerman, did not live to complete the Exchange; and, on Nov. 28th, 1668, the Committee directed Mr. Cartwright, the mason, to proceed vigorously with the work, he having declared himself master of the whole designs intended for the building. In April, 1669, Dr. Wren (Sir Christopher) first appears connected with this Exchange; he then being solicited by the Committee to advise with them concerning the difficulty and charge of erecting porticos on the east and west sides, and to represent the same to his Majesty. The King subsequently left this matter to their discretion, to act as might be the most conducive to their own interest.

A remarkable decoration was originally proposed for this building, which is now known only by the series of official extracts brought forward by Mr. Tite. The celebrated Sir Robert Viner appeared at a committee, on March 22nd, 1668 (1669), and proffered to give *his Majesty's statue on horseback, cut in white marble, to stand upon the Royal Exchange.* They expressed their high sense of his noble proffer, but after sending a deputation "to view the bignesse of the said statue, and to consider how and where it may bee placed," it was declined, because it would hinder the prospect through both doors; it would take up too much of that room, which is already too little to contain the concourse of merchants. Sir Robert Viner afterwards gave this statue to be erected over the conduit at Stock's-market.

The building now approached completion, and Mr. Tite noticed a variety of curious circumstances connected therewith. Thus we find that Caius Gabriel Cibber was appointed to be the carver; that the clock was to be set up by Edward Stanton, under the direction of Dr. Hook, having chimes with four bells, playing six tunes, the payment for which was to be 120*l.*, with a conditional gratuity of 10*l.*; that William Wightman was to furnish a set of sound and tuneable bells, at 6*l.* 5s. per cwt.; that four balconies were to be made from the inner-pawn into the quadrangle, at a charge of *not more than* 300*l.*; and that the signs to the

* Mr. Tite referred to the will of Sir Thomas Gresham, in this part of the paper, and pointed out its objects. Sir Thomas Gresham left the Exchange during the life of his widow to her use; and at her death, he left his mansion in Threadneedle-street, now occupied by the Excise Office, for a college, to be called Gresham College. This was intended to be a London University in its objects and its usefulness; and it so continued and flourished exceedingly, the funds for its support being provided by the rents of the shops and pawnes of the Exchange. By the Great Fire this source of income was entirely cut off; and not only so, but the two Corporations of the City of London, and the Mercers' Company, incurred a debt of nearly 50,000*l.* in rebuilding the Exchange. They, notwithstanding, out of their own resources, continued the College, until the year 1745, when the debt amounted to no less a sum than 111,000*l.* In 1768, the College was put an end to, by an Act of Parliament, and the site let to the Commissioners of Excise. The Gresham Professors were always continued, and gave their lectures in a room in the Exchange, up to the recent fire. Since the fire of 1837, the Gresham Committee have, from their own funds, rebuilt Gresham College, in Gresham-street, at an expense of upwards of 15,000*l.*; and the debt incurred by the two Corporations, in maintaining the Exchange, and rebuilding it twice, in maintaining the Gresham Professors, and some alms-houses, founded also by Sir Thomas Gresham, amounts now to considerably more than 200,000*l.* And thus these two great Corporations have most nobly and disinterestedly carried out the objects of Sir Thomas Gresham; but, at the same time, at this great pecuniary sacrifice.

shops in the pawns should not be hung forth, but set over the frieze of each shop.

Mr. Tite then entered on the last division of his discourse, that there was a period of much more remote antiquity, by hundreds upon hundreds of years, than the time of the oldest Exchange; and that it was of the relics of that period, then exhibited to the meeting, of which he was about to speak. In doing this, he was desirous of shewing his junior professional hearers "how to observe," when such antiquities came before them in the discharge of their duties. He first gave an account of the place and manner of their discovery, which will be found in his own report addressed to the joint committee, and which we here introduce:—

"*To the Joint Grand Committee for Gresham Affairs.*

"Gentlemen,—In continuation of my reports on the works at the New Royal Exchange, I beg to make the following statement:—

In proceeding with the excavation of the merchant's area, I found the soil much more disturbed than had previously been the case; and that in this small square space there were no fewer than thirty-two cesspools, some of them of considerable size. These have all been carefully cleared out down to the solid ground, and filled up with concrete. In consequence of this circumstance, however, and the unsatisfactory state of the ground generally, I have considered it prudent, to have this area excavated to the same level as the other parts of the foundation, and to put in the stratum of concrete of the same uniform thickness. In proceeding westward with the excavation a circumstance of considerable interest in an antiquarian point of view has been discovered; but unfortunately it has led to some delay and expense, and therefore I must beg to explain the nature of this interruption.

It will be in the recollection of the committee that the result of the trials suggested by me last year shewed, that a firm bed of gravel might uniformly be expected at a depth of 16 ft. 6 in. below the present surface of the ground, all above that level being vegetable earth, accumulations and debris of various kinds. This was ascertained by the sinking of six pits in various parts of the site of the Old Exchange. Except in the cesspools referred to, this conclusion has been found correct in all excavations up to the beginning of April. At that time the workmen began to destroy the foundations of the west wall of the merchants' area of the Old Exchange, when it was found that this wall was placed partly on some remains of Roman building, evidently undisturbed, and these remains apparently rested on the native gravel. The Roman work was a wall and a sort of pedestal, which crossed the ground obliquely from the south-west to the north-east, the pedestal being stuccoed and moulded, and having the mouldings painted with an ornament. Where the Roman work ceased to afford a foundation for the walls of the Exchange, oak piles had been driven in and sleepers laid on the heads of those piles. The substratum, however, in this latter case, was a black mud; and upon proceeding further, it was found that the Roman work itself, as well as the wall, had been founded on a very large pit or pond, irregular in its shape, but about 50 ft. in length from north to south, 34 ft. from east to west, and 13 ft. in depth below the bottom of the concrete, being in fact sunk through the gravel right down to the clay. This pit was filled with hardened mud, in which were immense quantities of bones of sheep, much broken, with a few of the bones and horns of stags, very numerous fragments of the red Roman pottery, commonly called Samian ware, pieces of glass and glass vessels, broken lamps, and all the usual rubbish that might accumulate in a pond left to fill up in a course of years. Amidst this mass about fifteen copper coins have also been found; two of them of the emperor Vespasian, the remainder of the emperor Domitian, besides several copper, iron, and wooden styles, used for writing on waxen tablets, together with one or two of the tablets themselves, one of which is perfect. The most uncommon and perhaps most interesting remain is a strigil used in the Roman baths. This is of mixed metal, and in good preservation, and is certainly very curious. All antiquities found are reserved, under the terms of the contract, for the committee, whose property they are.

It is extremely difficult to explain this state of things; but it appears to me probable, that this pit had been sunk during the earliest times of the Roman occupation of London, for the mere purpose of obtaining the gravel, required perhaps for making a causeway or road across the banks of the adjoining marshy stream of the Wall-Brook. When the excavation had served this purpose, it remained for years (perhaps centuries), forming a dirty pond to receive the refuse and rubbish of all the neighbourhood, and in this way it must have been gradually filled up; at the time of building the Roman wall the accumulation was firm enough again to receive a bed of gravel, slightly concreted, laid on the top of the mud, so as to be covered up and become apparently solid ground. The builders of the Old Exchange, however, found out its deficiency, and supported their work on piles, which had evidently yielded.

This hole is cleared out to the extent of four-fifths of its area, and the concrete is being fast extended towards this spot.

In this state of things it would be obviously most injudicious to carry up the foundations, on the part already concreted, to any great extent, I have therefore directed the bricklayers to proceed with the footing-courses only of that part of the foundation; and when the concreting is completed, it will be perfectly easy to press forward the brickwork so as to be quite in time for the second contract.—I have the honour to be, gentlemen, your obedient servant, (Signed) William Tite.

17, St. Helen's-place, 3rd May, 1841."

Of the antiquities thus referred to, Mr. Tite noticed first the *Samian ware*, of which several fine fragments, embossed with elegant figures, and some marked with the names of the potters, were before him. He illustrated the general employment and estimation of the manufacture at different periods, from a variety of classical authors; and noticed the interview between Homer and the potters of Samos, referring to the very rare black cups which they made. At this time, also, was exhibited a large and fine fragment of an amphora, brought from a depth of 17 feet below the surface; and several curious terra-cotta lamps.

Mr. Tite then referred to the several specimens of pine wood table-books, and styles of different metals, which were on the table, and shewed the manner of writing with them. These he also illustrated from a variety of ancient authors, shewing their use and estimation: as, how Quintilian commends waxen tablets to the student, for expedition; how Homer shews, from his own example, that they might be employed for writing by the blind; how the "*vertere stylum*," the "filing" of a composition, and the "ploughing of the waxen field," passed into proverbial sayings; how such tablets were employed for letters; and he finished with the curious description of the knavery of the mendicant friar, with his

> "Pair of tables, all of ivory,
> And a pointely polished fetisly,"

from "the Sompnoure's Tale" of Chaucer.

A few illustrative remarks followed, concerning the remains of reticulated sandals, soldiers' shoes, and other articles of leather, contained in another case, as also of a Roman strigil, and several miscellaneous antiquities; but these were only slightly noticed, on account of the lateness of the hour. Mr. Tite concluded by observing that his design, in this part of his lecture, was to induce his young friends to regard such ancient remains with an intelligent mind and eye; not simply for the sake of their antiquity, but because some hidden beauty, some principle of early art, some excellent moral, or some noble sentiment, might be elicited by the examination.

A landslip on the Newcastle and Darlington line, has interrupted all communication for the present. It occurred about a mile-and-a-half to the northward of Aycliffe. The *Durham Chronicle*, says: "In traversing Mordon Carr, the line passes over a dead level, which, whenever there is much rain, covers the rails. To remedy this defect, the line through this marsh has been raised; and it is conjectured that the additional weight was the cause of this accident, which has left a chasm on the very line which the railway traversed."

REPORT FROM THE INSTITUTE OF THE FINE ARTS ON PUBLIC COMPETITIONS.

The following report of a committee, appointed to consider the subject of public competitions in matters of art, especially as regards the advertised proposal for a competition picture of the Baptism of Christ by immersion in the river Jordan, for a prize of 1,000*l.*, having been approved by the council, was read at a general meeting of that society, on the 27th ult., in the great room of the Society of Arts, Adelphi. Dr. Leonard Stewart in the chair.*

"Gentlemen, — Competitions in art are now so frequent and so fully responded to that, without sound principles in their management, they must necessarily be very injurious to the artists, however advantageous they may appear to the public; for instance, in the case before us, if 1,000*l.* has to be competed for, and fifty artists enter the lists and spend 1,800*l.* of money and an amount of time equal to twenty-nine years of human life, as this inquiry will demonstrate, they evidently lose 1,800*l.* and the whole of that time, unless there is compensation by reputation, by acquired knowledge which may be turned to account, or in the sale of the competition pictures. A wholesome condition of public taste, good sense in the arrangements, and strict justice in the awards at competitions, would, in some measure, afford this compensation, but the usual modes adopted in these trials of skill afford none; on the contrary, they are attended with many circumstances that embitter the feelings, aggravate the sufferings, and injure the reputation of enthusiastic competitors. Such a course must ultimately be injurious to the public as well as to the artist. The system has indeed much of the excitement and immoral tendencies of a lottery.

In order to arrive at a better principle, we have inquired into the results of various competitions in different ages, and in several countries; we have endeavoured to trace the amount of competency in the judges and of equity in the modes of arrangement, or of good faith in the superintending authorities. Among the ancient Greeks various plans were adopted, according to the more or less popular political institutions of the community. Where the arts flourished most, public opinion, in whatever form expressed, was the basis of public patronage. In some cases the community, considering the competing artists most interested in a fair decision, actually left that decision to them; in others the opinion of the people was paramount; but even then suggestions from the artists were attended to with deference and respect, and not disregarded or condemned as is too often done among us. When Phidias and Alcamenes competed for a statue to be placed on a column or other elevated situation, at first sight all opinions were in favour of Alcamenes, but Phidias demanded that both figures should be placed at the intended elevation, previous to the award being made. This was done, and such was the consideration of perspective effect by the one artist and its neglect by the other, that the people no sooner saw them at their required elevation, than they changed their opinion, and decided in favour of Phidias. In this instance it is clear that the judges, *i. e.* the public, were not fully competent to their task, but it is also obvious that such artists as Alcamenes would have been equally unfit or even worse; for, in all probability, relying on their practice and skill, they would not have taken the trouble to raise the competing statues to the proposed elevation, and in all likelihood they would have been more tenacious of a first opinion than the people were.

In the case of the citizens of Cos choosing a statue of Venus from two by Praxitelles, so far from delegating their judgment to artists, they selected, from a motive of delicacy, that which the technical connoisseurs denounced as inferior. Posterity has decreed that in this, good sense triumphed over conventional excellence.

Much has been said of a mode of deciding some competitions among artists in ancient Greece, in which the competitors were each

* We shall seek an early opportunity to draw attention to the constitution of the Institute of Fine Arts, its present position, and that which it may and ought to take. It will be the fault of its management alone, if it do not become one of the most useful and important associations in England. A comprehensive and liberal spirit must prevail.

allowed two votes, under the notion that in the ballot, each would give one vote in favour of his own performance, and the other to the best of his rivals; as though all the candidates, after indulging a selfish conceit, would, as soon as that first impulse was gratified, become perfectly candid; as though the act performed by one hand, and its motive, were unknown to the other! Unless they were strictly honourable and impartial, it is more likely that they would give both votes to their own work, or the second vote to the most unlikely rival; thus might the least talented stand at the head of the poll: we have been informed of occurrences which confirm this opinion. On one occasion, at one of our distinguished institutions, a candidate was elected to an important office, for which he was so totally unfit, that the self-degraded electors had to request their own nominee to resign; on another, an individual of considerable reputation, after proposing and making a warm eulogy of a friend's qualifications, was proved, by the unanimity of the votes in favour of himself, to have sacrificed that friend to his own conceit. If candidates are honourable and true, one vote is as good as two; and so it would be if they were all selfish and cunning.

Early in the fourteenth century, a very important competition took place at Florence, between Bruneleschi, Donatello, Ghiberti, and four other eminent sculptors; for under good and honourable regulations, the greatest were not loath to compete. Subjects, to be executed in bronze, for the ornament of the gates of the Baptistery of St. John, were confided to their emulation, each being provided, at the public expense, with every convenience of studio, furnace, and other accommodation, that could ensure success, and a sum for personal expenses. Having done so much for the comfort of the artists during the period of their exertions, a competent tribunal next received the consideration of the Florentines; thirty-four men of taste and talent, some artists, and some amateurs, were appointed judges to determine which was entitled to especial admiration, and public employment. Their votes were divided, and no decision obtained from them; but the magnanimous candour of Bruneleschi and Donatello, who had each the same number of votes as Ghiberti, at once settled it in his favour, and proved the tribunal incompetent: those generous rivals saw no room to doubt his superiority in that contest; and posterity has sanctioned their opinion. The incompetency of this tribunal was, however, but negatively bad; it allowed the scales of justice to remain in doubtful suspension, but it did not actually reverse its tendency, and cloud the prospects and fame of a deserving candidate. A similar diffidence, or modest ignorance, was remarkable when Leonardo da Vinci, and Michael Angelo Buonarotti, made their great trial of skill at the Council Chamber; the splendour of the one did not eclipse the majesty of the other, as the success of one man's talent invariably smothers the fame of every other in our modern competitions.

In France, during the period of religious animosity, from the reign of Francis the First to that of Louis the Fourteenth, public competitions were often productive of fine works, as the best portions of the palace of Fontainebleau, and the beautiful square of the Louvre attest. In those instances, native talent, both Catholic and Protestant, in worthy emulation, stands triumphant amidst the performances of foreign rivalry. The same system was resorted to for the east front of the Louvre, and the award of superior merit was in favour of Claude Perrault, the physician and mathematician, but a corrupt court, where the spirit of intellectual freedom had not survived that of anarchy and rebellion, could not rest satisfied with the result of competition and public opinion. Louis the Fourteenth endeavoured to set aside the design of Perrault, and invited Bernini, the fashionable Italian architect and sculptor of the day, to visit his court and design something worthy the magnificence and splendour of that pompous monarch. Princely honours attended on the foreign artist in his progress to the French capital, but Colbert found it advisable to lean towards the popular opinion: the king relented, Bernini retired with the same affected magnificence that accompanied his arrival, and the design of Perrault, the masterpiece of that era, before which even Whitehall sinks in comparison, was completed, at once a monument to French taste and a trophy to public opinion.

Under Napoleon, competition was far from pure. The jury of artists for the Decennal prizes adjudged the great prize for a subject of ancient history to Girodet, for a scene of the Deluge. The emperor was disappointed: he had expected that prize to be given to his first painter, David, for the intercession of the Sabine women between their enraged relatives and their Roman husbands. The judges could not indeed be induced to convict themselves of incompetency in that decision; but, to conciliate the sovereign, in the next trial, they conferred the prize for a modern subject on David's coronation, and not on the plague of Jaffa, by Gros, which they individually preferred. A sad example of artists, eminent for talent and character, rendered dishonest by the interference of a potentate.

At the present time in France, where artists constitute an influential portion of the intellectual aristocracy (the aristocracy of talent and professions); where authority and intrigue are variously apportioned, no one competition is of much importance, for the effect of a partial decision by the court party, is frequently neutralised by an equally unsound award in favour of the injured artist, by some municipality of opposition politics, to whose prejudices an appeal is made, and who have in their gift a provincial commission.

In our own country, competitions are very unsatisfactory, and frequently alike absurd and unjust: in that for the Nelson memorial, the vacillation of the committee in setting aside their first hasty award, and advertising a new contest and exhibition, with their final confirmation of that first very doubtful judgment, compromised the dignity of the committee as much as its taste, and unnecessarily increased by many thousands of pounds the expense (besides trouble) of the artists. That competition was fatal to the confidence of artists in a tribunal of amateurs of rank and fortune, but that of the Royal Exchange with a tribunal of artists was still worse: the jury of three eminent architects, refused any premium to the design which they acknowledged to be the best, under the plea that it could not be built for the sum stipulated; nor was that degree reversed when contractors of reputation offered to undertake it under securities; but they gave the premiums to other candidates, whose designs they declared to be quite impracticable. They were next requested to prepare a design themselves. It is understood, that two of those three judges, after examining and condemning all the designs, actually consented to do so, but the unseemly proceeding was checked by public opinion. The ultimate competition was between two architects of considerable and nearly equal influence among the civic authorities.

The recent competition exhibitions at Westminster Hall, for the decoration of the Parliament Houses, were at first hailed as the beginning of a better system, more intellectual and pure; but up to the present time, the results have led only to disappointment among the great body of the candidates, and growing indifference in the public. Some artists, after being rewarded the first year, had their works treated as unworthy even to be publicly exhibited at the second, whilst others have been appointed for actual employment on one trial, or even without passing through the prescribed ordeal at all. Several who have appeared honourably and with general approbation at all the exhibitions, have been utterly neglected or discarded by the royal commission, although the leading object of its appointment was the encouragement of native talent in the higher walks of art, and the commissioners had pronounced the works of many of those artists "highly creditable to the country."

The whole of the evidence on competitions, tends to prove that in respect of matters of art, a competent tribunal and equal justice have scarcely ever been obtained. In questions of taste, there is indeed so much room for doubt, that prevarication and partiality are less obvious and disgraceful than in simple questions of property, and yet the injury done to the sufferers is far greater where professional reputation as well as fortune is involved. Why should not artists, whose fame and means of existence are at stake, have as good protection from a committee of taste, as persons in trade are sure to find in a court of justice? Why are not committees, like judges and juries, responsible for their proceedings, either to a higher tribunal or to public opinion? Why are they not, in like manner, obliged to examine and consider both sides of the question? Our juries are selected for their impartiality, and every accident in that respect is rectified, by allowing each contesting party to challenge the jurors: no false delicacy towards jurymen is allowed to weigh against the welfare of the parties before the Court and the strict rules of justice. To see that they attend to their prescribed duties, and that the evidence is fairly placed before them, and not to interfere with the verdict, a judge presides who, after a long career of study and experience, is placed above ordinary rivalry and contention, in circumstances that render character, especially for impartiality and judgment, to him, all-important. Should he, forgetful of his high responsibility, lean unduly to one side and misdirect the jury, an appeal lies to a higher Court, where his error or misinterpretation is sure to be severely discussed, and, if a case is made out, the trial is set aside or the verdict is reversed, without the least complacency for his authority and feelings. Thus is the property of the humblest trader protected; thus the life or liberty of the poorest wretch accused of crime, is held paramount to all considerations of rank and station. In questions of property, every possible discussion has long been afforded; witnesses are examined, cross-examined, and re-examined, by contending advocates. The same protection has of late years been granted to persons criminally indicted.—And why should this wholesome respect for mutual rights, be denied to men of intellectual pursuits—authors or artists, who embark fame and fortune on the tide of public competition? Why should those to whom they entrust all that is precious in their estimation, think lightly of their responsibility. Something like the system of judge and jury, or an assimilation to the best of our prerogative Courts can alone render competitions among artists fair, honourable, and efficient, and give to the emanations of genius their proper value among us.

In the case immediately before us, it is proposed that a prize of 1,000*l.* be given to the artist who, in a general competition, shall produce the best painting twelve or fifteen feet one way, and ten or twelve the other; the subject is defined, and in several points, the precise mode of treating it. With so great a temptation, it is reasonable to suppose that many will overlook the expense, trouble, disappointment, and serious inconveniences that await all but the one fortunate candidate; it is reasonable to suppose that fifty artists may risk comfort and reputation in the attempt. We feel assured that the gentlemen who propose this competition, besides the desire to obtain as fine a picture as possible, are anxious to make it worth while to men of talent and character, to vie with each other in honourable emulation. They would evince generous delicacy towards the less successful artists who gave proof of high talent in the contest; for their object is not to encourage speculators to make a heedless dash at the 1,000*l.*, nor can they wish for a gaudy meretricious picture, but one wherein the subject is fully considered, the character of each figure is faithfully studied and pathetically delineated;—where the action of all is in due relation one with the other, and the whole is combined into a rational and picturesque composition. Such are the essentials of high art; they are best attended to in the simplest and least expensive materials, such as involve a larger outlay of mind in proportion to that of money. Thus may the best results be obtained with as little injury as possible to the candidates, as all virtuous and religious men must wish to do.

We now proceed to state the artist's case in two ways:—first, as it will stand if the advertised regulations are carried out; and next, as it would be, if our suggestions were adopted, supposing in either case the number of candidates to be fifty.

Fifty finished paintings, varying from twelve feet by ten to fifteen feet by twelve, would involve the artists in expenses (actual outlay) from 30*l.* to 40*l.* each; average, 36*l.*; total in money, 1,800*l.*

In time expended, average seven months;

total, 29 years: which at the low estimate of 150*l.* a year amounts to 4,350*l.*, making the whole outlay equivalent to 6,150*l.*; a positive loss in the aggregate of 5,150*l.*, beyond the prize of 1,000*l.*

As pictures so large, all of a given subject, peculiarly treated, and blighted by the vulgar stigma of defeat, stand no chance for sale, but really become a trouble and a nuisance to the artists, we may fairly say that in the aggregate this loss is wholly unmitigated, and that ten such speculative competitions would be equivalent to a loss among them of 50,000*l.* or 1,000*l.* each, or in other words, a total loss of two hundred and ninety years of human life, and 8,000*l.* of the artists' money.

By the mode we would suggest, the loss on the present occasion may be reduced to about 300*l.* in money and 17 years of time; that is, compared with the above, a saving of 525*l.* in money, and of nearly twelve years of time and exertion, whilst four or five paintings and twice that number of artists would be held up to distinction, instead of one, who, in the ordinary way, engrosses admiration.

On a plan somewhat similar to the double competition trial, adopted by the French institute at the election of students for residence at Rome, we would have two exhibitions; thus, supposing the number of competitors to be as above, fifty. The first exhibition would be of 50 cartoons, half life size, and 50 studies, of half figures, life size. From these, eight or ten should be rewarded with preliminary prizes. To each the sum of 40*l.* or 50*l.* should be paid, *i. e.* an equal portion of 400*l.* These distinguished candidates are then entitled and invited to compete with each other for the ultimate object. Thus the final great struggle would be between these eight or ten, and the second exhibition would consist of their eight or ten cartoons and studies from their first exhibition, and eight or ten finished pictures full size.

Four or five prizes should be awarded in this competition according to the number of good productions, *i. e.* 200*l.* among them. Thus four or five would receive 40*l.* or 50*l.* each, and as many would have 80*l.* or 100*l.*

Of these twice rewarded four or five, by the final decision, one would receive the great prize of the remaining 400*l.* in addition to his previous rewards, amounting together to 480*l.* or 500*l.* Surely the honour and advantages of such a victory, if properly awarded, would satisfy an ambitious enthusiastic artist. Could any one, amidst the honours and comfort of the glorious harvest, envy his less successful rivals the small return their gleanings had procured them?

By this arrangement the outlay of money and time of the competitors would be,

	£.	Years.
For 50 cartoons, average 13*l.*, and 3 months each..... Total	650 and	12½
50 studies, average 8*l.* and 14 days	400 —	2
8 or 10 (say 9) paintings, at 25*l.*, and 5 months' average....	225 —	2¾
General Total	£1,275 —	17¾

Let us now consider the best mode of awarding the prizes, and the way to secure a competent tribunal, without which no good result can be depended on. Much of the difficulty comes from the uncertainty of what is considered excellence in art: some adjudging by the dictates of common sense, untutored to the technical rules of art, others guided almost entirely by conventional technicalities. Again, personal or professional prejudices have not been sufficiently controlled by principles, or by responsibility.

The following regulations appear to us entitled to consideration and adoption; viz., the judges should consist of *three*, elected by the parties interested in the purchase; and *three* elected by the artist competitors; in all six persons. They should be elected by ballot after nomination: at least, this rule should be strictly observed in respect to those who represent the artists.

Each of the judges should separately, from others, examine and criticise the performances, and write his opinion of each, and of every work of art; and, naming those which he considers entitled to distinction, give his reasons for that opinion.

These written opinions to be given in previous to the opening of the exhibition to the public; but the result not to be confirmed until a certain number of days after its closing. Then the judges should, for the first time, meet and discuss each other's opinions, and the merits of the competitors; and, recording their matured judgments, decide by the majority; the contrary opinions being also recorded, in order that public opinion be not smothered, as it now usually is, under respect for a supposed unanimous decision.

Gentlemen,—Your committee beg to observe that, in this inquiry, they have considered it of the utmost importance to discuss both sides of every question, and on several occasions, its members have abandoned old favourite views, when the evidence or the argument outweighed a favourite prejudice; they are therefore the more confident in their anticipation of this report meeting with favourable attention, and serious consideration at your hands, and they sincerely hope it may eventually lead to changes equally advantageous to artists, and to the public; to the establishment of regulations more consistent with the immutable principles of equity and good sense, than those which have too often rendered competitions illusive and hurtful; and they trust that apparent difficulties in the operation of a wholesome system, will not weigh against the best interests of humanity, and the progress of the Fine Arts.

PRINCESS ELIZABETH'S GARDEN PORCH AT COMBE ABBEY, WARWICKSHIRE.

Combe Abbey, one of the seats of the Earls of Craven, is situate about four miles from Coventry. It is erected on the site of a religious house of the Cistercian order, founded by Richard de Camvill, in the reign of King Stephen. Brayley tells us (in the "Beauties of England and Wales") that it was the first settlement of the Cistercian monks in the county of Warwick, and various benefactors arose whose pious gifts enabled the abbots and brethren, to maintain a course of secluded dignity through the long term of nearly four centuries. The monastery at the period of the dissolution in the reign of Henry VIII. became the property of the Crown, and was granted by Edward VI. to John, Earl of Warwick; and after the attainder of that nobleman was leased at the rent of 196*l.* 8s. 1d. to Robert Kelway, surveyor of the court wards and liveries, whose daughter, Anne, conveyed the possession, by marriage, to John Harrington, Esq., afterwards Lord Harrington. Lucy, the daughter of this lord, and wife to Edward, Earl of Bedford, became heir on the death of a brother; but the profuse expenses in which she indulged, caused the estate to be alienated to the ancestors of the Earl of Craven. In the latter noble family it is at present vested.

Great portion of the present building was raised by Lord Harrington; of the ancient monastic pile a portion of the cloisters only remains; these form a fine corridor, which ranges along the lower division of the building, and they are adorned with the projecting antlers of stags of every growth and size, black jacks, and various emblems of baronial free warren. On the west side of the house is a large addition, said to be by Inigo Jones, but which is more probably the work of Captain William Winde, the pupil of Sir Balthazar Gerbier; at least, it is ascribed to him by Horace Walpole (see his "Anecdotes," vol. iii. p. 169, Dallaway's edition). This building, which is externally of heavy character, contains some noble apartments. The rest of the edifice is of the Elizabethan style, requiring very little alteration to render it a regular and magnificent structure. Higher interest attaches to this building than what it derives from its monastic remains. It was here that the Princess Elizabeth, the daughter of James I., the beautiful and unfortunate Queen of Bohemia, passed the early days of her life under the tuition of the accomplished Lord Harrington. From this spot the Guy Faux conspirators had formed a scheme to remove her; a party, under the pretence of hunting, were to assemble near the house, seize the person of the princess, and, by proclaiming her queen, use her name in stilling and composing the minds of the people, leaving the after-task of converting her to Catholicism to the labour of the Jesuits. The enterprize was confided to Sir Everard Digby, who kept the appointment faithfully, but the attempt failed, and the princess escaped to Coventry. A very interesting account of the capture of the conspirators is given in Mr. Howitt's interesting volume, "Visits to remarkable Places in the account of Combe Abbey."

Few persons have been more celebrated in history than the Princess Elizabeth for virtues, talents, strength of mind, sweetness of temper, and gaiety of heart; these amiable qualities, joined to no inconsiderable share of personal beauty, obtained for her the title of the "Queen of Hearts." It was to Elizabeth that Sir Henry Wotton addressed the elegant lines, commencing

> "You meaner beauties of the night,
> That weaklie satisfie our eies,
> More by your number than your lighte,
> Like common people of the skies,
> What are you when the moon doth rise?"

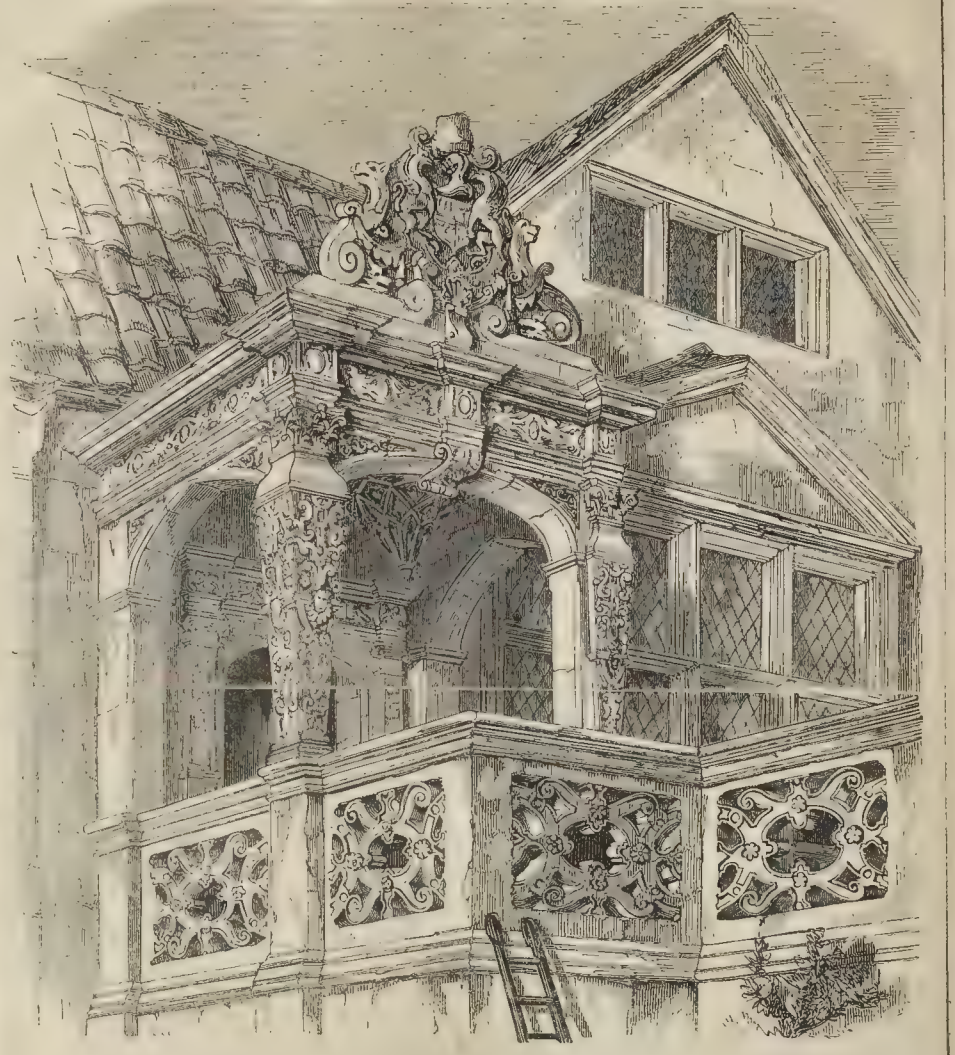
She was married at the early age of sixteen, to Frederick V., the elector palatine of the Rhine. The ceremony took place in the banquetting room at Whitehall. Their arrival in the palatinate was hailed by their subjects with the most enthusiastic joy; and during the few years in which they inhabited the palace at Heidelberg, it was the seat of unprecedented splendour and felicity. "To gratify the fine taste, which Elizabeth had acquired for gardening and the fine arts, Frederick, soon after their arrival at Heidelberg, caused an extensive part of the mountain adjoining the palace to be levelled, and planted as a garden for her recreation. In this, not merely shrubs, orange and lime trees, but forest trees of large growth, were introduced. In the centre of the flower garden was an elegant fountain, ingeniously constructed for purposes of irrigation; and from the edge of the precipice fell an artificial sheet of water, resembling a natural cascade. The principal entrance to this inclosure, which is now the botanic garden of the university, has escaped the devastation generally committed in this place, and bears a Latin inscription, purporting that it was raised in 1615, by Frederick V., in honour of his beloved wife, Elizabeth."*

On the election of Frederick as King of Bohemia, in 1618, he left that enchanting abode, Heidelberg Castle, where he and his family had enjoyed so much power, respect, and domestic happiness. After the battle of Prague, which deprived him at once of his regal dignity and hereditary right, he became a wanderer without a home, and terminated a life of extraordinary vicissitude, by that worst of all maladies, a broken heart, at the early age of thirty-six.

The part the princess bore in causing the misfortunes of her husband, is so strongly drawn by Mrs. Jameson, in her interesting "Visits at Home and Abroad," that, at the risk of repeating portions of the story, I will venture to quote from her. Thus, speaking of Elizabeth and the most striking events of her history, that of occasioning the celebrated thirty years' war:—"Medon: Do you forget that the cause of the thirty years' war was a woman? Alda: A woman and religion—the two best or worst things in the world, according as they are understood and felt, used and abused. You allude to Elizabeth of Bohemia, who was to Heidelberg what Helen was to Troy. One of the most interesting monuments of Heidelberg, at least to an English traveller, is the elegant triumphal arch raised by the Palatine Frederick V. in honour of his bride—this very Elizabeth Stuart. I well remember with what self-complacency and enthusiam our chief walked about in a heavy rain, examining, dwelling upon every trace of this celebrated and unhappy woman. She had been educated at his country seat; and one of the avenues of his magnificent park yet bears her name. On her fell a double portion of the miseries of her fated family. She had the beauty and the wit, the gay spirits, the elegant tastes, the kindly disposition of her grandmother, Mary of Scotland; her very virtues as a wife and woman, not less than her pride and feminine prejudices, ruined herself, her husband, and her people. When Frederick hesitated to accept the crown of Bohemia, his spirited wife exclaimed, "Let me rather eat dry bread at a king's table than feast at the board of an elector;" and it seemed as if some

* From the description to Wild's "Etched Outlines."

PRINCESS ELIZABETH'S GARDEN PORCH, COMBE ABBEY.



avenging demon hovered in the air, to take her literally at her word, for she and her family lived to eat dry bread, aye, and to beg it before they ate; but she would be a queen.—Blest as she was in love, in all good gifts of nature and fortune, in all means of happiness, a kingly crown was wanting to complete her felicity, and it was cemented to her brow with the blood of two millions of men."

The Queen after the death of Frederick, remained at the Hague, living in the utmost privacy; her chief employment being the education of her children, eight sons and five daughters, and her only relaxation of which we hear, an extended correspondence with men celebrated for powers of mind, and for various literary and scientific attainments. The management of her domestic affairs, and indeed of all matters in which her interests or her comforts were concerned, she committed to Lord Craven, who had entered the military service of the States of Holland, that he might be near to her. They were privately married, but political motives forbade the public avowal of their nuptials. 'On the restoration of her nephew, Charles II., she was invited by him to pass the remainder of her life in England; a proposal which she most readily accepted.' She arrived in London on the 17th of May, 1661, with Lord Craven, and took up her residence in his house in Drury-lane, where she remained till the following February, on the 8th of which month she removed to Leicester House, and died there on the 13th, only five days after she had entered it. She was buried in Westminster Abbey, in a vault made for the interment of her brother Henry, Prince of Wales. Her collection of pictures, bequeathed to Lord Craven, were removed to Combe Abbey, where they nearly all remain, and add greatly to the interest of the building; besides the pictures of her husband and herself, there are portraits of almost every individual of her own family, the Stuarts, and of most of those gallant officers, English and German, who distinguished themselves in their endeavours to maintain the elector on the throne of Bohemia.

In the royal collection of plate at Windsor Castle, is an interesting memorial of the Queen; it is thus described:—"This dish and ewer, in form of the white and red rose, belonged to Elizabeth, daughter of James VI. of Scotland, and I. of England; married to Frederick, Elector Palatine, and afterwards king of Bohemia, by whom she had a daughter Sophia, married to Ernestts, Elector of Hanover, the representative of the house of Brunswick, Hanover, Lunenburg, Wolfen-buttel, Zell, &c., &c., and by whom she had a son George, who upon the death of Queen Ann, in 1714, succeeded to the crown of Great Britain." On the dish, which is of silver gilt,

of most elegant design, are engraved the royal arms of Bohemia.

William, the first Earl of Craven, died in 1697, at his house, in Drury-lane, and was buried at Binley, near Coventry. It is said of him that "he was one of the most accomplished gentlemen in Europe, a useful subject, charitable, abstemious as to himself, generous to others, familiar in his conversation, and universally beloved." During the plague, in 1665, he remained constantly in London, advising on the best means of preventing the contagion, and gave a piece of land for the burial, exclusively, of those who should die of that disease, then and thereafter. When buildings were erected on this ground, which is the site of Carnaby Market, a field on his estate at Paddington was given in exchange for it, which was nominally subject to the provision in question; but through our modern rage for bricks and mortar, the gift, in 1846, is about to undergo further change.

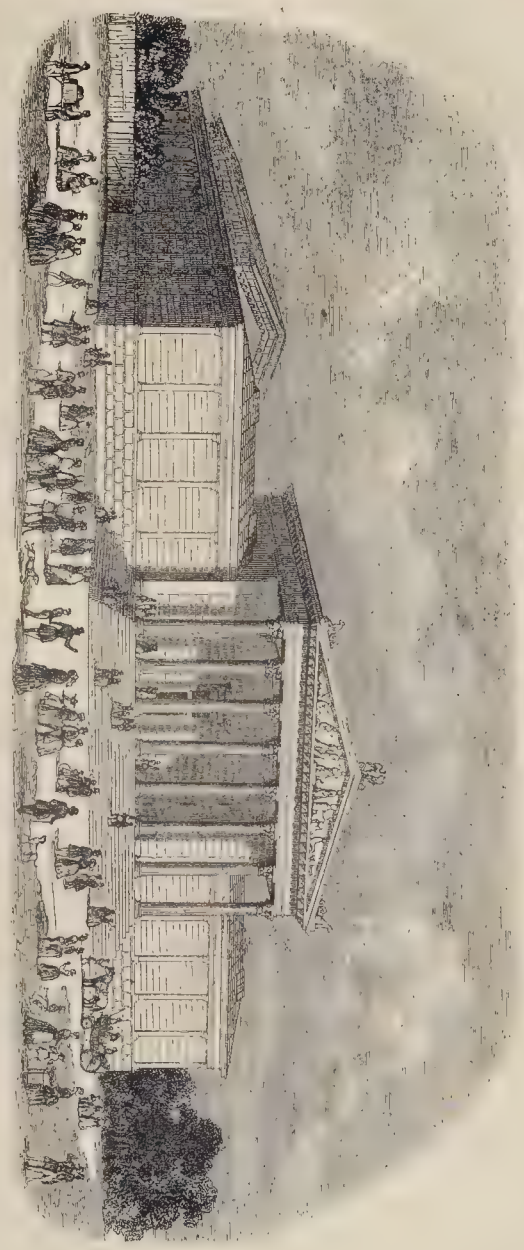
Sir William, in the year 1626, was created Baron Craven, of Hampstead Marshall, in Berkshire; the manor of which came into his possession, by purchase, about the year 1620. In 1662, for services which he had rendered to his exiled master, during the Protectorate of Cromwell, and the losses which he had sustained by confiscation, he was created an earl. Sir Balthazier Gerbier, architect and painter, now began for him a stately pile of building, at Hampstead Marshall, but dying in 1667, the structure was finished by Captain William Winde. A view of the house, engraved by Kip, is given in the "Theatre de la Grande Bretagne," pl. 45. It was almost wholly destroyed by fire in 1718; "a singular fate," Lysons observes, "for the mansion of this noble earl, who was so celebrated for his activity in assisting to extinguish fires in the City of London, and its suburbs, that it became a common saying, that his horse, for he always attended on horseback at the first notice, smelt a fire as soon as it happened."

In 1665, Lord Craven, having no issue, obtained a new patent to settle his barony of Hampstead Marshall on Sir William Craven, of Combe Abbey, great-grandson and heir male of his uncle Henry, elder brother to his father, and, in right of descent from that Sir William, it is now held by the nobleman to whom the rest of the titles have been of late years granted. The suite of rooms at Combe Abbey, which were occupied by the Princess Elizabeth, and to which the beautiful garden porch, represented in the print was attached, are on the first or principal floor; they appear to be the work of the Lord Harrington, commenced in the reign of Elizabeth, and hastily finished in the reign of James I. for the reception of his daughter. One of the rooms contains a noble fire-place of highly picturesque and grand character,* it bears the royal arms of Elizabeth. This room was left incomplete as the pattern intended for the adornment of the ceiling, which is at present quite plain, was lately discovered drawn upon its face. Annexed to this chamber is a long gallery, from the end of which the garden porch leads by a flight of steps down to a small ornamented garden. The porch is constructed of very friable stone, the same apparently as that used in the principal buildings at Coventry—some of its enrichments can no longer be made out. A view of the interior of this porch was selected by Mr. J. Nash as the title-page to his second volume of "Old English Mansions."

There is one part of the porch which must be noticed; it is the shield of arms at the top; this was probably altered or added after the year 1697. The shield is that of Craven, quarterly 1 and 4, *argent;* a fess between three cross crosslets, fitchee, *gules*, 2 and 3. The additional coat granted to William Craven, Baron of Hampstead Marshall, *or*; 5 fleurs de lis in cross, *sable;* a chief wavy, *azure;* the crest, on a chapeau, *gules*, turned up ermine; a griffin statant, wing elevated *ermine* beaked and membered, *or*.

In conclusion, in the eloquent words of William Howitt, "Combe Abbey has altogether that air and those vestiges of old times which must, independent of its connection with the Queen of Bohemia, give it great interest in the eyes of the lovers of old English homes, and of the traces of past generations." C. J. R.

* A view of it was published in "The Architectural Remains of the Reigns of Elizabeth and James I.," McLean.



TEMPLE OF INDUSTRIAL ART, MUNICH.

TEMPLE OF INDUSTRIAL ART AT MUNICH.

The King of Bavaria is the first to raise a permanent edifice solely for the exhibitions of industrial art made periodically in Munich. In Paris, Berlin, Dresden, and other cities, where similar exhibitions take place, temporary structures, or buildings appropriated to other purposes, have been made use of: we can hardly doubt, however, that each capital will soon erect a building for the purpose. Let us hope that London will not be the last in the field.

Of the edifice in Munich, which was inaugurated on the 25th of last August, the king's birthday, the December number of the *Art-Union* journal * gives the annexed engraving and the following description: "This structure erected according to designs of the architect Ziebland, inspector of buildings, forms a pendent to the Glyptotheque, and presents towards the Königsplatz a portico of the Corinthian order, approached by twenty-one steps, and flanked by two wings, decorated with pilasters supported on a base equal in height to that of the steps. The façade of the building is orna-

* The *Art-Union* completes, with this number, its seventh volume; unquestionably the best yet published. It is impossible to avoid admiring the spirit, and liberality, with which this journal is conducted, and the efforts made to render each number superior to the last. Our advertising columns shew, that it will open the new year with an "illustrated tour in the manufacturing districts."

mented with sculptures, executed after models by Schwanthaler—representing 'Bavaria Enthroned,' distributing crowns to different figures—exhibiting on one side, Sculpture, Metal-casting, Coinage, Medalling; and on the other, Architecture, Historical Painting, Genre Painting, Encaustic, and Painting on Gluss. At the extremities of the pediment are two lions, and the summit is occupied by a phœnix rising from his own ashes. The building consists of a parallelogram, and contains a vestibule, and seven apartments of different sizes, lighted from the top. Two others, lighted by windows, are intended for paintings on glass; and two corridors of communication, also lighted by windows, the walls of which are intended to receive drawings and other objects of small dimensions. Below the ground floor is a temporary receptacle, in which will be unpacked those articles conveyed from a distance for exhibition; here also is the residence of the keeper and other officers, necessarily inhabiting the building. The whole is roofed in with metal, and over the exhibition-rooms are apartments for the supplementary attendants on occasions of exhibition. The rooms, which vary in length from eight to eleven yards, present an aggregate of 1800 square yards; they are floored with a parquet of oak, which opens so as to admit at once large productions sent for exhibition, having been previously adjusted below as intended to be seen. The interior decoration of these rooms is very simple. Above a wainscot, painted like the doors to imitate walnut wood, the walls are painted with flat colour of a reddish brown or olive green hue, and divided at a certain height by a bandeau supporting pillasters, the intervals of which are framed, if we may so speak, with arabesques. The ceilings are coffered, and ornamented with paintings, and so pierced, as to afford equal light in every part of the room. The inauguration of this edifice was celebrated by an exhibition, composed of 353 works of Art, and other productions, of which 181 were pictures in all departments of painting; 100 statues, busts, and medals; the remainder consisting of paintings on glass, drawings in chalk and water colour, lithographs, architectural designs, and other productions common to collections of this kind."

"The time cannot be far distant before a periodical exhibition of industrial art will be held in this metropolis, in a building set apart solely for that purpose—we say solely, because, in a manufacturing country of relations and resources so extensive, such an exhibition should be limited to fabrics, manufactures, and art as applied to these without any admixture of fine art. These things originate in the capitals of the continent; but it is probable that London will be behind the provinces in this respect; Manchester has already voted large sums of money for the establishment of a museum, and we doubt not that the same place will shortly have a periodical industrial exhibition, equal in substantial interest to any other in Europe."

ARTISTICAL DECORATION OF PUBLIC ROOMS.

The large room of the Café de l'Europe, in the Haymarket, has been enriched lately by its spirited proprietor, Mr. Hemming, with a series of fine full-length portraits obtained from a palace in Bonn, on the Rhine, which fill the spaces formed by the pilasters that support an entablature running round the room, and, together with some good casts of ancient and modern statuary, give an effect of substantial and tasteful elegance not found in many other coffee-rooms. Anxious to see works of fine art become a necessary part of our houses, we mention the room in question as a good sign and an example worthy of imitation. The portraits include Francis I. of Austria, Charles Alexander of Lorraine, James Edward Stuart, Maria Leckinska, daughter of Stanislaus of Poland, and Louis XV. The majority of them are ascribed to Riego, and two, at least, are very superior works.

Harwich Breakwater. — The new breakwater at Harwich is expected to be commenced in a very short time. A contract for 50,000 tons of Kentish ragstone has been already made.

ON THE EQUILIBRIUM OF PIERS.

In the second volume of Dr. Hutton's Course of Mathematics, page 201, third edition, the following proposition is given as an example of the use of the centre of gravity:—

To determine the thickness of a pier necessary to support a given arch.

Now this is a problem of very great utility in *architecture* and the *constructive arts*, and in consequence of its practical importance it is well adapted for the pages of The Builder, which is especially devoted to the discussion of subjects of this nature. The solution of the problem, as given in the volume referred to, is not complete, since it does not shew in what manner the position of the centre of gravity of the balancing materials is found, and this is the very point that constitutes the difficulty by which the practical man is brought to a stand. It is true that the doctrine of the centre of gravity has previously been partially discussed, but no rule is given for determining its position in the case to which the problem refers, and it is for this reason that we have undertaken to reconsider the question, and to put the practical man in possession of a rule, by which the position of the centre of gravity can readily be determined in this and all similar cases. Let ACB, fig. 1, be a semicircular arch, of which AB is the span, DC the versed sine or rise, CE the thickness of the crown, and $abfe$, $cdhg$, the piers by which it is supported.

Here then it is obvious, that since the arch is symmetrically arranged about its axis DE, and sustained in equilibrio by the two equal piers $abfe$ and $cdhg$, it follows that each pier must sustain one-half the weight of the materials which constitute the arch, so that the mixed figure ACEb is a just representative of the weight, whose action the pier has to resist. Let G be the position of the centre of gravity of the figure ACEb, and from G let fall the perpendiculars Gi and Gk upon the vertical line bf, and the horizontal line AB, and draw the diagonal GA. Now, since G is the position of the centre of gravity of the incumbent weight, it may be considered as the place of that weight; because, by the laws of mechanics, if the whole mass were concentrated in the point G, it would produce precisely the same effect upon the pier as it does when distributed in the form of an arch. Consequently, if Gk denote the weight of the incumbent materials, or the tendency to descend in the direction of gravity; then will GA and kA denote the corresponding effects on the pier in the directions GA and kA to turn it about the point e, for by the *parallelogram of forces* the weight of the semi-arch ACEb, in the direction of gravity Gk, the horizontal push in the direction kA, and the oblique thrust in the direction GA, are to each other as the three sides of the triangle AGk; that is, as the straight lines Gk, kA, and GA.

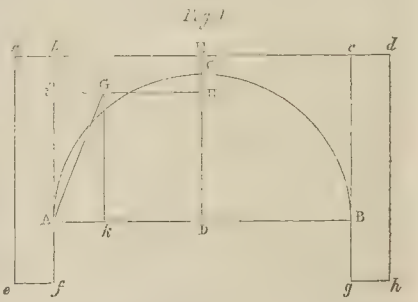


Fig. 1

Taking the force kA, which acts in the direction of the horizon, and considering it to be exerted on the lever Af, its effort to turn the pier about the point e will be expressed by kA × Af. Let w denote the whole weight of the semi-arch ACEb, and its effect in the direction kA will be

$$Gk : kA :: w : \frac{w \cdot kA}{Gk}$$

The momentum of the semi-arch, or its effort to turn the pier about the point e, is, therefore, expressed by the term $\frac{w \cdot kA \cdot Af}{Gk}$, and this must be equal to the momentum of the pier, in order that the arch may be just sustained. Now the weight of the pier is represented by the product of its height and thickness, since it is supposed to be prismoidal, and because the centre of gravity is coincident with the centre of magnitude; the leverage with which it resists the thrust of the arch is equal in length to one-half its thickness; hence the momentum of the pier is expressed by the term $\frac{1}{2}\, bf \cdot ef^2$; consequently, by equating these two expressions, we get

$$\tfrac{1}{2}\, bf \cdot ef^2 = \frac{w \cdot kA \cdot Af}{Gk},$$

in which equation ef is the required quantity all the others being either given, or assignable by calculation from those that are known. Reducing the above equation in reference to ef, it becomes

$$ef = \sqrt{\frac{2w \cdot kA \cdot Af}{bf \cdot Gk}} \quad \ldots\ldots\ldots\ldots (A)$$

If we examine the composition of this equation, it will readily appear, that of the five quantities which it involves, only two of them are known *á priori* from the conditions of the problem, and these are, the leverage Af, and height of the pier bf; the other three quantities of which it consists having each to be determined by an independent process. Now the method of doing this is what the proposed problem does not shew; and although it may not offer any difficulty to the mathematician, yet the case is very different as regards the generality of practical men, the principles on which the omitted parts of the solution depend being to them in nine cases out of ten entirely unknown.

If the rectangular plane AbED, which circumscribes the semi-arch, be supposed to revolve about one of its sides AD, which remains fixed, carrying the quadrant ADC along with it, the rectangular plane will, during its revolution, generate a cylinder whose radius is DE and altitude AD, while the quadrantal plane describes a hemisphere, of which the radius is AD or DC. Now, since the difference between the rectangle AbED and quadrant ADC is equal to the area of the figure ACEb, it follows, that the difference between the cylinder and hemisphere just alluded to, is equal to the solid generated by the revolution of ACEb about the semi-span AD; but by a well-known property in the doctrine of mechanics, *the solidity of any body generated by the revolution of a plane any how situated, is equal to that of a prism whose base is the area of the revolving plane, and altitude equal to the circumference of the circle described by its centre of gravity.* Consequently, by having the solidity of the generating body and the area of the generating plane, the circumference of the circle described by the centre of gravity of the revolving plane can easily be found, and from that the position of the centre of gravity itself becomes assignable.

By the rules of mensuration, the solidity of a cylinder, of which the radius of the base is DE, and altitude AD, is expressed by the term, $3{\cdot}1416 \times AD \times DE^2$, and that of a hemisphere, whose radius is AD or DC, is expressed by $2{\cdot}0944\ AD^3$; consequently, by subtraction, the solidity of the figure generated by the revolution of ACEb, is equal to $3{\cdot}1416 \times AD \times DE^2 - 2{\cdot}0944\ AD^3 = 2{\cdot}0944\ AD\ (1{\cdot}5\ DE^2 - AD^2)$. But the area of the figure by whose revolution this solid is generated, is equal to the difference between the area of the rectangular plane AbED, and that of the quadrantal plane ADC, the former of which is $AD \times DE$, and the latter $\cdot 7854\ AD^2$; hence it is $AD \times DE - \cdot 7854\ AD^2 = AD\ (DE - \cdot 7854\ AD)$; therefore, by division, we get

$$\frac{2{\cdot}0944\ AD\ (1{\cdot}5\ DE^2 - AD^2)}{AD\ (DE - \cdot 7854\ AD)} = \frac{2{\cdot}0944\ (1{\cdot}5\ DE^2 - AD^2)}{(DE - \cdot 7854\ AD)}$$

This is the expression for the circumference of the circle, described by the centre of gravity of the figure ACDb, and if this be again divided by $6{\cdot}2832$, we get

$$kG = \frac{(1{\cdot}5\ DE^2 - AD^2)}{3\ (DE - \cdot 7854\ AD)} \quad \ldots\ldots\ldots (B)$$

This equation expresses the value of the

co-ordinate kG, or the vertical distance of the centre of gravity of the semi-arch from its base, and by a similar process, the other co-ordinate HG, or the horizontal distance from the axis can be found, for let us suppose that the rectangular plane DAbE, revolves about the side DE, which remains fixed, it will by such a revolution generate a cylinder of which the diameter is AB and altitude DE, while the quadrantal plane ACD generates a hemisphere of the same diameter, the difference between thees being equal to the solid generated by the revolution of the semi-arch ACEb.

Now, by the rules of mensuration, the solidity of the cylinder is $3{\cdot}1416 \times AD^2 \times DE$; and that of the hemisphere is $2{\cdot}0944\ AD^3$; therefore by subtraction, we have $3{\cdot}1416 \times AD^2 \times DE - 2{\cdot}0944\ AD^3 = 2{\cdot}0944\ AD^2\ (1{\cdot}5\ DE - AD)$; but the area of the figure by which this solid is generated, is, as we have already shewn, expressed by the term AD (DE—·7854 AD); therefore, by division, we get

$$\frac{2{\cdot}0944\ AD^2\ (1{\cdot}5\ DE - AD)}{AD\ (DE - {\cdot}7854\ AD)} = \frac{2{\cdot}0944\ AD\ (1{\cdot}5\ DE - AD)}{(DE - {\cdot}7854\ AD)}$$

This expression represents the circumference of the circle described by the centre of gravity of the semi-arch when revolving about the axis DE; and if this be divided by the constant number 6·2832, we get

$$HG = \frac{AD\ (1{\cdot}5\ DE - AD)}{3\ DE - {\cdot}7854\ AD)},$$

and consequently, by subtraction, kG or kA, the horizontal co-ordinate, becomes

$$kA = AD - HG = AD - \frac{AD\ (1{\cdot}5\ DE - AD}{3\ (DE - {\cdot}7854\ AD}$$

which being reduced to its simplest form, is

$$kG = kA = \frac{AD\ (1{\cdot}5\ DE - 1{\cdot}3562\ AD)}{3\ (DE - {\cdot}7854\ AD)} \quad \ldots\ (C)$$

Let now the value of kG, as given in equation (B), and that of kA, as given in equation (C), be respectively substituted instead of them in equation (A), and we get

$$ef = \sqrt{\frac{2w\,Af \cdot AD\ (1{\cdot}5\ DE - 1{\cdot}3562\ AD)}{bf\ (1{\cdot}5\ DE^2 - AD^2)}}.$$

Now, the quantity $2w$ in this equation, is equivalent to twice the area of the semi-arch $ACDb = 2\ AD\ (DE - {\cdot}7854\ AD)$; hence, finally we obtain for the thickness of the pier,

$$ef = \sqrt{\frac{2Af \cdot AD^2\ (DE - {\cdot}7854\ AD)\ (1{\cdot}5\ DE - 1{\cdot}3562\ AD)}{bf\ (1{\cdot}5\ DE^2 - AD^2)}} \quad \ldots\ldots\ (D).$$

If this equation be compared with that which is given in the volume where the problem is proposed, it will be found to be much superior, in so far as it involves nothing but given quantities; it is, however, of too complex a form to admit of being intelligibly expressed in words; but if the reader pays due attention to the steps of the process by which the following question is resolved, he will find no difficulty in applying the same principles to any other similar case.

Example 1.—Suppose the arch ACB to be a semi-circle, of which the span or diameter AB is ninety feet, the thickness CE at the crown six feet, and Af the distance from the foundation to the impost at A eighteen feet, what must be the thickness of the pier to sustain the thrust af the arch, the summit of the piers, and the roadway being in the same horizontal plane? The several data as here given, when referred to the parts of the figure as combined in equation (D), may be particularized as follows, viz.:—

Af=18 ft.; AD=45 ft.; DE=45×6=51 ft.; and bf=51+18=69 ft.

From the data as thus assimilated we have the following process:—

DE—·7854 AD=51—·7854×45=51—35·343=15·657

1·5 DE—1·3562 AD=76·5—1·3562+45=76·5—61·029=15·471,

$2\ Af \times AD^2 = 2 \times 18 \times 45 \times 45 = 36 \times 2025 = 72900$;

Let these three results be multiplied together, and we shall have the numerator of the fraction thus—

15·657×15·471×72900=24222·9447×729=17652526 6863=the numerator,

and $bf\ (1{\cdot}5\ DE^2 - AD^2) = 69 \times (1{\cdot}5 \times 51 + 51 - 45 \times 45) = 129478{\cdot}5$=the denominator; then by dividing and extracting the square root, it is

$$ef = \sqrt{\frac{17658526{\cdot}6863}{129478{\cdot}5}} = 11{\cdot}678 \text{ ft.,}$$ the thickness of the pier sought. T.

THE STUDY OF DESIGN.

The system of instruction pursued at the Manchester School of Design is said to have been eminently successful; and other similar institutions have applied to the council for advice and assistance in introducing elsewhere the same system. With the view of enabling the council to impart the information sought, and to put them fully in possession of his views on the subject, Mr. George Wallis, the headmaster, addressed a letter to the council, which they have published. The following extracts will shew our readers the course which is pursued there, and may be valuable to those who desire to teach themselves:—

"By the rules of the school, every student enters the elementary class; as those who have previously been taught drawing seldom possess a knowledge of the simple principles of linear construction. The first requisite, therefore, is to give them this knowledge, and they commence by the study of right or straight lines—horizontal, perpendicular, and diagonal—drawn in parallels and divided into relative proportions, as 2, 3, 4, 6, equal parts. These are carefully drawn without the aid of any mathematical instrument, by that most useful of drawing implements, the black lead pencil,—the natural action of the hand being explained and illustrated, and a severe method of handling constantly insisted upon throughout the full course. Clearness, distinctness, and precision being the end sought, as without these, intelligence in drawing is impossible. The scratched and slovenly effects so commonly resorted to in the ordinary modes of tuition, cannot, therefore, be too strongly deprecated.

Having attained the power to draw a straight line with precision, and to judge of its only dimension—length; and of distance and proportion, by dividing that length; the student proceeds to the construction of simple angles, and from these to polygonal figures, as the basis of the curve; then to the circle, simple and intersected, which in most cases he draws with almost mathematical accuracy after comparatively few lessons. The spiral, the ellipsis, the true oval or egg form, and other variations of the curve, follow; the relation between the angle and the curve being carefully kept before him. This may be said to finish his *free-hand* geometric course.

From this he proceeds to the simplest compositions, first as based on radiation and undulation, then on balance and repetition, as arising out of those principles; the fact being strongly impressed on his mind that, in attaining the knowledge of drawing the right line and the curve, he possesses the elements of all form, and has only to study their judicious combination. It will thus be seen that the course of outline is strictly progressive. By this means a knowledge of composition, even in the most complex examples, is gradually imparted to the student; and he is habituated to analyse form, as well as imitate its more apparent effects."

"This brings us to the class for shading, which has been divided into two sections. Those students to whom a knowledge of the human figure is essential in their future practice, as decorative painters, carvers, general engravers, &c., form the first section, and are taught to shade in chalk, by diagrams of flat tints, and afterwards by exercising them from the lithograph on white, and afterwards on tinted paper; and as a preparation for drawing from the large examples of the ornamental cast, each student executes a drawing enlarged from the copy, as an evidence of his power to judge of proportion, as well as size and form. Regarding this as the best method of teaching crayon drawing, I trust it will be understood that no student is suffered to continue drawing from the flat after he has attained a proper method of using his materials, which the exercise from well-selected examples of the lithograph is best calculated to give him. By this means he forms a mode of treatment of his own, and never falls into *manner*, which is the usual bane of schools and academies. Hitherto *mannerism* has been avoided, through this plan of not keeping the student so long at the lithograph as to make him a mere copyist, or on the other hand taking him to the cast without a knowledge of the method of imitating shadow, which necessarily involves so much teaching and illustration by the instructor, as to cause the pupil insensibly to fall into the master's mode of treatment, instead of working out one for himself.

A few words may here be said as to the best method of teaching the use of chalk in producing shadowed effects. The *stump*, an instrument of the greatest value to the accomplished draughtsman, is as decidedly useless and injurious to the youthful student, whose purpose is to learn to express relief by the imitation of shadow; for it induces him to overlook the fact that he has two effects of form to imitate,—that of outline, as on a plane, and that of relief, as expressed by projection; and that the latter, or perspective of his subject, will be best expressed by well studied lines agreeing with the contour. Experience has proved, therefore, that the crayon alone is the best instrument for education, since few or none who study with the *stump* ever shade well with the crayon point, whilst those who are well practised in the latter method possess the power of working with the former at any time, without those slovenly and dirty effects which in most cases result from its early use. As a means of education, then, the use of the *stump* is very objectionable.

The second section of the class for shading is composed of those students who are already, or may intend to become, designers for calico prints, silks, and other woven materials. These are taught shading by means of Indian ink, in the first instance from the flat, and afterwards from the cast; this method being peculiarly appropriate to their future pursuits, as giving them an early and valuable power over their instrument, the *brush*. I have, however, always desired to impart a knowledge of the human figure to these students, and regarded it as unfortunate that an opinion should prevail that it is useless to them. That it is an obvious absurdity to use the figure, or animals generally, on the materials for which these students are called upon to design, and that such use ought to be discouraged by every man of taste, is quite true: but I hold it essential to the success of this important class, that the figure should be taught them after preliminary instruction in the use of the crayon, and that this should be carried on simultaneously with their study of the history and principles of design; thus making, as far as possible, each course of study subservient to their general knowledge of art, as applicable to the purpose for which they are studying.

It may be asked,—Why teach the figure to the designer for textile fabrics, when you deprecate its use in his designs? My answer is,—Because it would expand his ideas of form, and give him a power of hand which the study of one class of forms, be it what it may, can never do. Hence the fallacy of supposing, on the other hand, that if the student draws the figure well, he can draw any thing, and, according to some authorities, design it too. But, allowing that the power to draw the figure would, in a great measure, qualify the student to draw any object placed before him, it must be borne in mind that the true ornamentist is not a mere copyist, but a reproducer of nature in a new form, and that he takes it rather as a basis for his invention, than as an object for his imitation. Hence the necessity for a very varied course of study, and constant recollection that the power merely to draw one object correctly, however excellent in itself that object may be, does not necessarily involve the power to represent every other object equally well; but I have ever advocated the study of the figure by every class of ornamentists, for the same reason that I believe the study of ornament is valuable to the historic artist, as a means of cultivating his taste, and increasing his knowledge of form and his powers of invention.

It will be thus seen, that I regard the proper and legitimate use of the figure—as the highest type of natural form, of the greatest possible value; but not as an elementary study, inasmuch as the necessity exists of first giving the student the power to apprehend and delineate form from less complex objects; those, in short, which he can most readily understand. For, as before stated, to imitate forms correctly and with intelligence, requires something more than the mere mechanical process of combining lines; in truth, the student must be taught to analyse the form before him, and this power should be given him at the outset."

"The student being thoroughly educated to draw any object placed before him in outline, and to represent its light and shadow by means

of chalk or Indian ink, he then enters the class for painting. This course is intended to embrace tempera, oils, fresco, encaustic, wax, and other modes of decoration, commencing with the first named, *tempera*, or distemper painting. In this material the student paints from the cast in mere light and shadow, so as to enable him to gain a knowledge of the use of body pigments by the easiest mode, and his eye is thus habituated to tint and tone as influenced by light and shadow, without having to grapple with the difficulty of representing positive colour at the outset. After this preliminary study, he paints at once from nature, flowers, fruits, shells, still-life in groupings, and should eventually complete his full course by painting the figure from the living model.

The best method of studying the human figure is now to be considered. The student having attained a knowledge of the use of his crayon, sets out with the bones as a foundation; not, however, to draw the full skeleton, but portions of it. Thus he studies the skull, the vertebræ of the neck, and the upper part of the trunk, as the clavicle, the sternum, the shoulder joint, and the upper ribs and scapula, with the upper portion of the dorsal vertebræ—the bones in fact, which are found under the bust. His next study is the muscles connected with the same parts, by which he at once sees the connection between the osseous and muscular formation. After this the full-finished bust becomes his model. The result is inevitable, for if he studies at all, he must understand it; and thus he goes on throughout the figure,—trunk, arms, legs, hands, and feet,—until he studies the complete figure from the antique statue. But during this course he is compelled to attend to other departments; thus he paints in the Morning School, and divides his time in the Evening between the figure and ornamental design."

"We now come to the most important portion of this question, the best mode of teaching *Design*, as distinguished from mere *Drawing*.

For the purposes of education, Design may be divided into two parts,—that which is based upon a knowledge of the construction of conventional ornament, as practised in the various epochs of Art—and that which is founded on Nature, through an investigation of its most obvious principles, and the best means of adapting these, conventionally, to the purposes of the Artist. The latter is obviously the only true source of originality, although the former may be regarded as the source of *our* conventional use of Nature; and any plan for teaching the principles, or, in other words, leading the student to think for himself, should be based on careful deductions from these two sources, and in this class every student ought to complete his course of study. It may also be made available for the advancement of early beginners, by giving them occasional demonstrations of the principles on which the elementary course is based.

The full course for Design is divided into five sections, in order to faciliate the education of the upper classes of students, for whose instruction it is more particularly established.

The first section comprises an analysis of the principles of natural form, according to my own views and the ideas of the best authors I have been able to render available on this subject; applying these to the composition of ornament, and the illustration of the various leading principles in every style of Art. During this section each student is required to produce a design for some positive purpose, based upon the particular principle or principles which form the subject of the lesson or lecture, the illustrations being drawn in the presence of the pupils on a demonstration board. One week is allowed for the execution of the prescribed design, when each drawing is produced, enlarged on the board, and criticised in a kindly spirit in the presence of the whole class. The results, as you are fully aware, have been, so far, highly satisfactory.

The second section will comprise the consideration of the generic styles of art, as Hindoo, Egyptian, Greek, &c., tracing, as far as possible, one style out of another, and comparing them with their original types in nature, investigating and adapting them to the purposes of the artist, giving the history of each epoch, and, as far as possible, illustrating the spirit in which the artists of the period wrought, by a consideration of the influences at work around them.

The third section of this course will be to take either correct drawings of flowers and plants from nature, or, when possible, the originals themselves, and demonstrate various methods of conventionalising them on certain fixed principles already laid down; reducing the design to some prescribed form or proportion, such as is usually required in the adaptation of nature or abstract ornament to the positive purposes of the artist or manufacturer.

The fourth section involves the application of the human figure and animal life generally to the purposes of the ornamentist, illustrated by a reference to the leading points in the comparative anatomy of each, and shewing the readiest, most efficient, and most tasteful modes of combining them with foliage.

The last section will comprise illustrations of all the general principles of art, as found in nature and the works of the best masters, ancient and modern. Such principles, in short, which, when thoroughly understood, constitute what is usually known as *good taste* in art. This may be called the historic section.

Such are my views of a class for teaching the history, principles, and practice of design, more particularly as applied to ornamental art, and which I trust, with your concurrence and support, eventually to carry out in the Manchester School of Design."

HOUSES NOT FINISHED BEFORE THE 1st of JANUARY, 1846.

Several correspondents have expressed much anxiety to learn, what will be done by the official referees with regard to houses in the metropolis commenced before the 1st of January, 1845, without attention to the Buildings Act, and not "rendered fit for use" before the first day of January, 1846. In the "construction of terms" given in the Act, the term *already built*, is to apply to buildings built before the 1st of January, 1845, or commenced before that day, and "covered in and rendered fit for use within twelve months thereafter." Looking only to this, fear is expressed lest structural alterations should be called for in houses which, though nearly completed, might not be recognized as "fit for use."

Alarm, however, is unneccessary. If they read further, they will see that the term *hereafter to be built* is to apply to buildings commenced after the 1st of January, 1845, "or which being commenced, shall not be *covered in* within twelve months thereafter." Now as the Act applies only to "buildings *hereafter* to be built," and to the rebuilding enlarging or *altering* those already built, it seems clear that if a building be merely covered in, before the 1st of January, 1846, structural alterations to render it in accordance with the Act (unless, indeed, it be actually unsafe) cannot be called for.

Since the above was written (at the moment of our going to press), the official referees have addressed a circular to the district surveyors, bearing out our views. We will give it in full next week.

NEW CHURCH AT SEACOMBE.

The committee of subscribers to the proposed new church at Seacombe have selected the designs of Mr. John Hay, architect, of Liverpool. The church is to be composed of a nave 88½ by 31½ feet, and chancel, 22 by 16 feet. The west end will be surmounted by a tower and spire 120 feet high. The interior arrangements are said to be satisfactory: the centre aisle is of considerable width, and the worshippers will be accommodated with open benches. The sittings are 500 in number, of which one-half will be free. The roof will be of open framed timber, stained and varnished, similar to the one now building at Walton Breck. The west gable is to have a large mullioned and traceried window, and the chancel will be lighted by a similar one of smaller dimensions. The pulpit is placed at the north-western extremity of the chancel, and a lectern, designed by Mr. Hay, will stand on the opposite side. The style is the early decorated. The site is fixed at the intersection of four new roads, about 500 yards from Seacombe Hotel, and the church will present a picturesque addition to the view from the river. The cost is estimated at 1,800*l*. The architect proposed to place the vestry in a sort of detached octagon building, with a high conical roof. The committee, however, rejected this portion of the plan, and adopted a square vestry close to the chancel wall.

Miscellanea.

New Suspension Bridge for Railway Purposes.—A patent has just been obtained by Mr. H. H. Russell, formerly an assistant of Sir Isambard Brunel in the construction of the Thames Tunnel and other public works, for a new mode of arranging the curves in suspension bridges, by means of which the vibration and oscillation of those structures are entirely neutralized, and thereby rendered available for railway purposes. The novelty of the invention consists in the arrangement of the chains, which alternately are relieved by the support which is given from the lower portion of the catenary curve, it being supported in the pier immediately under the summits or points of bearing of the upper chain which interlaces at the centre of the span, thus distributing the weight of the moving power alternately from the higher to the lower chain. We shall take an early opportunity of giving a more minute account of the principle, which, if it realize the expectations of the patentee and many of his scientific friends, will be of essential service in lessening some of the expenses and difficulties incident to the formation of railroads.

The Breakwater Beacon.—On Thursday last the mast was placed in the masonry of the beacon erected at the eastern end of the breakwater, after which the globe, which is 6 feet in circumference, was fixed on the top of the mast, a height of 27 feet above the masonry; so that the entire beacon is now completed. The globe, which is made of wrought iron, weighs about 13 cwt., and is painted black; it is of very superior workmanship, and was manufactured in London. The mast, which is of African oak, is to be painted to correspond with the granite used in the construction of the beacon, and around it a series of steps have been cut, so as to enable persons in cases of wreck to ascend into the globe, in which an aperture has been left for the purpose. The globe has been painted black to shew itself seaward with greater distinctness than it would if of any other colour, the land being behind it. The cranes used in the erection of the beacon having been removed, the structure is now seen to much greater advantage, and forms a very good finish to the eastern end of the breakwater in contrast with the magnificent light-house at the western end. —*Plymouth Times*.

The Horary, or Hourly Record (Letts and Son).—This useful little volume contains a page for each day, with the hours marked for the insertion of the different occurrences, or to note engagements and coming events. The effect of keeping such a diary is pointed out by a happy quotation from the "Merchant of Venice:"

> "'Tis to preize the time,
> To add to it, and eke it out in length."

Scarcity of Masons.—It is said that at Merthyr, and the district of the iron works, it is almost impossible to get masons, even at high wages; and that many more houses would be built if carpenters and other workmen could be procured.

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For the execution of the works between Leamer and Birdlington on the York and North Midland Railway, being a distance of 19¾ miles.

For altering part of the Whitby and Pickering Railway, including the widening of the cuttings and the embankments, the rebuilding several river bridges, and the laying down two lines of rails in lieu of the present single line.

For the execution of contract, No. 1, of the Lynn and Ely Railway, being a length of about 13 miles.

For lighting the town of Whittlesey, Cambridgeshire, with gas for 1 year. Gas works are already erected there.

For supplying her Majesty's several dockyards with Welsh or Cornish slates.

For the execution of the works on three separate lengths of the South Wales Railway, being together a distance of about 14 miles, including a tunnel.

For supplying the Cork and Bandon Railway Company with railway carriages.

For supplying the corporation at Coventry with iron pipes,, &c., for the intended water works; to be from 2 inches to 14 inches diameter, and in length about 21,550 yards or 12¼ miles.

For the executing of contract No. 1, of the Lynn and Dereham Railway, being a distance of about nine miles.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At Fivehead, near Taunton: a quantity of large sized elm, oak, ash, and poplar timber trees, with their tops, lops, and bark, as now standing.

At Peasenhall, near Abingdon: a large quantity of ash, beech, and elm plank, and elm board.

At Steeple Bumpstead, Essex: 150 remarkably fine ash timber trees, beautifully clean and very straight.

At Guilden Morden, Cambridgeshire: 25 capital wych elm, and 8 ash timber trees, &c.

At Stanbourne and Steeple Bumpstead, Essex: 60 ash and 70 elm timber trees, of large dimensions and straight.

BY TENDER.

At Mast House, Mill-wall, Poplar: an extensive stock of prime yellow pine trees, of various lengths and diameter.

TO CORRESPONDENTS.

"A. T. P."—*The architect is not bound to do either the one or the other. Our correspondent will find reference to the point in next week's* BUILDER.

"W. G. B."—*We regret that we have not time to give him the explanation asked. Should an opportunity occur, we will do so.*

"Amicitia" *should apply to the secretaries of some of the railway companies.*

"J. M." (John-street).—*The address is* 29, *Tottenham-street.*

"Ordnance-road."—*If there be a common sewer within* 100 *feet from any front of the buildings about to be erected, drains must be made into it.*

"Old Subscriber" (Bethnal-green).—*Porter, of Southwark-bridge Iron-works, supplies iron houses, and will give all information required.*

"G. W."—*We shall avail ourselves of the circular.*

"J. J."—*A proof shall be sent as requested.*

"F. M." (Lambeth).—*What report is it that contains the statements as to charge referred to?*

"A Casual Observer."—*Our principal reason for giving the names of parties in the cases decided by referees, is to afford means of reference to persons who may desire to consult the documents at the registrar's office.*

"C. R. B."—*The tone of our correspondent's letter of the* 31*st would justify such a reply as might neither be useful nor gratifying to him. We allow no personal feeling to interfere with the discharge of public duty. He must be aware that it would be useless to publish all awards, and that we select those which are most likely to be useful.*

"Roman Cement."—*A correspondent wishes to have an analysis of the stone from which Roman cement is made.*

"W. W."—*Guernsey granite broken is the material recommended by Sir James McAdam. No other material is mixed with it.*

"J. D." (Birmingham), and "J. T." (Pimlico), *had better advertize.*

"A Builder."—*We will look to the Quadrant.*

"An Apprentice" *would probably find Grayson's Architectural Drawing School, at No.* 1, *Banner-street, Old-street, answer his purpose.*

"G. L."—*Ditto.*

"A Subscriber." (Metropolitan Improvements).—*We are uncertain, but will inquire.*

"Public Necessaries."—*The importance of this subject is becoming daily more evident. We have received several communications on the subject, and will give them early consideration.*

"Q." *has our thanks; but we cannot promise insertion at this moment. We have many communications to the same effect.*

"Sawing Machine."—*In answer to J. E., Mr. Monson, of* 30, *East-street, Manchester-square, says: "He has in use a machine, with fly-wheel* 5*-feet diameter, to dispose off, with saw, &c., complete for working.*

"A Subscriber."—*The address is Messrs. W. Basford & Co., Longport Brick and Tile Works, Staffordshire Potteries.*

Next Week:—"E. N." (St. Benet's Fink); "Architecture in France;" "State of the gas mains;" "Goethe on Palladio;" "O. O. O.;" "Constant reader;" "T. A. H;" "Colour in interior decoration;" "Laws relating to Buildings."

"G. T."—*A day was wasted in the ineffectual attempt to obtain the cuts promised.*

Received:—"Looker-on;" "J. P." (Shrewsbury); "Investigator;" "A regular brick;" "A Hand Book for Lewes," by Mark Anthony Lower (Russell Smith Compton-street); "Mephystopheles," No. 4; "Dolman's Magazine" No. XI. for January.

ADVERTISEMENTS.

NOTICE TO INVENTORS.

OFFICE FOR PATENTS OF INVENTIONS and REGISTRATIONS of DESIGNS, 14, Lincoln's-inn-fields.—The printed INSTRUCTIONS gratis, and every information upon the subject of PROTECTION for INVENTIONS, either by Letters Patent or the Design Acts, may ne had by applying personally, or by letter, prepaid, to Mr. ALEXANDER PRINCE, at the office, 14, Lincoln's-inn-fields.

LONDON and BRIGHTON RAILWAY COMPANY, HORSHAM and KEYMER Branches. EXTENSION OF TIME.

The period for delivery of sealed Tenders for these works is extended to Thursday, the 15th January next, at 1 o'clock in the afternoon, when the parties tendering, or an authorized agent, must attend at this office.—By order,

T. J. BUCKTON, Secretary.

Brighton Railway Office, London Bridge Terminus.
29th Dec. 1845.

IMPORTANT TO SURVEYORS, BUILDERS, &c.

GALVANIZED TINNED IRON and ZINC MANUFACTORY, 17, Exmouth-street, Clerkenwell.

J. DORE begs respectfully to inform Builders and Surveyors, that on account of the Increasing Demand for Galvanized Tinned Iron, he has made such arrangements as will enable him to manufacture every article usually made in Zinc, at the same Prices; also begs to recommend this metal corrugated for Roofing as the most Economical, as it can be laid without Boards upon Slight Rafters.

Every Article manufactured in Zinc as usual, at the lowest possible prices.

DAY'S PATENT WINDGUARD, for ventilating churches, hospitals, factories, theatres, breweries, malt-houses, club-houses, shops, bed-rooms, smoking-rooms, school-rooms, nurseries, stables, larders, kitchens, offices, ships, mines, vaults, tunnels, &c. Also for preventing down draft; and is guaranteed to cure all smoky chimneys caused by wind; and entirely supersedes the use of revolving cowls, or any thing moveable or unsightly on the tops of chimneys or ventilators.

The object of this invention is to create a draft where otherwise it would not exist, by the spontaneous action of the external air. The Windguard forms a pleasing octagonal pillar, and by its peculiar construction to carry out the principle on which it is based, which consists of the wind giving a disposition for a vacuum within, thereby causing a continual upward current about equal to the velocity of the wind at the time acting upon it, which averages about six feet per second thirty days out of thirty-one; therefore, will nearly at all times ensure a continual change of air, being no impediment to spontaneous ventilation, even on a perfectly calm day. One five feet square will ventilate a building containing upwards of 1,000 persons. The Windguard applied to ships and steam vessels, in the form of a sky-light, prevents rain or the sea entering within, however boisterous the weather may be, thereby affording excellent ventilation as well as light. The Windguard is simply applied for effectually ventilating bed-rooms, nurseries, smoking-rooms, offices, &c., causing the air of the apartment to be at all times as pleasant as can be desired. It is fixed at the top of the chimney, in addition to which a cast-iron frame and valve (about one foot area), made to open and shut as pleasure, is let into the flue, near the ceiling of the room, to allow the constant ascending vitiated air being immediately carried off. The opening is guarded by a neat venetian blind or grating; and so powerful is the effect on a windy day that if a handkerchief be thrown up to the grating, it will remain there—i. e. if the valve be open. In winter the valve would be only partially open, to allow the smoke to ascend, but if the room be found too cold can be entirely closed. The Windguard applied to the tops of chimneys prevents all annoyance from smoke (caused by wind); indeed, where it does not, nothing else applied at top will (of the same size); care, therefore should be taken to have the proper size applied. It is simple in its application, reasonable in price, ornamental in appearance; no machinery or anything moveable in it, therefore, cannot get out of order; free from noise or any unpleasantness whatever; not liable to choke up with soot; no obstacle to the machines used for sweeping chimneys. May be had of all respectable ironmongers in town and country; and may be seen daily in operation, where its powers and usefulness are exhibited by the severest tests, at THE PATENT VENTILATING WORKS, COMMERCIAL-ROAD, PIMLICO, LONDON; where also may be seen Mr. G. T. DAY'S plans (illustrating the different applications of his Patent Archimedian Ventilator and his Portable Water Apparatus) for effectually Ventilating, Warming, and Cooling the Air of Buildings, Ships, Mines, &c. &c. By the use of these inventions many thousand cubic feet, or any quantity of pure warm or cold air, can be guaranteed to be continually exchanged per minute, day and night, winter and summer; thereby insuring, at all times, free ventilation to the rooms and passages of buildings, &c. from the basement to the roof, at the same time in such a manner as shall not be inconveniently perceptible. The size of the apparatus depends on the nature and use of the building and its occupants.

The Patentee has been honoured by his inventions being applied at the following places:—

Windsor Castle, Buckingham Palace, St. James's Palace, Claremont Palace, Walmer Castle, the Houses of Parliament, New Conservative Club, White's Club, Travellers' Club, Oxford and Cambridge, Parthenon, Wyndham, Army and Navy, Senior United Service, Junior United Service, Admiralty, British Museum, Somerset House, Custom House, Mint, Hon. Artillery Company, H. M. Salamander, Trinity House, Ordnance, Greenwich Hospital, Christ's Hospital, Westminster Hospital, Bethlehem Hospital, Surrey Lunatic Asylum, New Royal Exchange, Mansion House, Goldsmiths' Hall, Fishmongers' Hall, Haberdashers' Hall, Dyers' Hall, Grocers' Hall, Armourers' Hall, Weigh House Meeting-house, Hanover-square Rooms, Theatre of the Westminster Literary and Scientific Institution, Grand Cigar Divan, Strand, City Club, and many other Public Buildings in Town and Country, as well as to the Mansions of many Noblemen and Gentlemen. Licenses granted for Manufacturing the above. Drawings and Plans made for Ventilating and Warming Buildings of every description.

THE SYPHON FUNNEL for Smoky Chimneys. This Machine creates a good draft in chimneys, and when this is required will be found the best machine invented for the purpose. It also protects chimneys from wind. Apply to GREEN and BENTLEY, Ironmongers, 27, Upper George-street, Edgware-road, or to Mr. VICKERS, Agent, 24, Sidney-street, City-road.

NOVEL PLAN FOR CURING SMOKY ROOMS.

THE SMOKE ELEVATOR, secured to the Advertiser by Act of Parliament, can readily be attached to any old or new pattern room stove, without disfigurement or removal of the stove, at a less cost than any patent chimney-pot, and with a certainty of success beyond comparison.—Sold by C. RICKETS, patentee of the calorifere gas stoves, for warming churches, halls, rooms, shops, or any other kind of building, without a chimney.—No. 5, Agar-street, Strand, opposite Charing-cross Hospital.

WILSON'S PATENT VENTILATING SPIRAL CHIMNEY POT, for the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success. This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance. The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory, Southwark-bridge Iron Roofing Works.



TO THE BUILDING PUBLIC.



SASHES AND FRAMES, DOORS, &c.



Manufactured for the Trade
By C. W. WATERLOW,
121, Bunhill-row, Finsbury-sq.

Best Materials.—Lowest Prices.
Terms: Cash.

Full lists of prices may be had on application at the counting-house; if by letter, pre-paid, inclosing postage-stamp.
A large stock of well-seasoned Doors always on hand.

BIELEFELD'S PAPIER MACHE.—The superiority of the Papier Mâché for the purposes of ARCHITECTURAL DECORATIONS is now so generally admitted, that it is needless to argue it. The introduction of Papier Mâché into most of the public and private buildings in the country is the best proof of its merits. Ornaments may be had in almost every style, and pattern-books, containing more than a thousand executed designs. Price 1*l.*

PICTURE FRAMES and other Articles of Furniture, either gilt or in imitation of the finest carved oak. An illustrated Tariff forwarded on the receipt of eight post-office stamps.

PATENT QUAQUAVERSAL GLASS-STANDS for the toilet, on an entirely new principle, of great elegance, and free from all the practical inconvenience of ordinary Glass-stands.

At the works, 15, Wellington-street North, Strand.

THE CONSOLIDATED LOAN, ANNUITY, and GENERAL LIFE ASSURANCE COMPANY. Registered Provisionally. Capital 500,000*l.*, in 20,000 shares of 25*l.* each, deposit 2*s.* 6*d.* per share, which, on complete registration, will be increased to 1*l.* 8*s.* per share; and from the experience derived from the working of other insurance offices, it is not expected that a paid-up capital of more than 2*l.* or 3*l.* per share will ever be required. This Company embraces all the varied objects of life assurance, and by means of monthly payments, will extend the benefits to every class of society; it will also advance money to enable persons to erect or purchase residences, or other freehold or leasehold property, upon the principle of a Building Society, without requiring the borrower to pay arrears of subscriptions, or to continue them beyond alimited period, which will secure to the shareholder a much larger and safer return than he can realize in any other Society. Shareholders will also have a preference in obtaining loans.—Applications for Shares to be made to T. G. WESTERN, Esq., Managing Director, 29, Leadenhall-street, of whom Prospectuses may be had.

PROFESSOR KELLER'S POSES PLASTIQUES.

ROYAL ADELAIDE GALLERY.—This day, and during the week, Professor Keller will exhibit at the Adelaide Gallery his Grand Tableau Vivans from the Ancient Masters, which have received so largely the encomiums of the press. Every morning at half-past three, and in the evening at nine o'clock. Great efforts have been made to add to the effects of this exhibition. A variety of new subjects have been added to those already presented to the public. The Concerts as usual. Also Pilbrow's Atmospheric Railway model, with explanatory lecture.

CHRISTMAS HOLIDAYS.

ROYAL POLYTECHNIC INSTITUTION.—The Lectures selected for this period of the year, by Dr. Ryan and Professor Bachhoffner, in Chemistry and Natural Philosophy will be illustrated by interesting and beautiful experiments. A Lecture on the Prevalent Disease in Potatoes will be delivered by Dr. Ryan, and also on the Atmospheric Railway, by Professor Bachhoffner, a working Model of which, carrying several persons, is exhibited daily. The additions to the Opaque Microscope, Dissolving Views, and Chromatrope are very effective. The Physioscope. Submarine Experiments by means of the Diver and Diving Bell. Among the various additions to the Working Models is Coleman's new American Locomotive Engine, for ascending and descending Inclined Planes. A magnificent Collection of Tropical Fruits. Mr. Downe, the celebrated Flute-player, will take part in the Music, conducted by Dr. Wallis. Open from Eleven to half-past Five, and from Seven to half-past Ten in the Evening.—Admission, One Shilling. Schools, Half-price.

KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Milbank-street, Westminster,

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, produceable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

Mann and Co. beg to call the attention of the Trade to the following spontaneous letter, just received:—

"Newcastle, Staffordshire, 17 Dec., 1845.

"Messrs. Mann and Co.

Gentlemen,—I am returning to you three empty casks (two cement and one paint). When you receive them, please to forward me a statement of my account, and I will remit you the amount. I have every reason to believe the cement will answer. The front of my building has now been finished some months, and stands in an elevated situation, very much exposed to the weather. I have not painted the exterior walls with the stucco paint, but have used it in the lobbies, and it seems to answer well. I finished all my principal rooms with the cement, laid on thin as a lath coat, and although the house was only commenced last April (the exterior walls only being built), it is now papered and painted, and I am residing in it, feeling confident that from finishing the inner walls with the cement the paper will keep dry, and not injure, as other walls do. The front looks well and has been much admired, and I think many will adopt it, all other cements used about here having failed in one way or other.

I am, your obedient servant,

JOHN LAMB, Mayor of Newcastle-under-Lyne.

P.S. You are at liberty to make what use you like of this information, if it will be of any service to the patentees.

TO ENGINEERS, ARCHITECTS, AND CONTRACTORS.

GREAVES'S LIAS CEMENT and GROUND BLUE LIAS LIME, at 2, South Wharf, Paddington, London, and Works, Southam, Warwickshire.

Agent for Liverpool, Mr. WYLIE, 56, Gloster-street; ditto for Manchester, Mr. J. THOMPSON, Back King-street; ditto for Chester, Mr. J. HARRISON, Linen Hall-street.

ATKINSON'S CEMENT.—The public is respectfully informed, that the price of this very excellent Cement, which has now been in use for Architectural and Engineering works upwards of thirty years, is reduced to 2s. 3d. per bushel, and may be had in any quantity at Wyatt, Parker, and Co.'s Wharf, Holland-street, Surrey side of Blackfriars-bridge.

N.B.—This Cement being of a light colour, requires no artificial colouring or painting, and may be used for stucco with three parts its own quantity of sand.

PORTLAND CEMENT, which does not vegetate, and requires no colouring, is perfectly hydraulic, and resists the action of Frost. The cost of the material and of working it is about the same as Atkinson's Cement, Manufactured by J. B. WHITE and SONS, Milbank-street, Westminster, and sold at their Warehouses:—

Druce's Wharf, Chelsea,
Bell's Wharf, Paddington,
Earl-street, Blackfriars,
Albion Wharf, Deptford-bridge,
by Salmon and Co., Dublin,
and at 36, Seel-street, Liverpool.

WALKER'S WHITE and CLOUDED LIAS LIME STONE, adapted for chimney-pieces, hall and kitchen floors, hearth-stones, steps, and staircase work, and every other purpose to which Portland stone is applicable. It has the advantage of being less porous, more durable, more easily worked, and of a more delicate and beautiful colour, than the lias lime stones at present in use, and consequently far superior also to Portland stone and others of a similar nature; in confirmation of which, references of great respectability can be given. It has also the advantage of being procurable in blocks or slabs of larger dimensions than those usually brought to this market, and "at exceedingly low prices."

Specimens to be seen and further information obtained at the "METALLIC SAND CEMENT WHARF" (opposite Pratt-street) Kings-road, Camden New Town, London.

VARNISH.—It has long been a desideratum amongst the consumers of Varnish to obtain a good and genuine article; brilliancy, facility of drying, hardness, and durability are the qualifications necessary, but these are seldom if ever found united. The experience of a life-time devoted exclusively to the manufacture of this article, the great and important discoveries of modern chemistry, and the daily improvements in machinery, have enabled Messrs. George and Thomas Wallis to produce Varnishes (both oil and spirit) unrivalled in every respect, and they confidently recommend them to the trade, as deserving of notice both in point of quality and price.

Builders, Coachmakers, Painters, and others may depend on being supplied with a genuine and unadulterated article. Fine Oil Varnish, from 10s. per gallon; best White Spirit Varnish, 7s. ditto; Pale Spirit French Polish, 20s. ditto; White Lead, Oil, Turps, and Colours of every description at the very lowest prices.—WALLIS'S Varnish, Japan, and Colour Manufactory, 64, Long-acre, one door from Bow-street. Established 1750.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; a boy can use it as well and effectually as the best workmen: it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 20s. per gallon.

STEPHENS'S LIQUID OAK, MAHOGANY, ROSE, and SATIN WOOD STAINS, for Staining various sorts of Inferior Woods, so as to give them the appearance and character of the more costly and ornamental kinds; also for reviving the natural colour of Wood Carvings and Panellings, and other ornamental Wood Work, when such has become faded from age or other causes.

IN THE BUILDING AND DECORATING NEW CHURCHES, where it is desirable to give to the cheaper kind of Woods the appearance of Antique Oak, or to make Deal assume the character of Oak Panelling, whereby the effect of the more costly may be produced by the use of a cheaper material, these Stains will be found more effective than any means hitherto employed.

IN OLD MANSIONS AND HALLS, where the Wood Carvings and Panellings have faded, the application of these Stains will be found to revive and bring back the rich natural colour, and which colour may be varied from the lighter to the deeper shades of the most Antique Oak.

The BIRCH WOOD, which has a fine natural grain, with little colour is particularly suited to the application of these Stains; and the appearance which it assumes after Staining is so near that of the natural wood, that is is only when the grain and colour of the latter is particularly fine that it is preferred. Beech, Birch, Elm, Ash, and other Woods. English and Foreign, receive the Stains and produce various imitations.

For the exposed Timbers of the inside of the ROOFS of CHURCHES, for which north country Timbers and Deals are generally used, by brushing them over with the Stain, which operation is very rapidly, and of course economically, effected, the appearance of an Oaken Roof will be produced. For colouring the backs of the Seats, Pews, the fronts of Galleries, the Pulpit, &c., it is equally advantageous.

Prepared by HENRY STEPHENS, and may be obtained at 54 Stamford-street; of Mrs. FOWLER, Painter and Glazier, 3, Broad-street, Golden-square; and at the Office of "THE BUILDER," 2, York-street, Covent-garden, at which places specimens of their application may be seen.

PREPARED FLOORING BOARDS.

AT REDUCED PRICES.

ALWAYS ON SALE, a LARGE ASSORTMENT of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¾ inch to 1¼ inch thick. Rough Boarding for Flats.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Smith-street, Westminster.

PREPARED FLOORING BOARDS.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, and Old-Barge-Wharf, Upper Ground-street, Blackfriars, a very large stock of well-seasoned Floor Boards of every variety.

A. R., in calling the attention of builders and consumers, confidently presumes on his being able to supply them on such advantageous terms, as will ensure and merit their favours and approbation.

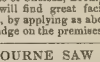
DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above.

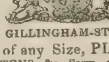
N.B.—A weighbridge on the premises.

WESTBOURNE SAW MILLS.
50½, WESTBOURNE STREET, EATON SQUARE, PIMLICO.

J. NEWSON, having now completed his improved STEAM MACHINERY, begs to inform the Public that he is enabled to execute Sawing in all its branches with the greatest dispatch, and at such charges as he trusts will ensure to him a share of their patronage.



THE GENERAL WOOD CUTTING COMPANY, TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.—SAWING in all its branches executed with the greatest precision and despatch. PLANING by the most approved Machinery, reducing the Boards to a parallel width and thickness, and grooving or matching with undeviating accuracy. The operation economises time, money, and material.

MUIR'S PATENT  PLANING MACHINERY.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

PAYNE'S PATENT PROCESS FOR THE PRESERVATION AND IMPROVEMENT OF TIMBER, &c.

PAYNE and LODER beg to invite the attention of Engineers, Railway Companies, Architects, and others to the above process, and to state that they are prepared to erect the necessary apparatus in any part of the United Kingdom where the quantity is sufficiently large to cover the outlay of its removal.

Further particulars can be obtained at Whitehall-Wharf Cannon-row, Westminster, or at their other stations, Fleet-wood-on-Wyre, Lancashire; Wisbeach, Cambridgeshire; Union-Wharf, Southampton; and Guildford, Surrey.

POLONCEAU'S BITUMEN PAVEMENT for paving Foot walks, Terraces, Garden walks, Stables, Coach Houses, Granaries, Corn Stores, and Salt Warehouses. For the exclusion of Damp and Vermin in Basements it is particularly adapted, and for Roofing Dwelling Houses, Porticos, Balconies, and Sheds.

Price 3s. 6d. per square yard.

BITUMEN for covering the Arches of Bridges, Culverts, &c. &c. on Railways and other places (with instructions for laying it down), may be had at the rate of 45s. per ton, by applying to JOHN PILKINGTON, 15, Wharf-road, City-road.

TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorised CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced.

I. FARRELL, Secretary.

Stangate, near Westminster Seyssel Asphalte Company, Bridge, Jan., 1845.

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 16, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

The Builder.

No. CLIII.

SATURDAY, JANUARY 10, 1846.

OUR readers are aware that the Act prescribes that stone stairs, when used internally in dwelling-houses, must be wholly supported by "fire-proof constructions, and must be connected internally by landings, the floors of which are fire-proof and wholly upborne and supported by fire-proof constructions, and must be connected with the exterior entrance by passages, the floors of which are fire-proof and wholly borne up and supported by fire-proof constructions."

Mr. Taylor, of Pimlico, a mason, had prepared and partly fixed, in ignorance of this regulation, a stone staircase, whereof the steps were wholly supported by fire-proof constructions, but which had landings and passages formed in the ordinary manner, with fir joists and deal boarding. The district-surveyor rightly considered himself bound to require that these latter should be fire-proof also; and as no preparation for this had been made, the case was submitted to the referees. Their award was:—

"That it will be contrary to the Metropolitan Buildings Act to make the floor of the passage intended to connect any stone stairs in a dwelling-house with the exterior entrance thereof, or the landings by which such stone stairs are to be connected in the several stories, in such manner that they will not be fire-proof, and, as well as the stairs, wholly upborne and supported by fire-proof constructions; and, in compliance with the request of the surveyor of the district, we, the said official referees, do hereby direct that, in the present case, the passage from the entrance-door to the foot of the stairs, which have been already fixed, be rendered fire-proof; which may be done by means of a sufficient cast-iron girder from the front wall, to and over the cross wall, or to and upon a sufficient pier of brickwork, or an iron column, at or near to the foot of the basement stairs, and so disposed that the end of the curtail step of the flight from the ground floor story may rest upon it; such cast-iron girder being laid at or within the line of the passage-partition, so as to assist the party-wall in carrying such requisite fire-proof floor: but inasmuch as the said James Taylor has incurred the expense of providing, preparing, and partly fixing a stone staircase, without providing the means of forming properly supported landings to connect the stairs between the several stories, and such proceeding having been taken in ignorance of the intention and effect of the statute, and having especial regard to the size of the house in which the said stairs are to be used, we, the said official referees, are of opinion that the surveyor of the district will be justified in permitting the upper landings to be executed as proposed."

Some time ago, when a statement of a similar, if not the same case, was laid before us,* we said the regulation in question, which permits a builder to make his stairs, landings, and approaches wholly combustible, but will not allow him to render them in *part* fire-proof, was anomalous.

That the same opinion is entertained generally, seems to be evidenced by the fact, that the referees have commenced the above award by stating, it appears to them, "that the intention of the rule quoted in the said requisition is, that when stairs in dwelling-houses are of stone, or other incombustible substance, there shall be the reality, as well as the appearance, of secure means of escape from such dwelling-house in the event of fire, by requiring the landings connecting the several flights of stairs in the several stories of a building, and the floor of the passage connecting the stairs with the exterior entrance of any such building to be fire-proof, and, as well as the stairs, to be upborne and supported by fire-proof constructions trustworthy in the event of such calamity; and having regard to the consideration, that people are not liable to be deceived by wooden staircases, but that they are liable to be deceived by the appearance which stone stairs present, when these are not properly upborne and supported, and are not properly connected throughout, and with an exterior entrance by like sufficient and secure constructions," they awarded as before recited.

There is no doubt that this is the motive of the clause; we cannot, however, consider it a sufficient one, and trust the regulation will not be allowed to escape revision. It cannot be denied, that fire-proof landings and accesses to stairs are very desirable, and if the provision referred to were likely to lead to the more constant introduction of such, the objection to it would be weaker. We feel satisfied, however, that this will not be the case, but that it will lead to the disuse of stone stairs altogether, excepting in large and costly houses, where the regulation would generally have been complied with if it had not existed. Stone stairs are now often put up in houses of middling size, wholly upborne by fire-proof constructions, and useful so far as they go, in more ways than one. But in few cases are the accesses and landings so also, as a different arrangement is required in order to effect this, and great additional expense must be incurred.

Surely, it is better that there should be *partial* means of getting safely down a building on fire than that there should be none.? And there is further this most important consideration, that wooden stairs materially aid in communicating fire from one floor to another. As to the notion that persons "are liable to be deceived by the appearance which stone stairs present," and so are led to make no other provision for escape, this really goes for nothing, since it is well known that nine hundred and ninety-nine persons out of every thousand, whether with wooden or stone stairs in their houses, never make any previous arrangement at all for escape, or give the matter a thought until it be too late.

* Vol. III. p. 584.

Houses commenced before January 1st, 1845, at present unfinished.

THE following is a copy of the circular to which we referred in our last, addressed by the registrar to the district surveyors, on the 1st of the present month:—

"With respect to buildings commenced before the 1st January, 1845, and remaining incomplete on this day, the 1st January, 1846, I beg on the part of the official referees and myself, with a view to relieve, in some degree, the doubts and apprehensions of persons interested in building, as to the application of the Metropolitan Buildings Act to such buildings, to inform you, in common with the other district surveyors, that the official referees are of opinion,—

1st. That if such buildings (whether within the limits of the former Building Act, 14 Geo. III. c. 78, or the new districts created by the present Metropolitan Buildings Act) be structurally complete, that is to say (in the language of the 77th section), if the roof be covered in, and all the walls be built to their full heights, and the principal timbers and floors fixed in their places, you will be justified in considering that the Metropolitan Buildings Act will not extend to the original erection and completion of such buildings.

2ndly. That if the structure of any such building within the limits of the former Building Act, 14 Geo. III. c. 78, have been executed in compliance with that Act, then you will be justified in considering that so much of any such structure as may be already executed will not be affected by the Metropolitan Buildings Act, but that whatever may remain to be done in or to such buildings on this day (so far as it can be done without demolishing any part of the structure), should be done in compliance with the rules, provisions, and directions of the Metropolitan Buildings Act. But,—

3rdly. As it regards such buildings within the metropolitan district in those parts which were not within the operation of the Act 14 Geo. III., the official referees feel that they can suggest no general rule applicable to such buildings, but that every case must necessarily rest upon its own merits."

CONSTRUCTION OF TERMS STREET AND ALLEY.

A correspondent writes: "In THE BUILDER of the 27th instant (page 618, Vol. III.), 'Construction of the terms, street and alley,' it is reported, that the referees decided, that the houses could not be built unless *a road* forming the approach, be at the same time made of the statutable width.

This award certainly does not set at rest the question, whether a street must have two entrances, because, had the referees intended to have put this construction on the Act, they would most assuredly have said *roads*."

With reference to this point, we may state, that the referees have decided by another award, that the Act does *not* require two entrances for a street, although it does for an alley. The case briefly was this. Mr. Scarth desired to build some houses on a piece of land adjoining the vicarage garden at Fulham, and proposed to form a road in front of them, 24 feet wide, from the wall of the vicar's garden, with *one* entrance only, of the same width.

The referees determined, "that inasmuch as the buildings in question are to be built at a greater distance than 20 feet from the boundary of land belonging to the owner of such buildings, and in the same occupation therewith; and there are no buildings within a distance of 20 feet from such boundary, on the other side of such boundary, it will not be contrary to the said Act to build the houses in question in the situations shewn."

A title-page, *in colours*, has been printed for the volume lately completed, and may be obtained, on application at the office, by those subscribers who may prefer it to the plain title-page, distributed last week with the index.

NEW WORKS AT THE POST OFFICE.

IN order to obtain additional accommodation at the Post-office, St. Martins's-le-Grand, two new rooms, of large size, have been formed for letter-sorters over a part of the present building, under the direction of Mr. Sydney Smirke. As the span is considerable, and it was desired to occupy as little space with the floor as possible, a series of iron arches has been introduced, to support at the same time the roof and (by means of suspending rods) the timbers of the floor. The construction being novel and ingenious, we shall shortly illustrate it in detail.

COLOUR IN INTERNAL DECORATION:
QUESTIONS AFFECTING ITS TREATMENT.

Among the arts, which minister to the comfort and delight of man, a returning influence is at length apparent in the arts of design. A knowledge of the origin and applications of forms, in the works of architecture, or of decorative art, is accompanied by a sense of their influence towards emotions of delight. The rules of art have become recognised, and their dictates in the arrangement of lines and proportions, for the production of the beautiful, are valued and understood. An increasing taste for internal decoration is extending from public to private buildings, in which the resources of colour are appealed to.

It is, therefore, important that the laws and circumstances, appertaining to this element of beauty, should be exactly comprehended. The art of chromatic decoration is one which demands the attention of the scientific artist. In England, it has long been left to the doubtful taste of the compounder of pigments, as too easy and unimportant for the attention of architect or painter. It has, therefore, long been the servant of fashion, irrespective of any influence from rules of art. But, it must now be felt, that the successful management of colour in interior decoration is one of the most important qualifications necessary for an artist. While it demands the exercise of great skill, it is capable of explanation on fixed principles. A knowledge of these principles is highly essential to the architect, whose design may be entirely negatived by the mode of treatment adopted in those minutiæ, which custom has left to the upholsterer, and the cabinet-maker, but, which should undoubtedly play as important a part in the design, as they do in its effect, when carried into execution. With many and often conflicting circumstances, perfection in the treatment of colour may never be attainable, yet, in any position, in this or other departments of his art, it will be the aim of the artist to choose that course, to which objections are of least weight. Opposing circumstances there have always been to every effort of art, but some of the greatest works have arisen out of these very obstacles. But a main argument in favour of the architect's acquiring this knowledge is the obvious fact, that *he* is best able to work out his own design, in accordance with the style and character, which he has intended to exhibit.

The object of this paper is rather to suggest certain considerations affecting the treatment of colour, than to enter into all the varying circumstances of its particular application. We venture to state it as an axiom, that colour should never preponderate over form. Some few years ago, the only colours used were those which approached nearly to a neutral tint. Efforts in positive colour were unsuccessful, and, therefore, refuge was sought in negation. Now, in one class of buildings, there is, perhaps, a tendency towards excess of positive colour, not always employed solely with artistic views, but with the object of symbolic meaning, which has lately crept into designs for churches. Form, and light and shade are the most important elements of beauty, as they are the most important to be acquired by the artist: a profusion of dark colour is likely to annul the effect of form by hiding the shadows. Decoration in colour will fail to satisfy, unless it be secondary to relief or decoration in form. Vivid colours are not necessarily objectionable in all cases; they may be combined so as to produce a very beautiful effect.—Amongst other results of appropriate decoration, it may not be out of place to allude to the influence of colour in promoting health and pleasure of mind. An apartment decorated in harmonious colours is likely to reflect upon the mind, and induce a cheerful and healthy state. The use of the apartment may be at once expressed, and corresponding emotions called into exercise.

We thus see, that the harmony of colours, or their laws of combination, require to be attentively examined, in order that those colours may be used which look best in juxta-position, that all may combine towards one result. Chromatic decorations, not designed on such principles, may, perhaps, be likened to one of those perambulating bands, just now heard at night time, in which each performer plays his own tune, careless of the resulting discord.

The analogy between colour and sound need only be alluded to. In chromatics, there are three fundamental colours, as in music there are three notes, the foundation of all harmony. By the union of any two of these colours, and by the combination of the three, the number of distinct colours is increased to seven, corresponding to the seven notes in the complete musical scale. It was discovered by Buffon, that if we look steadily for a considerable time at a spot of any colour, placed upon a white or black ground, it will appear to be surrounded by a border of another colour. This colour will always be that which makes up the triad, or combination of those primary colours, present in every harmonic combination. That is to say, the three primary colours, being yellow, red, and blue; if the spot be red, the border will be green, which is composed of blue and yellow, and, in like manner, in the other cases. Now, a similar result takes place in music. When any given note is sounded on an instrument, it is always accompanied, or succeeded, by those which form a chord, and are termed in music the harmonics. This phenomenon in acoustics is most perceptible in the sound of a bell in succession.*

It will thus be understood, that the combinations of colours are regulated by principles, which it is essential clearly to understand. The mode in which the secondary and tertiary colours are produced, will be best explained in a tabular view:—

Three Primary Colours.	*Three Secondary Colours.*	*Three Tertiary Colours.*
YELLOW = 3		
	ORANGE = 8	
RED .... = 5		russet .. = 21
	PURPLE = 13	
BLUE.... = 8		olive.... = 24
	GREEN.. = 11	
YELLOW = 3		citron .. = 19
	ORANGE = 8	
RED .... = 5		russet .. = 21
	PURPLE = 13	
BLUE.... = 8		olive.... = 24
	GREEN.. = 11	
YELLOW = 3		

The harmony of colours is that compensating power, upon the management of which depends the effect of every composition. Thus, referring to the table, yellow is neutralized by purple, when the proportions are 3 of the first to 13 of the latter=16. Red is neutralized by the other two colours combined, viz., green. In like manner with blue, as also in the reverse direction, the neutral combinations being at 16. These numbers may be considered the measures of quantity or intensity, in combination. The same relation exists between the tertiaries and secondaries, as between the secondaries and the primaries, the neutral combination being at 32. Thus orange is neutralized by olive, and green by russet. This, then, is harmony, or contrast; for by the latter is meant that complimentary arrangement or harmony, which is necessary to the full development of each colour.—Besides this harmony of contrast, colours have a relation to each other, which may be called the harmony of succession, or melody. For example, red is melodized by the orange on one side, and the purple on the other. Their use is to promote the union between the principal colours.

The term hue is applied to compound colours, and expresses the gradation towards each preponderating primary colour. By tint is understood the gradation of a colour, or hue from its perfect state up to white, and by shade, a similar gradation in an opposite direction, down to black. Colours in combination must correspond in tint, hue, and shade. Any tint placed in contrast with shade must recede towards white, in the same ratio as the shade towards black.† The general tone of warmth or coldness must be maintained through the whole apartment. Colours are warm or cold, as they partake of the nature of red or blue. Yellow holds an intermediate position, but having an inclination rather towards warmth. There must be a principal colour, or key-note, which must run through the whole composition, and must accord, as just stated, in hue, tint, shade, and warmth or tone; and it is the correct fulfilment of these provisos, which is in fact the melody, or harmony of succession.

These general principles being arrived at, the question which next arises is, how they can be best applied to particular cases. The first step is to consider what may be the key-note, or general tone of the composition. If the apartment be already furnished, it must generally be determined by the furniture; but if, as here considered, the whole room takes part in the arrangement, it will, as in all cases, be the best course to begin the inquiry in a different manner.

The first question then is:—

1. *Climate.*—In this respect, circumstances of temperature and light, in this country, would lead us rather to choose a warm style of colour, and a light tone. In the Pompeian rooms, where light was abundant, many of them being unroofed, the mural decorations contained much positive black.

2. *Season of the year.*—This is a question which will but seldom arise, for there are few houses in this country, that alike are not occupied in the summer as in the winter, and which *have* separate rooms for the different seasons of the year. Yet in any habitation, or apartment designed for occupation at a particular season, the points of light and warmth must be considered, in the decoration of the rooms, as much as the nature of the ground chosen for building upon.

3. *Town or country.*—In towns, a warm tone will generally be more satisfactory, and in London, light colours seem to be more needed than in the country, where, comparatively, there is abundance of light.

4. *Aspect of room.*—This, and the next position, are the most important influential agents in the choice of the key-note. A warm tone would be as objectionable in a room with a southern aspect, as a cool tone in one which faced the north. Any aspect ranging between east and north-west is better with warm colours; blue, and all colours into which it enters in combination, should be avoided.

5. *Mode of lighting room.*—This will materially influence the choice of tone. The position and size of the windows will regulate the amount of light and shade; and the latter will materially alter the colours beneath it. Where the light is strong, the tone of colouring may be full; where there is a deficient supply of light, the tone of colouring should be light. If the apartment will be much used by artificial light, it becomes necessary to consider what effect that mode will have upon the colours. Emerald green will be the only hue of that colour that can be adopted; and purple, though pleasing by daylight, by night will appear like black; yellow will approach in tone towards white, and white towards yellow. The objection does not apply to the colour of gilding, as that is not positive yellow. A room, used by artificial light, should be light in tone.

6. *Size of the room.*—In this point, it must be considered, whether it is desirable that the room should appear larger than it really is. Full-toned colours lessen the apparent size of a room, whilst light colours enlarge it.*

7. *Use of the room.*—This is the most important consideration of all. The decorations general and particular, should be expressive of the purpose. In libraries we desire an air of quiet and repose; in dining-rooms, richness and comfortableness; whilst in drawing-rooms, vivacity and lightness. Entrances should be lower in tone than the rooms to which they lead, in order that the most important part of the house may strike with full effect. In picture-galleries, it becomes necessary to consider what will contrast best with the pictures.

8. *Individual taste.*—Although we deprecate a return to the caprices of fashion, it seems necessary in some degree to consider individual taste. Peculiar states of the organ are known in many individuals to raise positive antipathy to some kinds of colour; whilst many derive extreme pleasure, if the sight is met by a preponderance of green.

From these considerations, the general tone and the principal colour are decided upon. In every branch of art, the necessity for leading forms and colours is evident. In Gothic architecture, we have principal lines, which are vertical; in Grecian architecture lines which are horizontal. In historical painting, we find a principal group, a principal figure, a principal light, and a principal colour, the key-note of the composition, and to the importance of which all other ingredients are subservient. The principal colour should not overpower the rest, neither should it be confined to one spot, as the carpet of a room, or the walls, but

* Vide "The Laws of Harmonious Colouring," by D. R. Hay.

† Hay "On Colours."

* Vide a series of papers on decoration in the "Athenæum" for December, 1843.

should be evidently a part of a whole composition. We have already indicated the mode of finding the colour of combination. There are many other points to be considered, the most important of which affect the variations, which it may be necessary to make in the colour of combination, either by variation of hue, or by the introduction of melodising colours.* It should be recollected that a lively style of colouring should, in many cases, be preferred to a sombre; but that in rooms devoted to festivities, the decoration should not be so excessive as to nullify the dresses, and ornamental accessories of the occasion. Variety is, in fact, the foundation of pleasing arrangement of colour.

The subject of colour might be considered at much greater length. We have here endeavoured to set forth the previous considerations, which it is necessary to meet;—the mode of applying particular colours, in combination with each other, with their comparative powers and intensities, along with the propriety of materials, and their imitations, must be left for a future opportunity, or for the investigation, which we have endeavoured to direct. E. H.

THE BURSTING OF A CAST-IRON TANK,

AT THE LIVERPOOL AND HARRINGTON WATER-WORKS.

Amongst the numerous and fatal accidents that are daily occurring to keep the public mind in a state of feverish excitement, that which took place at the Liverpool and Harrington Water-works, on the 25th of December last, is the most extraordinary in its character and consequences that has come under consideration for a great number of years. We allude to the sudden and unexpected rupture of a cast-iron tank or cistern, by which several houses were demolished, five human beings hurried into eternity, and eight others dangerously bruised and mutilated. This cistern was one of uncommonly large dimensions, said to be capable of containing 200,000 imperial gallons, or upwards of 32,000 cubic feet of water, a quantity which, when compared with the average supply of the principal London companies, is amply sufficient for the accommodation of more than 1,100 tenements, or about three times the number of houses in the Strand of London. This simple statement will serve to give the practical reader a more correct and comprehensive idea of the immense size of the vessel, than any thing that can be advanced in reference to its linear dimensions and cubical contents.

The tank was of an oblong or rectangular prismatic form, and according to the evidence of Mr. Howell, under whose superintendence it was constructed, its length was 71 feet, width 24½ feet, and depth 20 feet; other dimensions have been given, but as the individual just mentioned made the drawings, and furnished the various details for the construction, we are justified in giving the preference to the data which he has supplied to us. A rectangular vessel for the retention of water under a high head of pressure, is the very worst form that could be chosen for the purpose; its adoption in any case is highly objectionable, and betokens great ignorance of the fundamental laws of fluid action; but in the present instance, where the failure has been attended with such disastrous results, it entails a fearful responsibility on the parties by whom the vessel was erected. There are, it is true, some extenuating points in the case, for it appears from the evidence of Mr. Thompson, the manager and chief clerk of the Liverpool and Harrington Water-works, that the foundation was prepared by the Harrington Company themselves, but under the constant superintendence and direction of Mr. Howell; this circumstance frees the other party from blame, in so far at least as form and situation are concerned, but nothing can be admitted as a palliative for the want of strength in the materials, or an excuse for the imperfections of workmanship, the one or the other of which must have led to the catastrophe. There can be no doubt about the matter, for if the materials were of such a quality and strength as to sustain the estimated pressure with safety, then the natural inference is, that the workmanship was defective; and, on the other hand, if the workmanship was such as to answer all the purposes for which it was intended, then the obvious conclusion is, that the materials were either imperfect in structure, or deficient in the estimated strength. The probability, however, is that both were faulty, and that the effect of fluid pressure had not been properly considered, according to the established laws of hydrostatics.

Taking the dimensions as elicited from the evidence of Mr. Howell, and assuming them to be the correct internal measurements of the vessel, the rules of mensuration give—

$$71 \times 24\tfrac{1}{2} \times 20 = 34790 \text{ cubic feet for the contents of the tank;}$$

and this, when estimated in imperial gallons, becomes—

$$34790 \times 1728 \div 277{\cdot}274 = 216814 \text{ gallons.}$$

The estimated content of the vessel, from which the pressures appear to have been severally deduced, is 200,000 gallons; being in defect of the true contents by a quantity not less than 16814 gallons. But, according to the evidence, the rupture took place when the vessel was filled to the depth of only 17 feet, in which case the cubic content was only 29571½ feet, or 184293 gallons; differing from the total contents by 32521 gallons; a very important difference, indeed, as regards the effect of the pressure induced by it on the upright sides of the containing vessel.

The following are the chief principles of fluid pressure which are more immediately involved in the inquiry; they are given here with the view of placing them directly under the eye of the reader, and saving the trouble of referring to books on hydrostatics, where they are severally demonstrated and treated in a more scientific manner:—

1. When a non-elastic fluid is at rest in a vessel whose base is horizontal, equal parts of the base are equally pressed by the fluid.

2. All the parts of a non-elastic fluid press equally at the same depth.

3. The pressure of a non-elastic fluid at any depth is directly proportional to that depth.

From these properties we infer, that the pressure of a non-elastic fluid on a horizontal plane, is equal to the weight of a column of the fluid, whose base is the area of the plane, and altitude equal to the depth of the plane below the upper surface of the fluid.

4. When a non-elastic and quiescent fluid is urged by its own weight, it presses equally in all directions, whether upwards, downwards, horizontally, or obliquely.

5. When a non-elastic fluid is at rest in an upright rectangular vessel, the whole weight of the fluid, or the pressure on the bottom, is to the pressure on the upright containing surface, as the area of the bottom is to half the area of the upright surface; or to the area of one side and one end of the vessel.

6. The pressure of a non-elastic fluid against any upright surface whatever, is equal to half the weight of a column of the fluid, whose base is the surface pressed, and altitude the same as the altitude of that surface; or it is equal to the weight of a column of the fluid, whose base is the surface pressed, and altitude equal to the depth of the centre of gravity of that surface, below the upper surface of the fluid.

7. The pressure of a non-elastic fluid on a surface any how placed in it, whether perpendicularly, horizontally, or obliquely, is equal to the weight of a column of the fluid, whose base is equal to the surface pressed, and altitude equal to the depth of the centre of gravity of that surface, below the upper surface of the fluid.

These are the several hydrostatic principles that come into operation in this and similar inquiries; they have long been familiarly known to mathematicians and philosophers, and are duly appreciated by practical men generally, for the great usefulness in the proper conduct and management of water; yet here is an instance in which these well-known and established laws, as well as the rules deduced from them, notwithstanding their simplicity and great practical utility, appear to have been altogether neglected, if we are allowed to judge from the failure of the vessel itself, and from the evidence of those individuals who were examined as to its cause. The following calculations will prove our position.

If the tank were full of water to the depth of 20 feet, the total pressure upon one of its upright sides would be equivalent to the weight of 14200 cubic feet of water; for by the rules of mensuration, we have

$$71 \times 20 = 1420 \text{ square feet of surface,}$$

and by the sixth hydrostatical principle, the pressure on that surface is

$$1420 \times 10 = 14200 \text{ cubic feet,}$$

or when expressed in pounds avoirdupois, it is

$$14200 \times 62\tfrac{1}{2} = 887500 \text{ lbs.}$$

This gives an average pressure of 625 lbs. upon a square foot of surface, or 4·34 lbs. to the square inch; but at the instant of fracture, according to the evidence, there was not more than an average pressure of 3½ lbs. to the square inch, shewing a culpable deficiency in the strength of the vessel compared with what it ought to have been in the case of perfect safety. It is moreover stated, that at the instant of fracture, the vessel was only filled to the depth of 17 feet, and this is said to be equivalent to a weight of 750 tons; now, at the depth of 17 feet, the cubic contents, as we have already seen, is 29571½ feet, for by the rules of mensuration, we have

$$71 \times 24\tfrac{1}{2} \times 17 = 29571{\cdot}5 \text{ cubic feet;}$$

and because a cubic foot is equivalent in weight to 62½ lbs. it is

$$29571{\cdot}5 \times 62{\cdot}5 \div 2240 = 825 \text{ tons.}$$

Here, then, the difference between the estimated weight at the time of fracture, and the actual weight, according to the dimensions, is 825—750=75 tons in defect; now, to what cause can we attribute these glaring discrepancies, but to a total neglect of the rules of calculation; a neglect for which practical men in general are highly to be censured, but more especially when the calculations are of such a simple nature as to come within the reach of all. If we calculate the mean pressure at the depth of 17 feet, we shall find it to be 3·69, or 3·7 lbs., a result which agrees more nearly with the evidence than any other statement that has yet been examined. The whole weight of the water in the tank when full, would be 970·7 tons, and this is equivalent to the pressure on the bottom of the vessel, as appears from the first of the preceding hydrostatic principles.

It has been shewn above, that the pressure on one side of the vessel when full, is 887500 lbs., or 396·2 tons; but since water presses equally in all directions, by the fourth hydrostatic principle, the same amount of pressure is transmitted to the opposite side, so that the whole amount of force tending to burst the vessel transversely, is $396{\cdot}2 \times 2 = 792{\cdot}4$ tons; and this is the force which has to be provided against in estimating the strength of the materials.

Again, by the rules of mensuration, the area of one of the upright ends of the vessel is $24{\cdot}5 \times 20 = 490$ square feet, and according to the sixth hydrostatic principle, the pressure on that area is equivalent to the weight of 4900 cubic feet of water, or 306250 lbs.; consequently, the pressure on both ends is $306250 \times 2 = 612500$ lbs., or 273·43 tons; and this is the force which tends to burst the vessel longitudinally, one-half of it acting in each direction. The whole pressure on the upright surface of the vessel is, therefore, $792{\cdot}4 + 273{\cdot}43 = 1065{\cdot}83$ tons; the total pressure on the upright surface and base together, being $1065{\cdot}83 + 970{\cdot}7 = 2036{\cdot}53$ tons. The total pressure on the upright surface, however, may be obtained more readily as follows:—

$$71 + 24{\cdot}5 \times 20^2 \times 62{\cdot}5 \div 2240 = 1065{\cdot}83 \text{ tons, as before.}$$

But the amount of pressure on the same upright surface may also be determined in a manner somewhat different, by the application of the fifth hydrostatic principle, for the whole area of the upright surface, is

$71 + 24{\cdot}5 \times 40 = 3820$ square feet, and the half of this is $3820 \div 2 = 1910$ square feet;

but the area of the bottom is $71 \times 24{\cdot}5 = 1739{\cdot}5$ square feet, and we have already seen that the pressure on it, or the whole weight of water in the tank when full, is 970·7 tons; hence it is $1739{\cdot}5 : 970{\cdot}7 :: 1910 : 1065{\cdot}83$ tons, the same as before.

* On the subject of colour, as adapted to interior decoration, consult, Hay "On Harmonious Colouring, adapted to Interior Decoration," Field's "Chromatography," Field's Chromatics," "Athenæum," Dec., 1843.

These different methods of obtaining the same result may prove valuable to some of the less scientific readers of THE BUILDER, by shewing them in what manner the fundamental principles of hydrostatics are to be applied in this and all similar inquiries.

So much then for the method of estimating the total and the mean pressure on the upright surface of the cistern, an estimation that should never be neglected when safety is an object of consideration; the downward or vertical pressure, however, is not necessary to be considered in the present case, for since the vessel was placed on a solid and level foundation, there could be no danger of failure in the bottom parts, the brickwork performing the same office as an additional thickness in the metal. T.

(To be continued.)

ARCHITECTURAL NEWS FROM PARIS.

[FROM OUR OWN CORRESPONDENT.]

ARCHITECTURAL improvement is marching with gigantic strides in Paris. In every quarter old houses are being thrown down, and palaces erected in their places; mansions are springing up in spots that for centuries have been receptacles for mud and filth; narrow courts and streets are being swept away, and magnificent streets erected on their sites. In no city in the wide world have such striking improvements been effected within a short time as in Paris, and certainly in no other are such vast improvements projected. Among the ameliorations made within the last two years, or now in progress, may be cited the opening of the Rue Rambuteau, which is a magnificent thoroughfare, in a densely populated quarter; a splendid street from the Palais de Justice to Notre Dame, whereby the abominable nest of tumble-down houses in the old city have been swept away; several new streets of lofty mansions in the Quarter de Tivoli; a splendid street and square facing the Versailles and Rouen railway station, in the Rue St. Lazare; a fine but simple station for the Northern railway; three new streets between the Bank of France and the Bourse; three or four new streets in the parcels of land adjacent to the St. Germain's railway; a new street between the Faubourg du Roule and the Champs Elysées; two or three others at Montmartre; several magnificent palaces in the Champs Elysées (prominent among them that of the Countess de Léon); the Boulevard des Capucins, the Boulevard des Italiens, &c.; the new Rue de Rougemont, from the Boulevard to the Rue Bergére; several new streets between the Faubourg Montmartre and the Faubourg Poissonniére; the Rue Lafayette, the termination of the splendid church of St. Vincent de Paul; the restoration of the venerable Cathedral of Notre Dame; the complete reparation and decoration of the Church of St. Germain L'Auxerrois; a new chapel for the Virgin in the Church of St. Sulpice; the decoration of the Chamber of Peers; the finishing of the Hotel de Ville; a new façade to the Hospital de la Charité; an elegant and simple Protestant chapel for the Germans; a new prison for a trial of the separate confinement system; the splendid and costly decorations of that beautiful pile, the Church of the Madeleine; a vast entrepôt for the Rouen and Havre railways; and, last but not least, a palace lately commenced for the ministry of foreign affairs. Among the improvements about to be undertaken, are the erection of a new opera house, worthy, by its architectural magnificence, to be the great musical theatre of France; a vast station for the Paris and Lyon railway, and another for the Paris and Strasbourg; a new hospital on the Clos St. Lazare, adjoining the Northern railway; a new church on the vast lands of Belle Chasse, in the Faubourg St. Germain; several new buildings for rare and curious birds and animals, in the Garden of Plants; the continuation of the Rue de Rivoli to the Hotel de Ville; a new Bibliothéque Royale; some new streets in densely-habited quarters; one or two squares on the London system; the completion of the Pantheon by the erection on the top of the lantern of the statue of Immortality, and other improvements; two new markets, with all the latest ameliorations introduced in England, Holland, the continent of Europe, and the United States; vast entrepôts for goods and merchandize arriving by the Northern and Strasbourg railways; the completion of the Louvre and the Place de Carousel, and the erection of several public edifices of minor importance.

Of all these projects the most important are undoubtedly the new Opera and the new National Library, or Bibliothéque Royale. With respect to the former, the public authorities and people of all classes are unanimous in thinking it absolutely necessary. The present Académie Royale de Musique is a disgrace to such a city as Paris, which haughtily claims to be the capital of civilization. It was originally designed as a temporary structure, on the destruction of the edifice of the Place de Louvois, and was, as such, hastily run up in wood. More than twenty years have elapsed since then, and yet no plans for a new theatre have been definitively chosen. But there are few things which press more strongly for a prompt decision, for, in addition to the disgrace of having a miserably dingy wooden structure, for the home of the musical drama of such a nation as France, there is every hour most imminent danger of its being destroyed by fire, and not it only, but the entire quarter in which it is situated. Its existence for so long a period may be considered the result of a miracle. For my part, if I were a Frenchman, I would brave the laws against arson, and, at the risk of the gallies for life, set fire to it; for to destroy it would really be to render a service to the public and the country. It appears that the great difficulty of coming to a decision for pulling it down, is the choice of the site for a new theatre. The Minister of the Interior, supported by the directions of the Department of Fine Arts—the committee that superintends public buildings, &c., recommends the piece of ground at present occupied by the Mairie of the second Arrondissement. It is close to the existing theatre, and is a site of considerable extent, perfectly isolated, and in the midst of the very best quarter of the town. The greater part of the aristocracy and superior classes also warmly support that site, as do likewise the inhabitants of the new quarters of Montmartre, Tivoli, Lafayette, Batignolles, &c. But the corporation of Paris strongly opposes it, insisting, instead, on the Place du Palais Royal. Many circumstances, it must be confessed, militate strongly in favour of the views of the corporation. First of all, the site they recommend would be in the centre of the town, and thereby easily accessible to the entire population; next, it would cost just one-fourth less than that of the Rue Grange Bateliére; thirdly, it would have the effect of sweeping away a nest of wretched and dirty houses, and of making the quarter the most magnificent in Europe; for on one side would be the Louvre, on another the Tuileries, on a third the Palais Royal, whilst one of the principal thoroughfares leading to it, would be the majestic Rue de Rivoli. Upon the whole, therefore, I incline to think that that site ought to be chosen. The corporation will not hear of any other, and if another be selected, will not give a single *sou*, whilst with that, it is proposed to award six, eight, perhaps twelve million francs for the new theatre. At this moment the matter is undergoing investigation by the municipal authorities, and in the course of the ensuing session, the Minister of the Interior will doubtless introduce a law for the erection of the new opera house.

With regard to the Bibliothéque Royale, there are also discussions as to the site, but none at present has been definitely fixed upon. The present buildings are long and straggling, covering an immense surface of ground, and manifesting a great desire to tumble into ruins—a disaster from which they are only saved by heavy annual outlays. Exist much longer they cannot, even with all the expense they occasion, and so down they must come. The government proposes to erect the new library in a different quarter of the town altogether, so as to be able to sell the parcels of land in which the present edifice stands. Those parcels are in one of the busiest, richest, and most populous quarters of the town, and their sale would realise an immense sum, almost enough to pay for the new building. But interested parties object to a change of the present site, on the ground that in any other quarter of the town it would be inconvenient to that small portion of the public which frequents the library. It is not likely, however, that their convenience will be permitted to outweigh the general interest which undoubtedly requires the removal of the present odious Bibliothéque Royale, and the sale of the site on which it stands.

Paris, Dec. 22nd.

GOETHE—ON PALLADIO.

VICENZA, 19th Sept. 1786.* During the few hours that I have been here, I have run over the place, and have glanced at the Olympic theatre and the buildings of *Palladio*. A pretty little book illustrated by engravings, has been published for the use of travellers, together with some artistic remarks. When, however, we find ourselves in sight of these works, then only we perceive their great worth; because it is their destination to fill up by actual grandeur and *reality*, and to satisfy our mind by the beauteous harmony of their dimensions—not merely in abstract plans lying before us, but by the whole starting and receding of their perspective. And thus, I say of Palladio, that he was a thoroughly internal, and from the very innermost, a great man. The main difficulty, however, with which he, like all modern architects had to grapple, was the adequate use of architectural orders in *civic* (profane) buildings; because it is, after all, incongruous, *to combine walls and columns*. But it is astonishing to see, how he has worked these up together—how he imposes upon us by the viewing of his works, and makes us forget, that it is *still* imposition. There is, really, something God-like in his works, alike to the forms of a great poet, who from out of truth and untruth makes a third, whose *relative* reality is still enchantiug.

If, however, we view on the spot those splendid monuments raised by that man, and find how they have been already disfigured by uncleanly habits—how their plans mostly exceeded the means of their owners; how little, after all, these precious monuments of an elevated mind tally with the life and existence of those around—we shall be forcibly reminded, that things are every where the same: because we get no thanks if we endeavour to elevate men's inner wants, to give them a great idea of themselves, impress on them the feeling of the magnitude of a real and noble existence! But if you be-lie these birds,† tell them stories, helping them on from day to day—corrupt them; then you are their man, and it is therefore, that modern time rejoices in so many absurdities. I do not say so to depreciate my own friends (!), I say merely, that they are so, and that we must not wonder, that things are as they are.

How the basilica of Palladio looks close to an old castle-like building, covered with dissimilar windows, which, together with the steeple, the architect thought of removing—can be scarcely uttered by words; and it needs for me to use all self-control, as I find alas! even here, what I hate and love, close together.

21st Sept.—I went to see the old architect, *Scamozzi*, the editor of Palladio's buildings, a sterling enthusiastic artist. He gave me some useful information, joyous at my interest in these matters. There is one amongst the buildings of Palladio, for which I always had a great predilection; they say, it was his own dwelling—but being seen, it is far more than would appear from the design. I would wish to see it drawn and coloured in that way, as age and the kind of material have made it now. We must not think, however, that the artist has built a palace for himself. It is the most modest house in the world, and has but two windows, which are separated by a space sufficient to bear a third opening. If a picture were made of it, comprising the neighbouring houses, it would be amusiug to see how it is interpolated betwixt them. Canaletti ought to have painted it.

To-day I visited that shew-palace (*Prachthaus*), situate half an hour from the city, on a pleasing eminence—called the *Rotonda*. It is a square building, containing a round saloon lighted from above. From the four sides you ascend on broad stairs, and reach at every side a porch, formed by six Corinthian pillars. It may be, that architecture never pushed splen-

* Italienische Reise. Vol. I.

† Allusion to the comedy of Aristophanes, and an analogous poem of Goethe himself.—*Transl.*

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bour to a higher pitch. The space taken up by stairs and porches, is far greater than that of the building; because every side would be quite sufficient for the entrance of any temple. The inside is habitable, but not comfortable. The saloon exhibits the finest proportions, as well as the rooms, but they would hardly suffice for the wants of a noble family during a summer residence. On the other hand, every side presents itself from all parts of the adjoining country in a most magnificent manner. The diversity, with which the whole main building, as well as the projecting columns, move before the eyes of the beholder is very great—and thus the object of the owner has been perfectly attained, who wished to leave behind a great entail of property, as well as a tangible monument of his wealth. And alike as the building is perceived from all parts of the country in all its magnificence—the view therefrom is also most pleasing. We perceive the course of the Bacchilione, the vessels from Verona, down towards the Brenta.

Padua, 27th Sept. 1786. At last I have acquired the work of *Palladio*, although not the original, which I had seen in Vicenza, with wooden engravings, but an accurate copy, or rather a *fac simile*, edited by an excellent man, the late English Consul *Smith* at Venice. This we must leave to the English, that they have known long ago how to appreciate the worthy, and that they spread it in a noble way.*

On account of this purchase, I stepped in to a bookshop, which, in Italy, have a particular appearance. The books, stitched, are deposited around the place, and you find the whole day good company. Whoever of clergymen, landed gentry or artists is anyhow connected with literature, is constantly about the place. You ask for a book, open it, gaze on, and amuse yourself as it may come. Thus I found about half a dozen together, all of whom, when I asked for Palladio, became attentive to me. While the master of the shop was looking for the book, they praised it, and informed me about the original and the copy; they were perfectly acquainted with the work and the merit of the author. As they took me for an architect, they approved my resorting especially to the works of this master—who availed more for use and practice, than even Vitruvius, as he had thoroughly studied the ancients and antiquity, and endeavoured to bring them nearer to our present wants.

Venice, 8th Oct. 1786. In the completed works of *Palladio*, especially the churches, I have found some things blameable aside the most magnificent. As I was thus considering within myself, in how far I was right or wrong towards such an extraordinary man—it was as if he stood close to me, saying: "this and that I have made against my will, but still did it—because I could not, under given circumstances, near my highest idea, in any other way."—It appears, the more I think of it, that he, in considering the height and width of a church already existing, or an ancient house, to which he had to erect new fronts—merely thought: "How can you give to these spaces the greatest possible form? In the detail, you will be obliged, on account of unavoidable impediments, to contort or cobble somehow or other; here and there some incongruity will arise—this may; still the whole will exhibit a grand style and you will rejoice at your work."—And thus, he has carried the greatest images, as they dwelled in his soul, even there, where they didn't quite tally—where, in the detail, he was obliged to knead and tether them.—The wing in the *Carita*, therefore, ought to be the more valuable to us, as the artist had his free will, and could follow unboundedly the impulses of his mind. If the convent had been completed, there would perhaps, not exist in the whole actual world, a more perfect work of architecture.

How he thought and worked, in fine, becomes to me the clearer, the more I read his works, and consider, how he treated antiquity; because he makes few words, but they are all weighty. The fourth book, which represents the ancient temples, is a true introduction to the viewing sensefully the relics of antiquity. J. L——y.

* The handsomest compliment ever paid to the higher endeavours of this country. No amount of bank stock would have impressed *Goethe* with such a good opinion.—*Transl.*

NOTES IN THE PROVINCES.

The ceremony of consecrating the Grand Junction Railway Church, at Crewe, took place on Thursday week. It is a cruciform structure, has a tower, and is built of Newcastle blue brick. It is capable of accommodating 700 persons.——The last brick in the arching of the gigantic tunnel through the Calton Hill, Edinburgh, was laid yesterday week. It is 400 yards long, 26 feet high and 26 feet in width. With the exception of about 40 yards at the east end, it is entirely through rock. ——We have on more than one occasion referred to the proposed bridge over the Severn, and the proposed tunnel under it. In reply to an application on the subject, made by Capt. F. Berkeley, M.P., the Lords of the Admiralty addressed to him the following letter:—

"Admiralty, Dec. 13, 1845.

Sir,—Having laid before my Lords Commissioners of the Admiralty your letter of the 11th inst., I am commanded to acquaint you in reply, that you may be assured that their lordships will never sanction a bridge at Hock Crib, or over any part of the Severn which shall be detrimental to its free navigation. No plan for a tunnel has yet been laid before them, but whenever it comes, the due preservation of the bed of the river will be their lordships' first consideration.—I am, Sir, your most obedient humble servant,

W. C. B. Hamilton.

——The sum of 2,350*l.* has been subscribed by the clergy alone for the restoration of Llandaff Cathedral, the bishop of the diocese having given 500*l.*, and the bishop of Winchester, 100*l.*——It is intended to erect a statue of Sir Charles Morgan, Bart., in the new marketplace at Newport. The subscription list for this object is filling rapidly.——Chester Cathedral, which has been for some time closed for restoration and improvements, was reopened last Sunday.——Notice has been given to the committee of the present Exchange at Manchester, by the projectors of the Royal Exchange there, that they shall not be in condition to apply to Parliament for a bill in the next session; and they, consequently, relinquish the contract for the purchase of the Exchange buildings. The proposed enlargement of the existing building will now be proceeded with.——A new church is about to be erected at Woolwich, after a design by Mr. Gwilt. It is to be constructed in the Byzantine style of architecture, and capable of accommodating 1,000 persons; the cost of its erection, including every incidental expenditure, will not exceed 7,000*l.* ——*The John o' Groat Journal* states that no less a sum than 70,000*l.* is to be expended in improvements on Dunrobin Castle.——A new lunatic asylum for the county of Essex is in contemplation. It is supposed that Chelmsford will be selected as the *locale*.——At Wisbeach it is intended to erect a museum in the garden abutting on the churchyard, lately the property of Dr. Hardwicke. The expense will be about 2,500*l.*, and the greater portion is already raised in shares of 25*l.* each. Part of the building is to be occupied by the Wisbeach Literary Society.——From 600 to 800 men, artificers and labourers, have been daily at work during the past year, in the construction of the new steam basin at Portsmouth. The south wall is in the most forward state, a large portion of it being nearly completed. A long line of the west wall has also made considerable progress; the walls are of the most substantial formation, their entire facing is of huge granite blocks. The contractor is Mr. Peter Rolt.——Stanwix church, near Carlisle, narrowly escaped destruction by fire last Sunday week. The accident originated in the over-heating of a flue. The furniture of the church has sustained much damage; most fortunately the painted window escaped with little or no injury. —— The Martello towers of Jersey are undergoing repair and improvement. They are to be rendered habitable, and the loop-holes, which throughout the island are too wide, are to be narrowed. A new iron ventilating apparatus is also being erected upon the summit of each. ——The river Severn has been greatly improved during the last two years by dredging, and by the erection of weirs and locks. Upwards of 200,000 tons of marl, rock, gravel, and soil have already been raised from the bed of the river by Messrs. Grissell and Peto's dredging machine alone, besides what has been removed by another contractor. At Gloucester it has been necessary to remove the entire foundation of one of the piers of the old bridge, and in the course of this operation some curious relics of ancient coins have been discovered.

REMOVAL OF ST. BENET'S FINK.

Sir,—I perceive that you have been addressed on the subject of St. Benet Fink Church by Messrs. Oak and Stone, whose high reputation I much respect; but their suggestion "to build the church up again in its original form" may, perhaps, bear some comment, and as I have recently made accurate drawings of the church in order to preserve its memory, I can form some idea of its fitness for re-erection.

Nothing of Wren's can be lost without regret. All his works evince the most masterly construction, much artistic merit, and generally, though not always, an economical application of circumstances and materials. The church in question, though not one of his best, is a good specimen of the latter excellence, being remarkable for a skilful adaption of form to the peculiarity of a limited site, adjoining the rounded corner of a street. The plan is an elliptical decagon, decorated inside with six columns of the composite order, standing at a distance of about twelve feet from the walls, so as to form an aisle of that width all round the church. Each column bears an enriched entablature extending from it to the outer wall, and upon these are turned semicircular arched vaults over the aisles, presenting moulded archivolts towards the centre portion of the church; these are surmounted by an elliptical enriched cornice, forming the base of an elliptical dome, upon which dome, I believe, a lantern light was originally placed, but has not been in existence for many years. The windows are large semi-circular headed, and internally very ugly, from their crude unadorned character. There is a small quantity of good oak carving in the style of Wren's time. The pulpit carving is bad, and of later date. The exterior of the church requires no particular description; it has Wren's usual accompaniments of architraves, cornices, festoons, &c, and much external effect could not be given to such an ungainly form as an elliptical elevation. The principle artistic excellence in this church I deem to be the judicious introduction of columns and arches into the interior. Wren is distinguished for a masterly power in this respect, as displayed in nearly all his churches; and the elegance, variety, and chiaro-scuro resulting from it, have gone far to confer on his memory that high honour of which he was so eminently worthy.

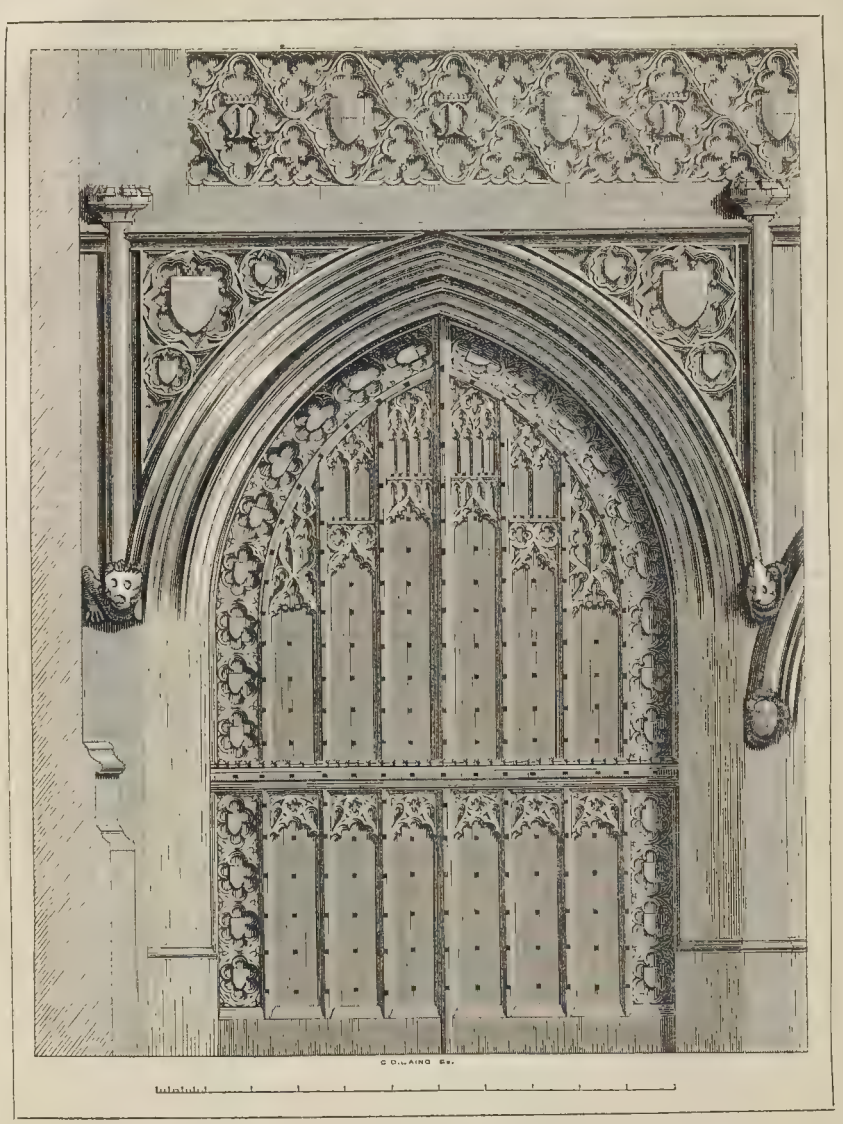
Notwithstanding this, I think the rebuilding the church according to its present design, would be bad taste, and questionable economy. It was adapted, as I have said, to a peculiar site, and you, Sir, well know that the quality of fitness, or the suitableness of a work of art to its circumstances, is a chief excellence in design. Now, if any person intending to erect a new building, chose to purchase the columns or other materials, and skilfully to apply them to a new design, suitable for his new purpose, he might do it without departing from the genuine spirit in which our revered Sir Christopher worked. I avoid all discussion upon the subject of Wren's churches being appropriate for the present day, merely concluding with the remark, that there is a fashion in architecture as in other things, and that it is generally dependent upon the religious and political character of the times.

I am, Sir, &c., Edwin Nash.
Moorgate-street, Dec. 29th, 1845.

Recipe for making Tracing Paper.—The editor of the *Mechanics' Magazine* gives the following recipe for producing a tracing paper "that leaves nothing to be desired." Mix six parts (by weight) of spirits of turpentine, one of rosin, and one of boiled nut oil, and lay on with a brush or sponge.

The Nelson Monument.—The Woods and Forests have at last determined on completing this work; and Mr. Watson, Mr. Woodington, Mr. Carew, and Mr. Ternouth are appointed to execute the four *bassi relievi*. Mr. Lough is to do the four lions at the foot.

GATEWAY, BISHOP'S PALACE, NORWICH.



GREAT GATE TO BISHOP'S PALACE, NORWICH.

We are indebted to Mr. Britton for the admirable drawing, made by Mr. Repton, from which the above engraving is taken. The arch is of stone; the upper part of the building is of flint, with stone dressings. There is a small lateral door, which is ornamented with carved quatrefoil panels, having within them a heart and a mitre alternately. We are unable to insert in the present number a notice of the edifice to which it belongs, but will remedy the omission shortly.

COMPETITION CARTOONS FOR ART-UNION OF LONDON.

The premium of 500*l.* offered by the committee of the Art-Union of London has brought twenty-eight cartoons, and it has been determined to throw them open to the criticism of the subscribers and the public, *before* the committee come to a decision. They have accordingly been arranged in the gallery of the New Society of Painters in Water Colours, Pall Mall; and on and after Monday next subscribers will be admitted on shewing the receipt for the current year. Many of them have extraordinary merit, and, together, they form an exhibition of the most interesting character.

"Saxon Almsgiving" (No. 2) is an exceedingly pretty drawing. "To supply the needy," says the catalogue, "was the office of the noble mistress of the mansion; and hence our word '*lady*' is supposed to have originated in the term *leaf dian* (loaf server), abbreviated to *lafdy*.

In the centre is the lady distributing the bread from the basket of her handmaid. By her side her daughter descends the steps, giving apples to the children. First among the applicants, a young mother appeals to the *loaf-giver*, by shewing her new-born child.

Behind her is a widow with her daughter and son; and farther back, humbly seated, is a deserted female with her infant."

The male figures placed together, on the left of the spectator, contrast well with the group of girls and children.

"The Life of Alfred" (No. 4), has merit of a high order. The figure of the king, who is represented as dividing his loaf with the pilgrim, has great dignity. It is well adapted for fresco.

"Queen Philippa interceding for the lives of the Burgesses of Calais," (No. 10), is a work of surpassing beauty. The grouping is admirable—every head a study. Doubt, resignation, and patriotism, in the six burgesses who lay at Edward's feet the keys of their city, are finely portrayed, as are the deliberation of the king, and the anxious supplication of Philippa. The figure of the one citizen who, though with rope round his neck, is with difficulty constrained to humility by his wife, on her knees, at his feet, is well conceived. The execution, too, of the whole is excellent; and though it may be urged by the hypercritical, that the general expression is slightly exaggerated, we have no hesitation in pronouncing this a first-rate work of art.

No. 11. "Anne Askew refusing to sign the Six Articles," has in it something of earnestness and power; and the same remark will apply to a cartoon opposite to it (No. 20), "The Bishop of Carlisle denouncing Henry Bolingbroke, Duke of Lancaster, when about to usurp the crown."

"Howard visiting a Prison" (No. 12) will extort admiration, though it may not give pleasure. The misery represented is perfectly appalling. The figure of Howard will be found full of feeling by those who take the trouble to study it; the upraised clutched hand shews the effect of the gaoler's recital, to which he is listening.

There is knowledge and good feeling shewn in No. 13, "Non Anglised Angeli," representing a well known incident in the life of Pope Gregory I.

"Ancient Britons defending their Families from the Romans" (No. 18) is entitled to commendation for vigour and decision of hand. Some passages from the old masters are recognizable.

"The Meeting of Henrietta Maria, Wife of Charles I." (No. 19) is not without merit; and the same may be said of (21) "The Death of Harold," and (No. 22) "Alfred, surrounded by his Family, addresses Edward, his son and successor."

No. 23. "The Welcome of the Boy-King, Henry VI. into London after his Coronation at Paris" is an exceedingly elaborate and clever work, displaying much skill and rich fancy, though somewhat confused and spotty. The King has reached the conduit in Cheapside. Art has expended its powers in decorating the spot, fountains are flowing with wine, and a crowd of knights, burgesses, and fair damsels fill the scene.

No. 25. Representing "The Seizure of Roger Mortimer, by Edward III. in Nottingham," is hardly surpassed by any in the higher qualities. The drawing is admirable and some of the details,—the chain-armour, for example, are executed with extraordinary skill. The head of King Edward is the least effective part of this otherwise most excellent cartoon.

With a word of praise for No. 27. "Spenser reading the 'Faërie Queene" to his Wife and Sir Walter Raleigh," we close our present hasty notice, written at the moment of going to press, of an exhibition which must be regarded with great interest, by all who are watching the progress of the fine arts in England.

Ancient Spear.—As the workmen were excavating for some cellarage in front of houses now building by Mr. Harding, in the Fulham-road, a spear head of copper (16 inches long with a blade of 2 inches wide projecting from a taper hollow tube of 1 inch to a fine point) was found. The copper was so decayed, as to crumble when touched. It was found 12 feet from the high road, nearly opposite the gate of the Earl's Court Cemetery, about 4 feet 6 inches from the surface of the ground.

Cameos will in future be admitted into England on payment of a duty of 5 per cent. on their value. The duty formerly levied was found to be almost prohibitory.

OLD ENGLISH CHAIR.



OLD ENGLISH CHAIR.

In our last volume we gave representations of several varieties of chairs to be found in the farm-houses and mansions of old England. The annexed engraving belongs to that series, and was postponed by accident. Solid and substantial, with something of dignity, they partake in a degree of the character of the yeoman at the time they were made, and cannot be regarded without interest by their descendants.

OPENING PUBLIC BUILDINGS AND WORKS OF ART.

The dean and chapter of Norwich have given directions for opening their cathedral to the public gratuitously for two hours on every week day, instead of one as heretofore, namely, from 11 o'clock A.M. to 1 o'clock P.M. We mentioned some months since that it was the Queen's desire that no fees should be taken from any person visiting the state apartments at Windsor Castle. It is now officially announced that none will be taken, and that tickets for the admission of visitors on Tuesdays, Thursdays, and Fridays, between the hours of 11 and 4, from April to October, and 11 and 3, from October to April, may be obtained, *gratis*, at Messrs Paul and Dominic Colnaghi and Co.'s, printsellers, No. 14, Pall-mall east; Mr. Moon's printseller, No. 20, Threadneedle-street; Mr. Mitchell's, librarian, No. 33, Old Bond-street; Messrs Ackermann and Co.'s, printsellers, No. 96, Strand.

We shall be glad to hear that the verger at St. George's Chapel is behaving with more propriety than heretofore.

It is to be hoped that the arrangements at the Castle will not be nullified by the conduct of the attendants there.

We have from time to time, received many complaints against the course pursued at Westminster Abbey. Correspondents state that no one is allowed to see the building as it should be seen, being hurried from tomb to tomb, without a moment for a glimpse at the structure itself, in a manner which is ludicrous as well as annoying. We visited the Abbey a few days ago (wonderful place that it is!), and found that the statements in no way exceed the truth. The new dean, Dr. Buckland, is a zealous antiquary, and, if we remember rightly, has admitted a conviction that the contemplation of ancient buildings, and other works of fine art, has a useful effect. We respectfully call upon the very reverend gentleman to interpose his authority, and to obtain for those who pay their sixpence the quiet enjoyment of what they come to see. We look anxiously for the abolition of the charge altogether.

We hear with great gratification that the church of St. Mary Redcliffe, Bristol, will probably be thrown open to the public without charge forthwith. The present sexton, who has derived a considerable income from the exhibition of the church, being about to give up the appointment, the vestry thought it a fitting opportunity to consider the question, and have virtually determined, we believe, to admit the public without requiring any fee.

RAILWAY JOTTINGS.

The Sheffield, Ashton-under-Lyne, and Manchester Railway was opened throughout last week. The length of the line is about 41 miles, and, in addition to the great tunnel, which is upwards of three miles in length, it has other works of a most stupendous character,—the large viaduct over Dinting Vale, consisting of five arches made of wood, of 150 feet span each, and nine of stone, of 50 feet each, and elevated 150 feet; also the wooden bridge at Broadbottom, which is said to be the highest in the world, being 17 feet higher than Menai Bridge and 11 feet higher than the Stockport viaduct. The tunnel is in the form of an ellipse turned on its end, and is 18 feet above the rail and 15 feet wide, and is nearly lined throughout with masonry. There are five shafts, ten feet in diameter, each lined with masonry; and in order that our readers may form an idea of this great work, we give the depth of each shaft: No. 1, 182 yards; No. 2, 189 yards; No. 3, 167 yards; No. 4, 193 yards; No. 5, 136 yards; and no less than 130 tons of gunpowder have been used in the cutting.——A patent has been secured by a Mr. Gorden for a new motive power, obtained from the well known expansive properties of heated air.——

A project is in contemplation for laying, along the line of the Birmingham and Gloucester Railway, pipes for the conveyance of brine from the salt-pits of Droitwich and Stoke Prior, to Gloucester; to be manufactured there into salt.——In addition to the cases we have already given of disputes between engineers and committees, we notice one between the Great Leeds and London, and Messrs. Higgins and Milford, who agreed to reduce their accounts from 10,000*l.* to 4,150*l.*—and another between Messrs. Candell and Branton, and the Liverpool, Preston, and North Union project, the plans of which were not deposited, though promised.—— "We have the best authority for stating" says the *Shareholder*, "that an Act will be introduced next session which makes it imperative on every member of a provisional committee to pay at once, before he is registered and authorized to act as such, his deposit on fifty shares, the same to be lodged in the accountant-general's hands, and not to be returned unless the company completes its obligations to the public.——Experiments of a highly satisfactory character have been made with regard to the application of Electro-magnetism to railway propulsion. The great difficulty to be surmounted is the weight and size of the galvanic batteries requisite for sufficient energy. To obviate this difficulty it has been proposed to have stationary batterics at regulated distances, and to make the rails themselves the conducting lines of the batteries.——The Grand Junction and Birmingham Company have just made a further reduction of fares. Between Liverpool and London the fares are reduced as follows:—Express and select trains, from 47s. to 45s.; first class, from 40s. to 37s.: second class, from 31s. to 27s. The fares between London and Chester, Lancaster and Preston, are reduced in the same proportion. Between Liverpool and Birmingham, the second class is reduced from 14s. to 13s. From London to Birmingham, the reductions are by express and select trains, first class, from 27s. to 25s.; by mixed fast and select trains, first class, from 23s. to 20s.; by mixed fast and select trains, second class, from 17s. to 14s. ——The Old Town Hospital in Clyde-street, Glasgow, has been purchased by the Caledonian Railway for the sum of 17,000*l.* The same was exposed for sale in 1844 for 12,000*l.*, but did not find a purchaser.——A patent has recently been obtained in Prussia and Saxe-Weimar for a moveable railway. The carriage, or diligence, is provided with two series of rails, one on each side, and which, by some simple mechanism, move so that one of them is always under the wheels. Though the coach cannot run with the speed of a railway carriage, it can proceed twice as fast as other carriages on common roads, and may be employed where the gradients are strong. It may be drawn not only by an engine, but by horses.—— Notices have been served upon the owners and occupiers of property within the limits of the proposed Central Railway Station, at Leeds, with the view of obtaining their assent to or dissent from that project. The estimate of this undertaking is now reduced from 500,000*l.* to 400,000*l.*, including the purchase of property and the erection of the station. Since the withdrawal of the Leeds and Manchester, the parties embarked in the scheme are the Leeds and London, the Leeds and York, and the Leeds and Dewsbury; the Leeds and Thirsk not having yet come to any final decision upon the subject. ——The bridge erected over the occupation road near Haxell's farm, on the Eastern Union line, has, within a few months, given way, and is useless for railway purposes. The disruption of the masonry has been caused by the earthwork, now carried to the bridge, so pressing upon its foundation as to force the upper parts asunder.

GREAT WESTERN, BRENTFORD, AND CENTRAL TERMINUS JUNCTION RAILWAY.—This line which passes through Brompton, and promises to destroy much of the new property there, will be violently opposed. A meeting of the inhabitants of Brompton was held on Thursday last, and some strong resolutions to that effect were passed unanimously.

BROAD AND NARROW GUAGE.—Numerous experiments have been tried (one of which was closed by a serious accident), but no satisfactory conclusion as to the relative merits has been arrived at. As far as they went, they appeared to be favourable to the broad guage.

STATE OF THE GAS MAINS.

SIR,—The remarks of your correspondent "Carbon" upon this subject are very just so far as they extend. Having for many years past taken an interest in the subject, and given it much attention, I can bear testimony to the accuracy of his statements, of which, indeed, any person can have olfactory evidence by taking a walk some *calm* evening, and directing their steps near to the gaslights. And is this waste of gas to be wondered at, when we consider the barbarous method of laying down and joining the mains that is practised? "Old use and wont" here, as in too many other matters, is the rule of conduct, and of course the public suffer. The duties of an inspector are most important, and should only be committed to one whose heart is likely to be in his work, and whose knowledge is commensurate.

How can a *ci-devant* clerk or shopkeeper who has, perhaps, never handled a tool in his life, or a carpenter whose experience is in quite a different line, tell whether the workmanship that comes under his eye is properly done? It may present a fair seeming *surface*, and the inspector, conscious of his ignorance, seeks no further; the consequence is, that the laying of the mains and service pipes is in practice left to the labourers. No inspector should be above examining every pipe and joint with his own hands, before it is covered up, and he should see that every pipe has a firm bearing throughout its whole length; neglect of this precaution is of more evil consequence than is generally imagined.

Let it be understood that in my remarks, I wish not to imply any disparagement to the inspectors as a body; no doubt they do their duty to the best of their power, and I believe they are mostly men of ability in general matters; what I contend for is, that *practical* men, of well-informed minds, are to be found, and that the employment of them in future, to the exclusion of non-practical men, would be attended with benefit both to the companies and to the public.—I am, Sir, &c.,

Camden Town, Dec. 1845. J. A. E.

GAS IN LONDON.

SIR,—I trust the day is drawing near when gas will be supplied only by meter. The result of this would be of the greatest benefit, not only to the consumer, but to the companies; to the consumers, from their having only to pay for the gas they actually consume, and not as at present, for the saving and honest to have to pay for the wasteful extravagance of the dishonest. To the companies, it would be a boon, by their being paid for all the gas they supply, which is far from the case by the scale system; and the consumption of gas would be increased to an extraordinary extent by the reduction that could necessarily be made, and the dividends would be much larger for the shareholders; and this is not mere assertion, for in the whole of Scotland, Liverpool, Manchester, Birkenhead, &c., or wherever gas is sold only by meter, the price is always smaller, and the dividends larger, than where the gas is sold by scale.

Gas can only be properly supplied by means of the meter; and by this system the companies would be compelled to manufacture a better gas, and of a greater illuminating power, instead of the carburetted hydrogenated gas supplied at present; and this, without reference to price, would reduce the cost to the consumer nearly one-half.

The introduction of dry meters may be very well in such countries as are subject to severe frost, but in this country I do not think it at all necessary or requisite, as the wet metre has had many years' trial, and its accuracy and utility is satisfactorily proved. There are many in use at the present time, made under Crosley's patent, that have been fixed upwards of twenty years; their principle, of registering the quantity of gas passed through them, is the most beautiful, perfect, and at the same time, simple that can be imagined; and this has been felt and acknowledged, by the very large amount of damage awarded at different times for the infringement of the patent, and which would not have been given had it been the useless and inaccurate machine described by the supporters of the dry meters.

It has been falsely stated, that wet meters are liable to an accumulation of water; by which means they are made to register incorrectly, and against the consumer; it is only so when in the hands of stupid and careless people.

It is the duty of the inspector of a gas company to attend upon the fixing of all meters, and explain their construction and mode of registering, so that it shall be properly understood by the party using it; but this is generally neglected, owing to the so-called inspectors being totally ignorant of it themselves; they can read the index, and that is all; and when any thing occurs so that they are required to act, they deliver a very wise and lucid harangue, and finish by recommending a dry meter, and thus screen their want of knowledge.

Gas companies should be compelled to supply gas only by meter, and of very different description to that manufactured at present; and the evidence given before committees of the House of Commons on this subject renders it a matter of surprise that this has not been done before; too much attention has been paid to price instead of quality.

I am, Sir, yours obediently,

December 18, 1845. "CARBON."

*** We learn that M. Peclet lately laid before the Society of Encouragement of Paris, a machine for purifying gas. It is composed of a horizontal cylinder, partly filled with lime water, the axis of which is covered with diaphragms of metallic canvas, turned slowly.

The following statement of the price of gas, and the receipts of the Liverpool new Gas Company, shew that the receipts have greatly increased with the reduction in price:—

1839 ..	10s. per 1,000 feet	£24,265
1840 ..	10s. six months, and 8s. six months, ...	26,188
1841 ..	8s.	27,133
1842 ..	7s.	28,979
1843 ..	7s.	30,591
1844 ..	6s. half-a-year	17,069
1845 ..	6s. half-a-year 5s. half-a-year	33,021

FRENCH PROTESTANT EPISCOPAL CHURCH.

THE church built in Bloomsbury-street, Bloomsbury-square, under the superintendence of Mr. Poynter, architect, for the French Protestants, was consecrated by the Bishop of London, on the 23rd ultimo. The ground on which it stands was purchased from the Commissioners of Woods and Forests for 2,600*l.* Mr. Byrne was the builder.

This congregation was first known in 1640, under the name of the "Westminster French Protestant Church," composed of merchants already established in London, and of refugees driven from their country by religious persecution. This church, it appeared, conformed to the discipline, and adopted the liturgy (translated into French) of the Church of England in the year 1661, when it was placed under the jurisdiction of the Bishop of London and the Archbishop of Canterbury, and obtained from Charles II. possession of the chapel of the Savoy, together with an annual stipend for its "preaching minister." Since that period the congregation has been subject to various vicissitudes, having been obliged to remove, first to a chapel in Spring-gardens, and to the Greek Church in Crown-street, and afterwards to a very humble chapel in Edward-street, Soho-square, from whence they will come to the new building in question, which is dedicated to St. John. The foundation-stone was laid on the 2nd of January last.

We have not yet examined the building.

ARCHÆOLOGICAL INSTITUTE.—At a recent meeting of the committee it was announced that the Archbishop of York had consented to be the patron of the next meeting, and that Lords Morpeth and Carlisle had accepted the office of vice-presidents on that occasion. The following foreign honorary members have recently been admitted:—H. A. J. Arwidsson, president of the "Suenska Fornskrift Sälls-kapet," librarian-in-chief of the Stockholm Library; D. Thom, Esq., one of her Majesty's Consuls in China; the Chevalier Edouard Gerhard, Berlin; Dr. Theodor Panofka, professor of Archæology, at Berlin; and the Comte de Laborde.

WESTMINSTER COURT OF SEWERS.

The first meeting of the Court for the year 1846 took place on Friday, the 2nd instant. Captain Bague was voted to the chair. The collectors' reports were received. The cash at the bankers was declared to be 15,388*l.* 6s. 10d. The officers' salaries to Christmas were paid, 642*l.* 10s.; and after some routine business, the great feature in the first Court in every year, for many years, was commenced:—

No. 8, on the business paper, "Annual Nomination of Chairman to take place between the hours of two and three o'clock. In consequence of the retirement of the present chairman, the proposition of another commissioner or commissioners for the office must be then made, and a subsequent day fixed upon for deciding the appointment."

Mr. Knight, of Sloane-street, proposed Capt. Bague, R.N.; but the gallant officer immediately declined being put in nomination. No other person having been proposed, the office of annual chairman to the Westminster Commission of Sewers is now only a matter of history. A committee of accounts for the year was then proposed by Mr. Hawkes, consisting of Mr. Henry Harrison, Mr. Bathurst, Mr. Baylis, Mr. Knight, Mr. Biffin, and himself.

After considerable opposition, the committee was appointed. Mr. Le Breton's motion to increase the salary to the proposed new surveyor to 600*l.* per annum was, after much discussion, adjourned; the Court considering that Mr. Le Breton should define the duties, and settle the salary after, rather than arrange the salary first, leaving the duties to be performed an after consideration.

Court adjourned to Friday, the 9th instant, at eleven, special, to swear a jury; "To inquire into such things as shall be given them in charge, and to present what houses, lands, and tenements are benefitted by the new making, repairing, or cleansing the common sewers in the eastern division of the Westminster sewers, or that may receive hurt, loss, or disadvantage, by defect of new making, repairing, or cleansing such sewers; and also the annual rental value of the several premises, for apportioning, according to the interest of each individual, his due share of the expense appertaining to the sewage."

THE STATE OF THE SEWERS.

Sir,—It is to be hoped that you will give more information respecting the sewer in the New-road.* What is its size? What is its shape? What fall has it? How many gully-holes? How many inlets from house drains? In what way was the work performed in taking out the number of loads of deposit? What the particulars and total of cost?

Two deposit wells, each with a vessel or bucket to hold one load of deposit, if drawn up on an average once a month, might, in seven years, have prevented 168 loads entering that sewer. One deposit-well might be under the gully-hole, but the object should be to prevent the water falling too far at once, to prevent it stirring up the deposit. Above each deposit-well should be a shaft with a cover. From the side of the shaft, the water, when the well is filled to the proper height, should pass through a grated opening into the sewer. Through a hole in the cover of the shaft, by means of a rod or wire, the depth of the deposit in the bucket may at any time be ascertained. When full, or on proper occasions, the bucket with its contents to be drawn up, emptied, and replaced. This work, with proper apparatus, may be done in a few minutes.

Would it be wise to try to force all the silt, &c., from the New-road to the Thames?

Whatever form a sewer has, would it not be economy to proportion the quality and substance of the material, so that all parts should be as nearly as possible equally durable?

A Looker-On.

*** We printed a series of questions relative to sewers a short time ago, it will be remembered, which were furnished by the same intelligent writer. In reference to one of those questions, a correspondent says:—

"There can be no doubt of the advisability of carrying gas and water mains *through* the sewers, which should be built sufficiently capacious for the purpose: this would prevent the disturbance of the streets upon the first laying of the mains, and remedy the justly complained of evil of the continued opening of the ground to carry out repairs and alterations, and would afford the means of their being at all times open to inspection, and prevent the very great loss from leakage that the companies at present labour under. And this accommodation would be accompanied by a great saving of expense; in return for which, the gas and water companies should pay a rental, and this, I have no doubt, they would most readily do. A patent, now expired, was taken out by a gentleman of the name of Williams, who spent a large sum of money in endeavouring to bring it to bear. It was for the purpose of forming sub-ways in the streets of London; the lower portion forming the sewer, and the upper being arranged for the reception of gas and water pipes. But this, although acknowledged to be a great good, was prevented from being carried out by the great expense that would be incurred, as the sewerage was already arranged. Where this is not the case, this plan should be adopted, and benefit to all parties would be the result. The papers, drawings, and data connected with the patent are, I believe, in the possession of Mr. John Williams, of 29, Bucklesbury, who, I have no doubt, would be very happy to give any information required on this subject, and which is worthy of serious consideration.

I am, Sir, yours, &c. T. A. H.

Brompton.

* See p. 620, Vol. III.

ARCHITECTS' CHARGES AND RESPONSIBILITIES.

Our recent remarks on this subject have led several architects to forward us opinions and items of information in connection with it, and of these we shall hereafter make use.

Mr. George Wightwick, of Plymouth, having on several occasions found objections raised to the payment of commission, has printed a letter, which he places in the hands of those parties who apply to him. This letter views the question of responsibility broadly, and being very suggestive, we are led to think the publication of it will be useful to the profession.

"To prevent misunderstanding, as to the nature and extent of my responsibilities, in accepting the honour of your employment, I beg leave, very respectfully, to solicit your kind attention to the following:—

It is presumed your primary object in securing the services of an architect involves the recognition of his pretensions as an artist. The ordinary *builder* may construct the edifice required: you apply to an *architect* for the superadded graces of correct design and suitable decoration.

Secondly, you desire his experience and ingenuity in respect to *convenience;* to be shewn in such a compact and uniform arrangement of plan, as will prove strictly conformable to beauty of elevation, and pervading architectural propriety.

Thirdly, you employ him to afford the drawings and specifications necessary to arrive at the cost of your proposed building, and to make the best of his allowed conditions, so that, if you cannot have all you desire, you may have as much as your means will allow.

Fourthly, you engage him to supply all such *working drawings* and *occasional* superintendence, as shall insure the accurate and substantial execution of the works, so far as regards their *architectural truth* and permanent *strength*.

Fifthly, you require him to control the builder's claims upon you for payment, and to adjust all variations in the cost, induced by deviation from your first intentions.

Such being the architect's duties, he next submits to your timely consideration his exemption from certain liabilities too frequently supposed to attach to him.

1st. In matters of taste. He engages to give you what he conceives to be correct, and to the amount only which your means allow, and *not* to sacrifice, without reluctance, his repute as an artist to your individual wishes, nor to suffer under your censure for limiting his decorations to their just proportion in the general outlay.

2nd. *Convenience.*—Any partial disarrangement of the plans, first mutually agreed upon, releases him from the censure which may afterwards attach to them as a whole. It is a common error to regard as trivial, alterations which seriously affect the entire design.

3rd. *Estimates.*—He does *not* engage to make out, under your own directions, a design, the execution of which shall be within the limits of your intended outlay. All he can safely do is to learn what you require, and how you desire it to be done; and then, by measure and value, to inform you of the cost. He will *not* pledge himself to any particular amount: nor will he admit, as at all applying to himself, those imputations of *excess*, which too frequently follow where employers, by almost imperceptible degrees, enlarge upon their original instructions.

4th. *Superintendence.*—The architect is *not* employed as an operative builder or clerk of the works. It must be clearly understood, that his *occasional* visits and *working drawings* can only have reference to architectural accuracy and the liberal fulfilment of the leading articles of the specification, as affecting construction *generally*. If the builder, his foreman, or operatives be careless, and a competent clerk of the works be not engaged, roofs may leak, plumbing may partially fail, plastering may crack or become discoloured, drains may yield offensive odours, joinery may shrink, chimnies may return their smoke (indeed the latter nuisance may occur in spite of all precaution) and many other evils may shew themselves, without, necessarily, impugning the character of the architect, or in the least affecting the general stability of the structure. The most trying annoyances may originate in the most trifling defects of workmanship, and nothing short of a vigilant clerk of the works, exclusively employed without intermission, can insure perfection in matters of constructive detail.

5th. *Settling accounts.*—It is common for the architect to be equally beset by his employer and the builder; the one complaining of too great allowance, the other of too little. The architect does not engage to please either.

Terms.—Five per cent. on the outlay; travelling expenses; and the value of time occupied in travelling, reckoned at three guineas per diem. Expenses and value of time *shared* between different employers residing on the same line or in the same vicinity. But any fixed terms have reference to the unaltering progress of the employer's first settled determination; so that all subsequent deviations from the course which has been followed in strict obedience to instruction, will involve an extra charge proportionate to the extra time employed.

Again, these terms will not hold good in certain cases where *old* buildings are altered, or where the work involves a smaller outlay than will compensate (at the usual rate of per centage), for the time employed. In the former case, the labour of surveying the old structure, and of taking plans, elevations, and sections of the same, may require remuneration apart from that which is charged on the new building; and, in respect to works of small outlay, where much taste or economic management is required, the charge can only be justly regulated by the value of time.

It must be considered, that the labour of an architect frequently bears a ratio inverse to the amount of expenditure. In a large building, constructed under liberal circumstances, he charges 5*l.* for every 100*l.* well *expended;* in a small one, erected under very limiting injunctions, he may deserve 5*l.* for every 100*l. saved*. He is bound, in common honesty, to keep down the cost in the first instance; but, if further reduction be necessary, it is surely too hard to expect from him, unrequited, that additional trouble which reduces his per centage.

Should the foregoing be admitted as reasonable, I am ready to devote my best skill and care to your service."

New Lunatic Asylum for the County of Surrey.—At the Surrey General Quarter Sessions, held last Monday, in the Sessions House, Newington, Mr. Freshfield brought forward a motion relative to the necessity of providing an additional building for the pauper lunatics of the county. It appears that the present asylum is capable of accommodating only 400 patients, and that room is required for 700. The sum of 200,000*l.* is spoken of as being the probable cost of the proposed new building.

THE SMOKE ELEVATOR.

The accompanying cuts explain the construction of a little machine registered by Mr. Rickets, of Agar-street, Strand, for the cure of smoky chimnies.

Fig 1, front elevation; fig. 2, side; and fig. 3, section, of apparatus. AA is a flat iron pipe to be passed up the chimney through an iron plate, to be placed across the throat of the chimney, or through a hole cut to the size of pipe in the fall down back, if a register



Fig. 3.



Fig. 1.

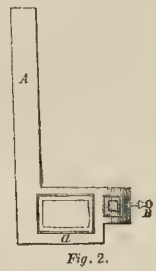


Fig. 2.

stove. BB is a sliding plate, by means of which the draught may be increased, or decreased.

In one case where we saw it used, it seemed to answer the purpose extremely well, and as it is simple and inexpensive, and can be applied without difficulty or disfigurement, some of our readers may be glad to have it made known to them.

INTERMENT IN TOWNS.

"The interment of the perishing remains of the dead in the midst of the close and crowded streets of densely peopled towns," says the *Provincial Medical and Surgical Journal*, "is one which daily acquires more claims to consideration. The sepultural indecencies exposed by Mr. G. A. Walker, the indefatigable author of "Gatherings from Grave Yards," and other similar publications, and the extraordinary nature of some of the proceedings in the London burying grounds, which he has brought to light, are almost incredible. Yet, although perhaps in a minor degree, they find their parallel in provincial towns.

Mr. Walker remarks in a later work: "The celebrated Bunhill Fields, City Road, was originally opened as a burying place in the year 1665. It contains about seven acres. It is supposed that considerably upwards of one hundred thousand interments have taken place in this ground, and that one million of pounds sterling have been derived in fees, &c., from the burial of the dead."

From a statistical account of burials within the walls of the city of Norwich, now before us, to which we refer as having been very lately compiled by Mr. Crosse, for the purpose of elucidating the question under consideration, it appears that the yearly average of burials in that city, during the last ten years, has been 1269. The extent of the church-yards, including the ground on which the churches (thirty-five in number) stand, foot-ways, &c., is little more than twelve acres and a quarter. It would be easy to show from an examination of the extent of the individual burial-grounds, that the annual number of interments is in very many instances at least double, and in some, three and four times the rate mentioned by Mr. Walker as allowable.

The Bunhill Fields burying ground mentioned above, contains, it is stated, about seven acres, and Mr. Walker calculates, that from the year 1665, a period of one hundred and eighty years, upwards of one hundred thousand interments have taken place there. Now, making the allowance we have indicated for the space otherwise occupied, the aggregate of the Norwich burying grounds, will probably not much exceed the Bunhill Fields in extent. The number of burials in the Norwich church-yards, within the walls, during the last ten years, was 12,691. What has been the amount during the period of time (one hundred and eighty years) that the Bunhill Fields ground has been opened? The answer would probably show, that the abuses pointed out as occurring in the metropolis, will be equally apparent here.

It has been observed on a former occasion, that the public attention seems alive to these evils when once properly pointed out; but there is much reason to suppose that very many of our large provincial towns are similarly situated in this respect to Norwich, and some of them in a far worse condition. We know of no more acceptable service that could be performed by those who have the required time and opportunity, than the collecting of information on this subject in country districts. Mr. Walker's researches upon the burial grounds of the metropolis will form an admirable guide to any one who may be disposed to take up the inquiry elsewhere, and Mr. Crosse's success at Norwich a sufficient encouragement."

WEIGHT OF IRON BOLTS AND NUTS.

Sir,—Not having seen in any work on engineering a similar table to the following, wherein the exact weight is given of those bolts and nuts generally used, and feeling assured that in many instances it would prove practically useful to young men when estimating, I have calculated, and beg to forward the same for insertion in The Builder if it meet with your approval. I am, Sir, &c.

F. Mulholland.

15, Ward-street, Lambeth.

Diameter of bolt.	Weight of 1 foot of round iron.	Weight of 1 inch of round iron.	Weight of nut.	Weight of head.
Inches.	lbs.	lbs.	lbs.	lbs.
¼	0·2	·016	·021	·021
⅜	0·4	·033	·062	·062
½	0·7	·058	·145	·145
⅝	1·0	·083	·26	·26
¾	1·5	·125	·468	·468
⅞	2·	·166	·729	·729
1	2·7	·225	1·125	1·125
1¼	3·4	·283	1·77	1·77
1½	4·2	·35	2·187	2·187
1⅝	5·	·416	2·86	2·86
1¾	6·	·5	3·75	3·75
1⅞	7·	·583	4·74	4·74

IMPROVEMENT OF THE CITY.

At a late meeting in Cordwainers' Ward, Mr. Lott took occasion to allude to a matter of great interest to the citizens of London, and which he trusted the influential press of London would continue to notice until its accomplishment should be effected—namely, the resolution of the Court of Common Council to expend the sum of 20,000*l.* annually upon City improvements. The attention of the citizens should, he said, be expressly devoted to that subject, as he feared some of the projected improvements were not of a very eligible description. Of those improvements which had been completed, Gresham-street was anything but satisfactory, for, although probably interesting to the antiquarian as a restoration of Crooked-lane, the aforesaid street led to nothing, and came from nowhere. It was now proposed to form a magnificent street to Lincoln's-inn-fields from Cheapside. Such a scheme he could not consider judicious, as it would constitute the formation of a third inlet of traffic into a street already immensely crowded. Another important question under discussion in the corporation was, the formation of railway termini within the City. He considered the granting exclusive accommodation in this respect to the directors of the Direct Manchester line an unfair privilege. In his opinion, all the railways ought to be accommodated; but as the site of Farringdon Market or the Fleet would be far too small for them, and the intersecting great public streets would be prejudical to trade, he thought a spacious and convenient terminus might be made on the north side of Holborn from a viaduct from one hill to the other, thus getting rid of much obnoxious property, now known as Field-lane and the neighbouring steeets.

New Books.

The Laws relating to Buildings: and a copious Glossary of technical terms peculiar to building. By T. Chambers, barrister-at-law, and Geo. Tattersall, surveyor. Lumley, Chancery-lane. 1845.

This very useful volume comprises the Metropolitan Buildings Act, the laws relating to fixtures, insurance against fire, and dilapidations, actions on builders' bills, and a glossary. As the Preface says:—

"Its effect is directly practical, and the selection and arrangement of the materials have been governed accordingly; everything not of immediate utility having been rigidly excluded, with a view to bring prominently forward the most intelligible and popular explanation of the law; avoiding, as far as practicable, all expressions which are technical, or abstruse, and therefore difficult of comprehension to the unprofessional reader."

The section on dilapidations is discriminating and clear. It is to be regretted that it contains a sweeping condemnation of the report on dilapidations published by the Institute of British Architects,—a condemnation in no way authorised by the evidence adduced.

The following extract forms the introduction to the section, "Actions on builders' bills."

"Two main causes unite to produce frequent disputes relative to builders' bills. Of these, the chief is to be found in that continual struggle of competition, which, pervading every trade, causes the employer to beat down the builder below a fair price,—whilst, on the other hand, it induces the contractor to keep in the back-ground many items which must eventually come forward. The other is the natural consequence of those accidents and chances attendant upon all building transactions, which make the slightest deviation from the original plan, the source of many heavy,—and we must add frequently groundless—charges by the contractor, under the head of "extras."

A third, but comparatively insignificant source of contention is to be found in the architect's specification. To any person who will consider for one moment the multitude of provisions to be made in the erection even of an ordinary dwelling-house,—the intricacy of their nature, and the almost trifling minutiæ of their arrangement,—it cannot for a moment appear extraordinary that some few items should escape his notice. Indeed the wonder would seem rather to be that so many are carefully remembered, than that a few should be forgotten.

From which soever of these causes disputes between the contractor and his employer originate, their nature is almost invariably the same,—they are points of construction, not matters of fact. In other words, the question at issue is not one of workmanship, nor of price, but whether the subject of extra claim forms a part of the contract or not.

All specifications have a schedule of conditions annexed, which after alluding to the completion of the works, payment of the money, &c., usually contains a clause to the following effect: "and also, that if the description of any thing necessary to complete the said works according to the design expressed in the drawings, or in the foregoing specification, or to be understood by fair inference therefrom, be omitted in the said specification or drawings, the contractor shall take no advantage of such omission or omissions, but shall supply whatever may be needed to complete the whole without any additional charge."

It is evident to the dispassionate reader of such a condition as this, that it is intended to supply any trifling omissions on the part of the architect; such omissions being actually necessary to complete work directly specified to be performed; but, as we have already stated—it is on this point that the disputes turn, and with reference to their several readings of this clause the contending parties usually join issue.

Much, however, of this old-fashioned disputation has been avoided by the modern method of practice adopted in the contracting for any public or private building of more than ordinary dimensions, or in the erection of which such questions are likely to arise. In such cases two surveyors are appointed, one on behalf of the architect, the other on behalf of the builder; and these surveyors conjointly form a bill of quantities of work to be done. The work having been executed, the same surveyors —having previously named a referee in case of questions arising as to quantities or price—proceed to measure the extra work not provided in the contract; and according to their report, or that of the referee in case of a difference between them, the builder's bill is settled.

It may be said that this course of proceeding does not shut out the great source of contention; viz, the construction of the conditions; at the same time it must be obvious that it so contracts its limits as to leave but little room for litigation, where parties are really anxious to avoid it.

It must be also borne in mind that builders' bills are more usually made matters of reference than of law, and this will account for the paucity of recorded cases on the subject. On perusal of the New Buildings Act (7 & 8 Vict. c. 84), it will be seen that all questions relative to the building of party-walls are submitted to the final jurisdiction of the official referees appointed by the Act. The judges, too, have almost uniformly adopted the practice of submitting such subjects to a reference, even when brought into court—and in this they have exercised a wise discretion, since the technicalities and intricacies of building are utterly unintelligible to the most erudite of juries."

We have extracted this passage, because it suggests for consideration several important points of practice.

The glossary of technical terms relating to buildings, consisting of forty pages, is made very clear by the means of occasional illustrations.

Correspondence.

GENERAL CONTRACTORS.

SIR,—It is the opinion of many persons fairly interested therein, that the "great undertakers" are not doing various trades in the building line *all* the *justice that is their due:* perhaps you will allow me a place in your valuable publication for a few plain words on this subject.

I think, Sir, there is a strange difference in the amounts for which the *omnium gatherum* firms offer to complete great works—and the cause appears to me to lie in the talents of the subordinate agents of these contractors, in superinducing the necessary tradesmen to execute the work for them at the lowest possible rates, and the subsequent counting-house management, to get cash for work and other mens' goods and labour, and then to take 6 and 12 months from the various tradesmen, and give bills at 2 and 3 months' date: this makes a very large advantage in serious amounts, and the screw principle can be applied very dexterously and sharply too by some dispositions.

If the main trades contracted each for its own calling, as the mason, and bricklayer, the plumber, the painter, and glazier, the smith, the plasterer, and tiler, &c. &c., the work would be done much better, and the proper people would get their fair due, and not most of the profit be absorbed by these "men of all trades." Besides, any talented man of each trade would sooner become known for his ability, to architects and others, and would not then remain his best days a journeyman, without opportunity of shewing his worth and obtaining his reward as a master in his trade.

I am, Sir, &c. O. O. O.

FURNITURE WOOD.—The Lords of the Treasury have, during the past week, given permission for "purple wood," a product of Bahia, to be imported duty free.

HALEY'S PATENT LIFTING JACK.—This is a most important improvement on the old rack jack for lifting great weights, supporting beams, &c., in buildings undergoing alteration, and, from its simplicity, power, and economy in first cost, must come into very general use, if not entirely supersede the old and rude rack jack. Instead of a rack with ratchet wheel and pinion, in the one to which our notice has been directed, a powerful screw runs perpendicularly through the frame, having a claw at both top and bottom, so as either to raise the weight from above, or lift from below; this screw is acted upon by a pinion taking into an endless screw, on the axis of the handles outside the machine, by which means a most enormous power is obtained with comparatively little labour: the handle may, at any time, be left without a possibility of flying back, and is only half the weight of an ordinary jack of equal power, one capable of lifting five tons can be borne with ease by one man. All its working parts are most accurately finished, being engine cut, and it combines utility, safety, durability, and neatness at a cost not exceeding that of the old and unsafe jack. It is manufactured solely by Messrs. Galloway, Knot Mill Iron-Works, Manchester.—*Mining Journal.*

MEETINGS OF SCIENTIFIC BODIES.

During the ensuing week.

MONDAY, Jan. 12.—British Architects, 16, Grosvenor-street, 8 P.M.

TUESDAY, 13.—Civil Engineers, 25, Great George-street, 8 P.M. (Anniversary.)

WEDNESDAY, 14.—British Archæological Association (Western Literary Institution), Leicester-square, 8½ P.M.; Graphic, Thatched-house Tavern, 8 P.M.

THURSDAY, 15.—Royal, Somerset House, 8½ P.M.; Antiquaries, Somerset House, 8 P.M.

SATURDAY, 17.—Asiatic, 14, Grafton-street, 2 P.M.

Tenders.

For the contract of works to be done in building a new school and dwelling-house, with appurtenances, near Maidenhead, Berks; for Mr. J. D. M. Pearce, from drawings, and under the supervision of Mr. J. Tarring, architect.

Cooper and Davis	£2,000 0
Cox	1,964 0
Gerry	1,936 0
Plowman and Luck ..	1,932 0
Crowhurst	1,827 0
Cooper	1,776 10
Mathews	1,728 0
Cooper	1,705 10
Mason	1,644 0
Wells	1,624 0

For the rebuilding, &c., of Portman Market, Paddington; Mr. Bush, architect, Hay's-place, Lisson-Grove.

Grove	£2,167 0 0
Higgs	1,917 0 0
Thomas	1,692 11 2
King	1,425 0 0
Williams	1,200 0 0

*** How is this frightful difference to be explained?

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For the supply of 150,000 sleepers to the Midland; Nottingham and Lincoln; and Peterborough Railways.

For supplying and laying down in the parish of Woolwich, Kent, certain quantities of curb and Rock Hill stone.

For the execution of works on the North Wales Railway.

For the supply of 60,000 Memel, red pine, or hacmatac sleepers, and 12,000 larch, hacmatac, or pine, according to specifications, for the Dublin and Belfast Junction and Navan Branch Railway.

For the execution of works on the North Wales Railway, viz. from the Bangor Station to the Carnarvon Station.

For the execution of works on the Leeds, Dewsbury, and Manchester Railway, viz.: the Dewsbury Contract, in length about 3½ miles.

For the erection of a New Church at Pembury, Kent.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At Orwell works, St. Clements, Ipswich: a large quantity of oak, teak, and fir slabs and listings, and a variety of oak, elm, teak, and fir scantling.

On the Ellingham Hall estate, near Bungay: 100 very useful ash and elm timber trees; 50 excellent poplar and willow trees; 300 capital larch, Scotch, spruce, and other fir trees, &c.

At Novar Ross-shire, upwards of 10,000 Scotch fir timber trees; all fit for railway purposes.

At the George-inn, Ilminster, 930 very fine maiden oak, elm, and ash timber trees; also, 1,000 useful ash, oak, and other saplings and poles.

At Eling, near Southampton, 87 prime oak timber trees of large dimensions and exceedingly sound.

At the Griffin-inn, Amersham, Bucks, 670 beech, 25 ash and 4 sycamore trees of very superior growth and quality, and of large dimensions.

On the Kennet Estate, near Newmarket: A large quantity of very superior oak, ash, elm, and poplar trees, &c.

At Gamlingay, Cambridgeshire: 40 very prime oak trees, and 60 pollards, now standing.

TO CORRESPONDENTS.

"C. Newnham."—*We shall avail ourselves of some of the remarks, although we are unable to print the letter.*

"G. F."—*The type was unfortunately distributed before his letter reached us.*

"J. W."—*It is difficult to avoid what he complains of. We are thankful for his good opinion.*

"P. F. P."—*Dry, hard oak should be used for trussing girders.*

"J. K." *will see on consideration, that the point is, to delineate the egg when you have it.*

"*Abbey of Athenry,*" *next week.*

"J. P." (Shrewsbury).—*The drawing sent is not sufficiently interesting to induce us to engrave it. We shall be glad to hear from* J. P. *again.*

"A Regular Brick."—*We will give the subject consideration. Our own experience hardly bears out his statement. We find it is difficult to obtain a drawing clerk at a moderate salary.*

"Youngster."—*We are not acquainted with the party named.*

"Pile Dam."—*A correspondent asks the exact meaning of the term* "Sheet Pile Dam." "*It is contended,*" *he says,* "*by some*; 1*st, that a sheet pile dam cannot be constructed of whole timber* (*at least that the term is not applicable to one so constructed*). *And* 2*ndly, that when a dam has a dwarf dam in front of it, it cannot be fairly denominated a sheet pile dam. On the other hand, it is urged that a* close *dam* (*though not grooved and tongued*), *with the seams between the piles caulked, in whatever position it is, whether assisted by a dwarf dam or otherwise, fairly constitutes a sheet pile dam, whether it be of half or whole timber.*"

"B. B."—*We shall be glad to receive his promised communication.*

"J. G."—*In justice* B. *should pay part of the expense. Legally, however, if the alteration was made without his concurrence, the claim could not be maintained.*

"F. C."—The Farmers' Insurance Company, Strand, *insure against storms.*

"Stoving Wood."—*Two correspondents wish to know the best apparatus for stoving wood.*

"Friend to BUILDER" *will find some information on the subject of reservoirs in present No. Without knowing where it is to be placed, and other circumstances, it is impossible to advise usefully.*

"A. P."—*Whatever is submitted to us shall receive consideration.*

"H. S."—*We shall avail ourselves of the materials kindly forwarded.*

"W. D."—*We are much obliged. We wish he would favour us with some remarks in a connected form. The result of his experience would be valuable.*

"Building over Passage."—*A. may do what he pleases on the upright of his own soil, if not to the injury of his neighbour.*

"W. W."—*A letter addressed to the Eastern Counties Railway Office, will find the gentleman named.*

Received:—"C. & Son;" "T. P.;" "L.;" "Return of Patents taken out in Ireland" (Mr. Telford); "Old England," Index, &c. (Knight); "Pictorial Gallery of Arts," Part XII.; "Old English Worthies," Part I (Knight); "Post Magazine Almanac for 1846;" "Dolman's Magazine;" "Proceedings under the Metropolitan Buildings Act" (Weale).

*** Correspondents are requested to address all communications to the EDITOR, York-street.

ADVERTISEMENTS.

PROFESSOR KELLER'S POSES PLASTIQUES.

ROYAL ADELAIDE GALLERY.—This day, and during the week, Professor Keller will exhibit at the Adelaide Gallery his Grand Tableau Vivans from the Ancient Masters, which have received so largely the encomiums of the press. Every morning at half-past three, and in the evening at nine o'clock. Great efforts have been made to add to the effects of this exhibition. A variety of new subjects have been added to those already presented to the public The Concerts as usual. Also Pilbrow's Atmospheric Railway model, with explanatory lecture.

FURNITURE PURCHASED in any quantity.—Parties rebuilding, improving or changing their residence and having surplus property of this description to dispose of will avoid the trouble and expense of selling the same by auction, by application to Mr. JOHN CHAPMAN, No. 6, Great Russell-street, Covent-Garden. The quality immaterial and the cash paid before removal.

To Stove, China, and Stained-glass Manufacturers, Iron Founders, Statuaries, Cabinet Makers, Upholsterers, and others.

H. WHITAKER begs to inform his Friends and Connections, and Manufacturers in general, that he has REMOVED to 14, HILL STREET, MONTPELIER SQUARE, where he continues to make Practical Designs and Drawings.

N.B. An Indoor Pupil wanted.

TO ARCHITECTS, BUILDERS, & BRICK MAKERS.

PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Roads, Gardens, and for Liquid Manure. BRICKMAKERS' PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to 12-inch bore, kept for Hire.

BENJ. FOWLER, 63, Dorset-street, Fleet-street.

PUBLICATIONS.

PAINTING, SCULPTURE, ARCHITECTURE, ENGRAVING, &c. &c.

Containing 28 pages of 64 columns. Extensively illustrated. One Shilling Monthly.

THE ART-UNION; Monthly Journal of the Fine Arts; the Arts Decorative and Ornamental; and Record of British Manufactures. Established in January, 1839.

To MANUFACTURERS, Decorative and Ornamental Designers, their Employers, and Artisans, and all who are interested in improving the Useful Arts by subjecting them to the influence of the Fine Arts, the ART-UNION Monthly Journal is recommended as supplying such practical information as may enhance the mercantile value of the various productions of British industry, in order to communicate facts so as to render them available as suggestions to the producer, the several articles are illustrated by explanatory Woodcuts. Thus, papers have been published with a large number of illustrations, on Cotton-printing, Paper-staining, the Varieties of Lamp and Candelabra, the Manufacture of Porcelain, &c. &c.; and others are in preparation addressed to every trade in which taste can be brought to co-operate with the artisan; and the mercantile value of the Useful Arts be augmented by the aid of the Fine Arts.

The ART-UNION Journal, as its name imports, was instituted mainly to enforce the necessity of Union between the different branches of Art, and more particularly the intimate connection that exists between those Arts which have been regarded as entirely artistic, and those which have been deemed exclusively mechanical; the purpose being to shew that mind as well as hand is required in every branch of Ornamental and Decorative Art. The publication, therefore, is recommended to the attention of persons interested in the cultivation of the arts of Decoration and Ornament—in the furnishing of houses with taste elegance and judgment; and in the introduction of improvements in designs for British manufactures—from articles of high importance to the most trifling matters in general use, which may be made subservient to the judicious education of the eye and mind—a work in which every manufacturer is unconsciously taking an active part, and which he either advances or retards, more or less, by every article he multiplies and circulates among mankind. The we shall endeavour to give publicity, as far as our influence extends, to any improvement introduced into the external form and character of articles of British manufacture. The supremacy of our manufactures has, indeed, been long maintained, and is universally acknowledged on the Continent. While, however, the foreign producer admits our superiority in the very essential points of substance and durability, he generally refers with mingled triumph and scorn to the forms of our productions. Hitherto his sarcasms have been sufficiently just; but a time is approaching when we shall surpass the foreign competitor in design as much as we have hitherto excelled him in material.

In pursuance of our plan, therefore, we shall notice every improvement in manufactured articles where the influence of the Fine Arts has been or may be exercised; and, wherever our notices seem to require the aid of explanatory woodcuts, such woodcuts shall be associated with them. We shall thus hold out a sure encouragement to improvement, in giving to such improvement that publicity which rarely fails to secure substantial reward: while, at the same time, recompensing the party improving by according to him that "meed of praise" for which all good men labour; and, above all, we shall thus stimulate others to improve likewise. Hitherto the manufacturer has had no medium by which he could make known the improvements in taste and external form to which his productions had been subjected; for the public journals—in Literature, Science, and Art—although reviewing largely and continually, published books and prints, have completely overlooked the silent but powerful instructors which emanate from the factories of Great Britain.

ILLUSTRATED TOUR IN THE MANUFACTURING DISTRICTS.

Preparing for publication, in the Art-Union Monthly Journal,

A TOUR IN THE MANUFACTURING DISTRICTS OF ENGLAND AND SCOTLAND:

Extensively illustrated by Woodcuts, exhibiting the progress of design in manufactures, picturing the various articles of recent produce which manifest improvement, and reporting the systems pursued in the principal English and Scottish factories:—those more especially of Manchester, Birmingham, Sheffield, Nottingham, Kidderminster, Stourbridge—the Potteries of Staffordshire, Worcester, and Colebrookdale—Glasgow, Paisley, Dunfermline, &c. &c.

PUBLICATIONS.

Just Published, and to be had for nothing,

A PAMPHLET on NERVOUS or MIND COMPLAINTS, with Cases and Testimonials. The nervous are invited to send to the Rev. Dr. WILLIS MOSELEY, 18, Bloomsbury-street, Bedford-square, for a small pamphlet, on his new and most successful Treatment of Nervous or Mind Complaints, by which he cures those diseases as certainly as water quenches thirst.

N B. One stamp, if sent, would prepay the postage.

In 12mo. price 4s. 6d., bound.

PROCEEDINGS under the METROPOLITAN BUILDINGS ACT: containing a collection of Awards made by the Official Referees; the Modifications sanctioned by the Commissioners of Works, &c.; and some account of the Office established under that Act. Digested and arranged by EDWARD LAWES, Esq., of the Middle Temple, barrister-at-law.

JOHN WEALE, 59, High Holborn, 1845.

Just published, a New Edition for 1846, price 4s.

LAXTON'S BUILDERS' PRICE BOOK, containing 11,000 Prices and Memoranda connected with Building, and the whole of the Metropolitan Building Act.

J. WEALE, High Holborn; SIMPKIN, MARSHAL, and Co., GROOMBRIDGE and SONS, and SHERWOOD and Co., Paternoster-row.

NOTICE TO INVENTORS.

OFFICE for PATENTS of INVENTIONS and REGISTRATIONS of DESIGNS, 14, LINCOLN'S-INN-FIELDS.—The printed Instructions gratis, and every information upon the subject of PROTECTION for INVENTIONS, either by Letters Patent or the Designs Act, may be had by applying personally, or by letter (prepaid) to Mr. Alexander Prince, at the office, 14, Lincoln's-inn-fields. Where may be had, price 1s., or, through any bookseller in the United Kingdom, of Wm. BENNING and Co., law booksellers, 43, Fleet-street, the LAW of PATENTS and REGISTRATIONS, with all Forms and Cases up to the present time, by SIDNEY BILLING, Esq., barrister-at-law, and ALEXANDER PRINCE, of the Office for Patents, 14, Lincoln's-inn-fields.

DAY'S PATENT WINDGUARD, for ventilating churches, hospitals, factories, theatres, breweries, malt-houses, club-houses, shops, bed-rooms, smoking-rooms, school-rooms, nurseries, stables, larders, kitchens, offices, ships, mines, vaults, tunnels, &c. Also for preventing down draft; and is guaranteed to cure all smoky chimneys caused by wind; and entirely supersedes the use of revolving cowls, or any thing moveable or unsightly on the tops of chimneys or ventilators.

The object of this invention is to create a draft where otherwise it would not exist, by the spontaneous action of the external air. The Windguard forms a pleasing octagonal pillar, and by its peculiar construction to carry out the principle on which it is based, which consists of the wind giving a disposition for a vacuum within, thereby causing a continual upward current about equal to the velocity of the wind at the time acting upon it, which averages about six feet per second thirty days out of thirty-one; therefore, will nearly at all times ensure a continual change of air, being no impediment to spontaneous ventilation, even on a perfectly calm day. One five feet square will ventilate a building containing upwards of 1,000 persons. The Windguard applied to ships and steam vessels, in the form of a sky-light, prevents rain or the sea entering within, however boisterous the weather may be, thereby affording excellent ventilation as well as light. The Windguard is simply applied for effectually ventilating bed-rooms, nurseries, counting-rooms, offices, &c., causing the air of the apartment to be at all times as pleasant as can be desired. It is fixed at the top of the chimney, in addition to which a cast-iron frame and valve (about one foot area), made to open and shut at pleasure, is let into the flue, near the ceiling of the room, to allow the constant ascending vitiated air being immediately carried off. The opening is guarded by a neat venetian blind or grating; and so powerful is the effect on a windy day that if a handkerchief be thrown up to the grating, it will remain there—i. e. if the valve be open. In winter the valve would be only partially open, to allow the smoke to ascend, but if the room be found too cold can be entirely closed. The Windguard applied to the tops of chimneys prevents all annoyance from smoke (caused by wind); indeed, where it does not, nothing else applied at top will (of the same size); care, therefore should be taken to have the proper size applied. It is simple in its application, reasonable in price, ornamental in appearance; no machinery or anything moveable in it, therefore, cannot get out of order; free from noise or any unpleasantness whatever; not liable to choke up with soot; no obstacle to the machines used for sweeping chimneys. May be had of all respectable ironmongers in town and country; and may be seen daily in operation, where its powers and usefulness are exhibited by the severest tests, at THE PATENT VENTILATING WORKS, COMMERCIAL-ROAD, PIMLICO, LONDON; where also may be seen Mr. G. T. Day's plans (illustrating the different applications of his Patent Archimedian Ventilator and his Portable Water Apparatus) for effectually Ventilating, Warming, and Cooling the Air of Buildings, Ships, Mines, &c. &c. By the use of these inventions many thousand cubic feet, or any quantity of pure warm or cold air, can be guaranteed to be continually exchanged per minute, day and night, winter and summer; thereby insuring, at all times, free ventilation to the rooms and passages of buildings, &c. from the basement to the roof, at the same time in such a manner as shall not be inconveniently perceptible. The size of the apparatus depends on the nature and use of the building and its occupants.

The Patentee has been honoured by his inventions being applied at the following places:—

Windsor Castle, Buckingham Palace, St. James's Palace, Claremont Palace, Walmer Castle, the Houses of Parliament, New Conservative Club, White's Club, Travellers' Club, Oxford and Cambridge, Pantheon, Wyndham, Army and Navy, Senior United Service, Junior United Service, Admiralty, British Museum, Somerset House, Custom House, Mint, Hon. Artillery Company, H. M. Salamander, Trinity House, Ordnance, Greenwich Hospital, Christ's Hospital, Westminster Hospital, Bethlehem Hospital, Surrey Lunatic Asylum, New Royal Exchange, Mansion House, Goldsmiths' Hall, Fishmongers' Hall, Haberdashers' Hall, Dyers' Hall, Grocers' Hall, Armourers' Hall, Weigh House Meeting-house, Hanover-square Rooms, Theatre of the Westminster Literary and Scientific Institution, Grand Cigar Divan, Strand, City Club, and many other Public Buildings in Town and Country, as well as to the Mansions of many Noblemen and Gentlemen. Licenses granted for Manufacturing the above. Drawings and Plans made for Ventilating and Warming Buildings of every description.



WILSON'S PATENT VENTILATING SPIRAL CHIMNEY POT, for the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success. This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance. The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory, Southwark-bridge Iron Roofing Works.

WESTBOURNE TERRACE TONTINE (Provisionally registered), in 3,700 Shares of 100*l.* each, Deposit 10*l.* The remainder to be paid by Monthly Instalments of 10*l.* each, commencing 1st March, 1846. Four per cent. allowed on payments in advance.

TRUSTEES.

George William Anderson, Esq., No. 69, Harley-street
Samuel Scott, Esq., No. 1, Cavendish-square
Charles Wardell, Esq., No. 43, Westbourne-terrace

COMMITTEE OF MANAGEMENT.

George William Anderson, Esq., No. 69, Harley-street (late of the Bombay Council)
Francis Edwards, Esq., No. 57, Westbourne-terrace
Edward Lambert, Esq., No. 4, Langham-place
George M. Murray, Esq., No. 6, Hereford-street, Park-lane
John Propert, Esq., No. 6, New Cavendish-street, Portland-place
Captain Reynolds, No. 23, Sussex-gardens (of the firm of Grindlay and Co.)
Charles Wardell, Esq., No. 43, Westbourne-terrace

BANKERS.

Sir Claude Scott, Bart., and Co., 1, Cavendish-square

SOLICITORS.

Messrs. Burgoynes, Thrupp, and Clark, 160, Oxford-street.

Westbourne-terrace is confessedly one of the finest ranges of buildings in the metropolis. Its proximity to Hyde-park and Kensington-gardens, great width, elevation, and gravelly soil, and the very elegant and commodious arrangement of the interior of the mansions present a combination of attractions which must render it a most valuable investment.

The property is held under leases of ninety-eight years, from Michaelmas, 1839.

It consists of seventy-three first-class Mansions, of which many are already occupied at good rents, and the whole range is to be completely finished, including fixtures, before the 25th December, 1846.

It is now proposed to constitute a Company for the purchase of the leases at the price of 370,000*l.* The report of Mr. Stevens, surveyor of the Royal Exchange Assurance Corporation, shows that at the estimated rental it will yield at least 5 per cent. to the Company. The report, as well as a lithographic view of the property, may be seen at the solicitors'.

It is also proposed, that the company shall be constituted on the principle of a Tontine. That principle may be shortly described as follows:—Each shareholder nominates a life in respect of every share. By the failing of the life so nominated the share lapses to the company, so that the benefit of the fund is continually increasing to those whose nominated lives survive. Thus estimating the net rental of the mansions in Westbourne-terrace, to be included in the tontine at 18,000*l.* per annum, and presuming that at the end of a certain number of years three lives only survive, representing an equal amount of shares, the shareholders, whose nominees they are will take the 18,000*l.* per annum in equal thirds, and the last surviving life will be entitled to the whole for the residue of the ninety-eight years' lease.

By this arrangement the shareholders respectively receive a fair interest for their money, with the certainty of a continual increase. The investment is manifestly a most desirable one where the object is to secure a provision for a child or children, because by nominating such child or children there must necessarily be a good income for such as survive.

When the houses are all let at the rents respectively assigned to them, the net receipts will be about 20,360*l.* It is not intended, however, to divide it in any one year the whole of the rental, but to form a reserve fund, to be distributed as a bonus amongst the survivors at the end of every seventh year, and a guarantee fund to meet contingencies, the ultimate balances of which funds will be delivered over to the last survivor, with the other property.

The proprietor of every share of 100*l.* will have the privilege of nominating one life at any time previous to the 24th December, 1846, and should the nominee die before that day, then another life may be substituted, so that all the subscribers may be on an equal footing on the 25th December, 1846, the day from which the rents will be receivable by the Company.

Two assurance societies have already offered to assure the lives of nominees of from five to twenty years of age at the moderate rate of 1½ per cent.

A proper deed of settlement will be prepared under the direction of the Committee, and settled by counsel, which will contain all necessary powers for regulating the constitution of the Company, and for enabling the proprietors at any time to dissolve the same and divide the proceeds.

The property will be conveyed to trustees, and the management of the affairs of the Company will be vested in a committee, to be chosen by the shareholders from their own body, one-third of whom will retire each year, and be re-eligible.

Application for shares must be made, in the under-mentioned form, and left under cover at the offices of Messrs. Burgoynes, Thrupp, and Clark, No. 160, Oxford-street. The houses may be seen by applying to Mr. Thompson, architect and surveyor, No. 2, Conduit-street-west, Hyde-park; or to J. Tippets, No. 34, Westbourne-terrace.

FORM OF APPLICATION FOR SHARES.

To the Committee of the Westbourne Terrace Tontine.

Gentlemen,—I request you will grant to me ..... Shares of 100*l.* in the above Tontine, and I hereby undertake to accept the same, or any less number you may allot me, and to pay the deposit of 10*l.* on each share, and to sign the deed of settlement when required.

Dated this ..... day of ..... 1846.

Name in full.....
Residence.....
Profession.....
Reference.....

The Builder.

No. CLIV.

SATURDAY, JANUARY 17, 1846.

A FEW days ago, four little children were tried before Mr. Serjeant Adams, at the Clerkenwell Sessions House, for stealing some pocket-knives; and, being found guilty, with a recommendation that they should be treated with leniency, were *mercifully* sentenced to be imprisoned one month, and then to be well whipped with a birch rod. The consideration of this sentence, which fills us with painful emotions, is out of our province; but some statements which were made on that occasion are wholly within it, and demand attention.

A juryman remarked that all the boys appeared to have lived in the same court. Now, he knew of one court which was so densely populated, as to be beyond any conception. In that court there were not more than two parties who were married. He was sure, if so frightful a state of things were generally known—and many courts and alleys were there in the metropolis equally crowded—that vast good must arise, because it would not be allowed to continue so. In some of the houses in these courts there were a large number of poor families crowded together, and amongst them every sense or feeling of modesty, of morality, or even of the slightest appearance of decency, was completely abandoned. *Even within a stone's throw of that sessions-house, there was a court of such a description.* If there were any man of a properly regulated mind who would venture to walk down that court on a Sunday afternoon, he would become the witness of a scene which would arouse his pity as well as his indignation.

The judge said that he fully concurred in this statement. The erection of good and open streets, was a great and important feature towards the amelioration of the social and healthful condition of the poorer classes of society, and happily that was now a subject which occupied the attention of the country. These alleys, or "rookeries," as they were termed, were one leading cause of the demoralization of the lower classes of the population. During the last year or two he had missed one branch of the business of that court, and one that used to give him an immensity of labour and trouble, namely, the assault cases from the parish of St. Giles. For a length of time he had been unable to conceive what could have produced this falling off in those cases, and it was not until he was accidentally mentioning the fact to a magistrate on the bench, that he was informed it was the result of the removal of the St. Giles's rookery, which had been pulled down for the purposes of the improvements at the end of Oxford-street. This of course at once explained the circumstance. If the public could but become acquainted with some of the facts that could be communicated by the governors of their county prisons, in reference to the habits of the young females of the metropolis, from twelve and upwards, who had resided in these crowded courts, they would find that all of them were ignorant, and destitute of any sense of the common feelings of morality or modesty. If the county could be induced to act concurrently in this and other matters of public and social improvement, a vast impetus would be given to the measures of social regeneration which were occupying the attention of the Legislature at the present moment."

The connection between ill-drained, ill-built, ill-ventilated, crowded dwellings, and the healthful condition, comfort, and morality of the community, is even now so little understood, that no assertion of it can be reiterated too often.

If the frightful state of the dwellings of the poor were generally known, said the juryman, it would not be allowed to continue so! If the county could be induced to act concurrently, remarked the judge, much could be done towards removing the evil—the cause of much crime and misery! Should not all, then, who can, strive to make these facts known? Should not all who have the power, labour to induce concurrent efforts in the various counties of the kingdom, to obtain an improvement which affects me and you, and all of us so much? It takes a long time to make the public hear. They require to be told a new truth many times, and in many ways, before they will appreciate or admit it; and, therefore, no opportunity should be lost of pointing out the fact, again and again, that by opening the windows of the poor, giving them good drainage, a plentiful supply of water and air, and otherwise rendering their dwellings salubrious, you are advancing their social condition, and lessening the causes of crime as well as disease, with all their attendant miseries, which spread in a wide circle around their origin, and may reach even you and your dearest friends.

To the Middlesex magistrates we would say, at all events look at home. Go to the crowded and ill-built court, "within a stone's throw of your sessions house," where scenes continually occur that would induce the pity as well as the indignation of every properly regulated mind, and use your powerful influence to obtain its improvement in a sanatory point of view, as a first and most important step towards the *moral* reformation of its denizens.

PROFESSOR COCKERELL'S LECTURES ON ARCHITECTURE.

ON Thursday, the 8th instant, Professor Cockerell delivered the first lecture of his annual course at the Royal Academy. He commenced by reminding his hearers, that the objects of the Academy were connected exclusively with graphic art, and that the subject of his lectures was similarly circumscribed. The connection between architecture, sculpture, and painting, had been considered in all academies. The knowledge of the art of building was as essential as the means of procuring food and clothing, and it was not until architecture had satisfied positive requirements, that it became an art. He referred to the subjects of his previous courses, and stated that his present lectures would contain some remarks on the architecture of the middle ages. Painting and sculpture were based upon the imitation of nature; architecture was guided by analogies of nature. He recommended an intimate study of natural productions, as flowers and crustacea, saying that from such objects impressions of beauty would be gained, and a variety of elegant forms suggested. He defined architecture as a science, and as an art; adding that the materials for the former branch were well supplied at other institutions. He remarked, that the art of landscape painting was important to the architect, giving him the means of judging of the effect of architecture in combination with scenery. The professor then commented on the indispensible requisites of drawing and perspective, quoting from the work of Scamozzi, who said, that the language of the hand becomes the architect more than any other man. Scamozzi was originally a perspective painter, and it was not unusual for those who practised that art to become able architects. Vanbrugh became an architect through his connection with the theatre. Servandoni, the architect of St. Sulpice, at Paris, was another instance, and the abilities of some members of the Academy would render them able competitors with us in architecture. The three arts had always flourished best when united. He regretted that a notion had prevailed, that the union of these sisters was not essential to the success of architecture. Architecture without them became, in fact, the science of engineering. He then commented somewhat severely upon the present practice of making "pretty drawings," which by means of aerial perspective and colour conveyed impressions by no means attributes of the *design*. He considered, that far too much valuable time was wasted in acquiring the ability to produce such works, as appeared annually on the walls of that gallery. They properly came within the sphere of another art, and architecture alone would engross the whole attention. Life itself did not admit of pursuits so incompatible. He reminded them of drawings, by Inigo Jones, and others previously exhibited, which were by no means remarkable for the effects alluded to; Palladio's drawings in like manner, were only the most simple transcripts of his designs, whilst Piranesi, so great as a draughtsman, was insignificant as an architect. He considered, that this tendency arose from the system of competitions, and from the practice of exhibiting along with oil pictures. We must recollect, that architecture had to endure all lights, and all circumstances of effect and colour; the light and shade, the figures, and other accessories of the drawing could not be fixed; in the words of Philibert de l'Orme, they were "Nets to catch a customer." Let them cultivate a severe style of drawing in outline, or at most with one colour, but set their faces against the reds and blues, now used in drawings. Referring to his previous lectures, illustrative of the history of the art, and the many variations of style; he said that for some time back, architecture had shewn a strange variety of fashions, all of which were each at one time popular, but were speedily abandoned. At one time Egyptian was the *rage;* then George the IV. introduced the Hindoo, subsequently we had Greek, Gothic, and the "Revival" by turns. It was dangerous to confine the attention to one ephemeral style, as was much the habit amongst young men, and they might be left in the lurch when the next change took place.

Mr Cockerell then remarked upon the advantages that were to be gained from books, and said that for want of a better knowledge of them, things were frequently considered to be fresh discoveries, of which a written account had long been in existence. Concrete had been considered a recent discovery; but the process was most minutely described in the work of Philibert de l'Orme. Formerly, buildings were raised on piles or sleepers, now concrete was universal on any description of ground, even on gravel;—it was a fashion. A literary architect, or professor, would be a valuable auxiliary to the art, and might resuscitate many valuable facts, which, in the press of occupations, we had overlooked. In this way, Professor Willis had discovered in the work of Philibert de l'Orme the system practised in vaulting, and also the whole nomenclature of the middle ages. He then made some remarks on the value of the academic course, and said that it was important to acquire the habit of applying the proper term to each phase of beauty or deformity. He had often thought, that it was better that they should be instructed by a professor, whose sole business it should be, but then he had recollected, in the words of Vitruvius, that it was the union of theory and practice that made the skilful architect, and that they would have more satisfaction in hearing a professor, who was involved in all the labour of the craft. A lecturer on the art of war, who might be able to describe all the sieges that had taken place, from Troy to Antwerp, would gain little attention from his auditors compared with one, who had passed the dangers of actual service in India, or the Peninsula. The professor concluded his discourse by repeating, that it was his intention to offer some comments upon the architecture of the middle ages, in which he appeared to consider there were principles of design, capable of explanation, but not appre-

ciated by "modern Goths," and, therefore, that there was ample room for improvement in its modern adaptation. It was also a style which might be expected to last some time longer, and probably be always retained in church architecture. * *

ST. DUNSTAN'S IN THE EAST.

This church has been recently repaired and re-decorated under the direction of Mr. Tite. The interior was rubbed with stone, the bosses of the groins illuminated, the woodwork cleaned, and the outside of the tower pointed and repaired. It was closed for five months, and was re-opened on the 16th of November last.

The church which stood on this site originally, of ancient date, was damaged by the great fire of 1666, and was in part rebuilt by Sir Christopher Wren.

In 1810 the edifice had become much dilapidated, the walls of the nave being thrust out by the roof, and various ties were introduced. It was found, however, that nothing could be done effectually, and the first stone of the present church, designed by Mr. Laing,* to accord with Wren's tower, was laid on the 26th of November, 1817. It is constructed externally of Portland stone, and, considering the period of its erection, is a creditable production. Engravings of the exterior and interior, are given in Godwin's "Churches of London," Vol. 1.

Wren's spire, as most of our readers will remember, is a curious piece of construction, being supported on four arched ribs, springing from the angles of the tower, similar to the spire of St. Nicholas, at Newcastle-on-Tyne, which probably furnished Wren with the idea.† The details of the tower display our great countryman's want of knowledge of pointed architecture, or contempt for its proprieties. John Carter, in one of his papers on "Architectural Innovation," published in the *Gentleman's Magazine*, says "St. Nicholas's tower is so lofty, and of such a girth, that, to compare great things with small, our London piece of vanity is but a mole-hill to the Newcastle 'mountain,' the pride and glory of the northern hemisphere."

THE BURSTING OF A CAST-IRON TANK,

AT THE LIVERPOOL AND HARRINGTON WATER-WORKS.‡

It was originally intended to comprise the discussion of this subject in one paper only, but being deeply impressed with the belief of its importance in a practical point of view, we became aware that it required a fuller consideration than space would allow in one number of The Builder; we, therefore, resume the investigation, in the hopes that further inquiries may tend to throw some light on the cause of the accident, and serve as an example for conducting the calculations in other cases of a similar nature.

It is not the mean pressure of the water that ought to be taken into account in estimating the strength of the containing vessel, for since that occurs at the centre of gravity of the surface pressed, it is not of sufficient intensity to be made a criterion for judging of the general strength within the limit of safety, the mean on the lower half of the depth being much greater than that on the upper half. Neither is it the body of water contained in the vessel that leads us to the determination of the strength, for by the very nature of fluidity, the pressure is the same whether it be propagated by a film of one inch in thickness, or by a mass of one mile, or one thousand miles in extent. This is manifest from the circumstance of the pressure on the upright surface being expressed in terms of the dimensions of that surface, without reference to a third dimension, which is the characteristic of solidity; the equation which represents the pressure on a rectangular surface, involving only the length and breadth of that surface, which in the present instance we shall call the length and depth, because the one is horizontal and the other vertical.

* Who designed the Custom House. His son is an engraver on wood, whose works are well known to the readers of this journal.

† An engraving of St. Nicholas's church and a descriptive account of the structure, will be found in the first volume of The Builder, p. 231.

‡ See p. 16, *ante*.

The equation for pressure on an upright rectangular surface, when expressed in a specific form, is as follows, viz.:—

$$pressure = \tfrac{1}{2}\ length \times depth \times depth \ldots . (A)$$

This equation represents the pressure when expressed in cubic feet of the fluid, and since one cubic foot of water weighs 62½ lbs., the pressure in pounds becomes

$$pressure = 31{\cdot}25\ length \times depth \times depth \ldots . (B)$$

But in large surfaces where the pressure is very great, it is often more convenient to have its magnitude expressed in tons, and for this purpose the specific equation is

$$pressure = 0{\cdot}01395\ length \times depth \times depth \ldots (C)$$

If we assume the 36th foot along the side of the vessel; that is, the middle foot of the length, or 35 feet from each end, and estimate the pressure on each foot of depth considered separately, the variation of pressure from the top to the bottom of the vessel will thereby become manifest. Any one foot along the length would answer equally as well, but we have chosen the middle one as being that which includes the centres of magnitude and gravity of the surface, and likewise another point of very great importance which we will presently have occasion to consider.

The following tablet exhibits the pressure in cubic feet of water, and in pounds avoirdupois, for every foot of descent throughout the depth of the vessel; the same pressures being uniform on each equal portion of the upright surface.

TABLE OF PRESSURES.

Depth.	Cubic feet.	Pounds.
1	0·5	31·25
2	1·5	93·75
3	2·5	156·25
4	3·5	218·75
5	4·5	281·25
6	5·5	343·75
7	6·5	406·25
8	7·5	468·75
9	8·5	531·25
10	9·5	593·75
11	10·5	656·25
12	11·5	718·75
13	12·5	781·25
14	13·5	843·75
15	14·5	906·25
16	15·5	968·75
17	16·5	1031·25
18	17·5	1093·75
19	18·5	1156·25
20	19·5	1218·75

And if all the numbers in the second and third columns be summed up, we shall have 200 cubic feet, and 12,500 lbs. for the pressures on 20 feet in depth, and 1 foot in length of the surface of the vessel; being the same numbers as would arise by the application of the equations (A) and (B).

If we take the arithmetical means between the tabular numbers corresponding to the 10th and 11th feet in depth, we will find them to be 10 and 625 respectively; that is, the pressure on that foot of surface in the order of descent which is made up of the lower half of the 10th foot and the upper half of the 11th, is equivalent to the weight of 10 cubic feet of water, or 625 lbs. But if we take the means of the uppermost ten numbers, and also those of the lowermost, we shall find them to be 5; 312·5, and 15; 937.5; that is 5 cubic feet of water and 312·5 lbs., the means of the uppermost division, and 15 cubic feet of water and 937·5 lbs., the means of the lowermost; the means of both being 10 cubic feet of water, and 625 lbs, the same as before.

Let this suffice for the mode of reasoning for the pressure to be sustained; and next, for that pressure which is to be taken as a guide to the determination of the strength necessary to resist the accumulated pressure of the water.

We have seen that the mean pressure on a square foot of surface, at one-fourth, one-half, and three-fourths of the depth, are 312·5; 625, and 937·5 lbs., respectively; but it is obvious that neither of these can be taken as the mean from which to calculate the equivalent resistance; there is, however, a point where such a mean exists, and this point has by the writers on mechanics been denominated

THE CENTRE OF PRESSURE.

The *centre of pressure*, upon any plane surface, is that point in the plane to which if the total pressure were applied, its effect upon the plane would be precisely the same as when it is distributed unequally over the whole surface according to the natural laws of fluid pressure; or it is that point in the plane into which we may conceive the whole pressure to be accumulated; or it is that point to which, if a force be applied of equal intensity as the total pressure, but acting in a contrary direction, that force would exactly balance or sustain the pressure. From these definitions of the centre of pressure, it is evident, that a knowledge of its position, is of the utmost importance in every inquiry respecting fluid resistance.

The upright side of the tank at the Liverpool and Harrington water works would, if full, have been pressed with a force equivalent to 887500 lbs., and this force, as we have seen in the preceding table, is unequally distributed over the surface, the higher parts not being so much pressed as those that are at a greater depth, and consequently, the efforts of all the partial pressures may be conceived to be united in some particular point which is nearer to the bottom than the top of the vessel, and this is the point which we have termed the centre of pressure.

If, therefore, to this point, a force equivalent to 887500 lbs. be applied, it will have the same effect in straining the upright surface or side of the tank, as was exerted by the water when unequally distributed over it, not precisely indeed in the way of bulging out the parts, but in overturning it, supposing it to be moveable on hinges about the lower edge. And if to the point here referred to, we apply the same force of 887500 lbs. in a contrary direction to that of the pressure of the water, this force and the pressure of the water being equal and opposite, will destroy each others effects, and the side of the vessel will retain its upright position in the same manner as if it were not pressed at all.

It is foreign to our present purpose to give a rule for determining the position of the centre of pressure in all cases, or for surfaces of different forms; it would indeed be extremely difficult to do so, as a general investigation requires a higher order of mathematics than is recognized in the pages of The Builder, and would require more space than can be allowed in the present instance; there is, however, no occasion for entering into a general investigation of the subject, since the rule for the rectangular plane is simple and well known, and that is the case which directly applies to the form of surface now under consideration.

The writers on mechanics have shewn, that if any plane which is anyhow immersed in, or in contact with a non-elastic fluid, be produced till it intersects or coincides with the surface of the fluid, and if the line of common intersection of the two planes be considered as the axis of suspension; then the centre of oscillation or percussion of the plane, as it is supposed to revolve about that axis, will be in the same point of the plane as the centre of pressure sought. For let a straight line bisect the surface of the plane vertically; then, if the percussive forces of every point of that line be as the pressures exerted on those points, it follows that the centre of percussion must be the same as the centre of pressure; for the percussive force of any point in the above-said line, is as the velocity of that point, and the velocity is as the distance from the axis of suspension; consequently, since the percussive forces of the several points in the line are as their respective distances from the axis of motion, and since these lines are respectively perpendicular to the surface of the water, and therefore measure the pressures on the several points of the vertical line, it follows that the percussive forces are as the pressures on the several points, and for this reason the centre of percussion or oscillation is the same as the centre of pressure.

Now, it is a well known fact in the doctrine of mechanics, that the centre of percussion in a rectangular plane, having its upper side for the axis of suspension, is in the straight line which bisects the plane perpendicularly, and distant from the axis by two-thirds of the bisecting line.

If, therefore, we conceive the upright side of the tank to be the plane in question, its upper edge, when full of water, will be the axis of suspension, and the position of the centre of pressure will be in the vertical bisecting line at two-thirds of the depth of the vessel; then, a straight line drawn through this point parellel to the horizon, and ranging

from end to end of the tank, is what we think proper to denominate the *line of equivalent resistance*, because a force equivalent to the unequal pressure on the surface, if equally distributed along that line, and acting in an opposite direction, will exactly balance the aggregate pressure on the plane. It is along this line, therefore, that the transverse tie-bars should be arranged, to counteract the pressure of the water on the upright side of the cistern.

The tank being 20 feet deep, the centre of pressure is in the vertical line which bisects its side, 13⅓ feet distant from the top, and 6⅔ feet distant from the bottom; and the pressure at this depth is 833⅓ lbs. per square foot, or 5·787 lbs. per square inch; this, therefore, is to be considered as the mean force which has to be opposed or resisted by the strength of the material, and not the mean as referred to the centre of gravity of the plane.

The total pressure on the upright side of the vessel is 887500 lbs., or 396 tons, omitting the fraction; and if we suppose this pressure to be resisted by four equal cylindrical bars of malleable iron, acting transversely at equal intervals along the line of equivalent resistance, each of these bars will have to resist 99 tons of pressure, on the supposition that the vessel is full of water, and that the plane of resistance is free to revolve, as it were, on hinges at the bottom.

Now, it has been proved by experiment, that a bar of malleable iron of good quality, one inch square, when drawn in the direction of its length, will bear a strain of 30 tons before it gives way; but in order to ensure safety, and keep the strain within the elastic power of the material, it is usual in practice to allow only one-third of that force, or 10 tons to the square inch; consequently, the diameter of a round bar, to resist a strain of 99 tons under this limit, must be 3·55 inches, for we have—

$$diameter = \sqrt{\frac{99}{\cdot 7854 \times 10}} = 3\cdot 55 \text{ inches.}$$

Hence it appears, that four bars of 3·55 inches diameter each, placed transversely at equal intervals of 14·2 feet along the line of equivalent resistance (the first and last being also 14·2 feet from the ends of the tank), will resist the whole pressure of the water on the upright side of the vessel.

This, however, supposes that the plane of resistance is free, and that no support is obtained from the connection of the sides and ends, or by any other braces or ties whatever. Now this is a condition which does not in reality exist, for a very powerful support is obtained by means of these fastenings, even to the extent of two-thirds of the whole; if, therefore, we allow two-thirds on this account, there will still remain 33 tons to be supported by each of the transverse bars, reckoning them only four in number, acting in the line of equivalent resistance. This would indeed be the best place to apply them, provided the upper part of the resisting surface was perfectly rigid, and incapable of yielding to the pressure of the water; but since this is not the case, it would be better to have a greater number of transverse bars, say twelve in all, as in the actual construction of the Liverpool tank, placing the other eight in two similar and parallel rows, nearer to the top of the vessel, or at equal intervals between the top and the line of equivalent resistance. The diameters of these bars should be diminished as they ascend, in proportion to the pressure they have to resist at the points of application, which is directly as the depth of these points below the upper surface of the water.

Dividing the 33 tons by 10, the section of the iron for three bars having the same strength conjointly as one that is capable of sustaining 33 tons, is 3·3 square inches, and the distances from the top of the vessel at which the several bars are to be fixed, are 13⅓, 8⅔, and 4⅔ feet respectively; therefore, by dividing the total area of section in these proportions, we have 1·65 square inches for the section of the lower bars; 1·1 square inches for the section of the middle bars, and 0·55 of an inch for that of the top bars.

If the strain be equally distributed on tie bars of these dimensions, placed exactly in the positions that we have assigned to them, and the fastenings carefully attended to, we should have no doubt of the safety of a tank of the specified dimensions thus constructed, provided all the other braces and stays are equally well adjusted; but we would certainly prefer a greater number of bars, placed at shorter intervals, and diminished in size according to their increased number. This would have the effect of shortening the leverage, and preventing the unsupported portions of the plates from bulging out to a distance beyond the cohesive power of the metal.

A similar arrangement of bars would be required for supporting the ends of the vessel, but in consequence of the great length necessary to reach from end to end, it would be convenient to fix them obliquely to some appropriate projections in the bottom, the diameters being enlarged in proportion to the diminished strength arising from the obliquity.

We have no means of comparing the above sizes of the bars with those actually employed in the construction of the vessel, for it does not appear that the sizes were stated at the inquest, and other reports that have appeared in the newspapers are in general so vague and erroneous in respect of the dimensions, that no reliance can be placed in them. It is, however, our decided opinion that the accident arose more especially from bad arrangement, and imperfections in the fastenings and boltings of the ties, than from any deficiency in the actual strength; and we are led to this conclusion by attentively considering the evidence of Mr. Grantham, where he states, that the rupture occurred at about 28 feet from the south end of the vessel. Now this was immediately contiguous to the second vertical tier of bars, where we would have expected considerable stiffness to prevail; but the circumstance of the rupture occurring at that point, induces us to believe, that the bars slackened at that tier, thereby doubling the leverage on the plates between the first and third tiers, and admitting the sides to bulge out beyond the limits of the cohesive power of the material.

There can be no doubt that the cast-iron plates were of sufficient strength to resist all the pressure to which they were likely to be subjected, provided they had been properly tied to break the immense leverage of 71 feet; we cannot say that we much approve of the variation of thickness in the panelling, but even admitting this to a small extent, there was still sufficient strength in the plates to resist the pressure with proper stays.

We reason on this point from the comparison of a cylindrical vessel of equal sectional area, for in this case, an inch of thickness in the metal, would be safe under a pressure of 101 pounds to the square inch, and certainly a rectangular vessel of similar thickness at the point of equivalent strain, would be safe under a pressure of only 5·787 pounds.

The theorem for calculating the amount of pressure, or lateral strain on one inch of a cylindrical vessel, is

*pressure = thickness × cohesion ÷ radius + thickness.**

And applying this to the case before us, we get—

$$radius = \tfrac{1}{2}\sqrt{\frac{24.5 \times 20}{\cdot 7854}} = 12\cdot 49 \text{ feet;}$$

and taking the thickness at one inch, it is—

$$pressure = \frac{1 \times 15300}{149\cdot 88 + 1} = 101\cdot 3 \text{ lbs. } \textit{per square inch of cylindrical surface.}$$

We now conclude our remarks by observing, that far greater safety would have been ensured by dividing the vessel transversely into several compartments, by means of plates similar to those in the sides and ends, this would have rendered the whole structure much more rigid, and given firmer bindings to the sides; the supply pipe could easily have been so arranged as to fill all the compartments simultaneously, or they might have been left to fill one from another by means of hydrostatic pressure, the water being urged through orifices left for the purpose.

We do not pretend to say, that the remarks which we have thrown out are strictly in accordance with the practice of the engineers, nor do we warrant the correctness of the conclusions which we have drawn, they are such as occurred to us from the information that we possessed, and they may be useful in guiding practical men in similar cases. T.

* This rule may be seen in Turnbull's "Theory of the Hydro-mechanical Press," published by Taylor in 1831. Or the "Mechanics of Fluids for Practical Men," published under the name of Alexander Jameson, LL.D.; but which, in reality, is the production of the individual just named.

INSTITUTE OF BRITISH ARCHITECTS.

An ordinary general meeting was held on Monday, the 12th instant; Mr. Kendall, vice-president, in the chair. The following letter, dated Athens, and addressed to Professor Donaldson, was read:—

"My dear Sir,—When I saw you last in England, I gave you the promise of a letter from Athens, and I attempt now to fulfil it.

The Acropolis, with its glorious remains of architecture and sculpture, is the only interesting theme here; and, to architects, the Temple of Art, where all must worship.

The Archæological Society here have done several interesting works since I first visited Greece. The rubbish which encumbered the portico of the Erectheium in the shape of a powder magazine, has been cleared away, and that beautiful doorway, which I recollect as given in your work on "Doorways," is exposed to view. It is much mutilated, I am sorry to say; but that which is left perfect, shews the same unrivalled delicacy of workmanship which is visible throughout the whole of the details of the Temple.

On the south-side of the Parthenon, the society have been clearing away the fallen fragments, and in doing so, have shewn the foundation wall to the depth of about ten feet. In the course of this work, two pieces of sculpture, forming part of the sacred procession, which was round the cella, were turned up; a slight sketch of them, which I lithographed, I have inclosed to you. A considerable part of the wall of the cella has been rebuilt, and most of the fragments in the interior of the Temple have been removed. The interior now offers greater facilities for speculative, or rather, I should say, conclusive imaginings on its decoration. There are evident traces of Doric columns, with marks of their flutings, &c., visible on the floor of the interior. The diameter of these columns has been 3 feet 7½ inches; and on both sides it is clear there have been nine, counting from the east end, at which there is the remnant of a pilaster, the breadth of the diameter of the columns. The other parts of the interior cannot be determined in the same decided traceable way, therefore I will refrain from giving you any conjectures which may be erroneous.

The Temple of Victory has also had the attention of the society, and it is now restored, as far as possible, with the sculptured frieze, &c.

At present, the labours of the society are directed to clearing away the rubbish on the north side of the Propylæa.

In different parts of the Acropolis several remains of walls, &c., have been discovered, probably of earlier temples. A correct survey of the Acropolis, I have often thought, would be very interesting to architects and archæologists in England, with all their particulars of walls and spots marked on it; and as I am here, I should be very glad to undertake a work of that kind, if there were any likelihood of remuneration.—I am, yours faithfully,

George Knowles."

Mr. Britton then read a very interesting paper "On the design, construction, and architectural characteristics of the collegiate chapel at Roslyn, Scotland;" and illustrated it by a number of excellent drawings. Roslyn is a few miles south of Edinburgh; the celebrated chapel was founded, it is always asserted, by William de St. Clair, in the fifteenth century. A manuscript in Hay's collections, quoted by Mr. Britton, says:—

"He builded the church walls of Rosline, having rounds with fair chambers and galleries thereon. He builded also the forework that looks to the north-east. He builded the bridge under the castle, and sundrie office houses. In the south-east side thereof, over against the chapell wall, he made plaine the rock on which the castle is builded, for the more strength thereof, and he planted a very fair orchard. But his age creeping on him made him consider how he had spent his time past, and how to spend that which was to come. Therefore, to the end he might not seem altogether unthankfull to God, for the beneficies receaved from him, it came in his minde to build a house for God's service of most curious work, the which, that it might be done with greater glory and splendor, he caused artificers to be brought from other regions and forraigne kingdomes, and causd

dayly to be abundance of all kinde of workemen present, as masons, carpenters, smiths, borrowmen and quarriers, with others. The foundation of this rare worke he caused to be laid in the year of our Lord, 1446; and to the end the worke might be more rare, first he caused the draughts (or designs) to be drawn upon Eastland boards, and made the carpenters to carve them according to the draughts thereon, and then gave them for patterns to the masons, that they might thereby cut the like in stone. Because he thought the masones had not a convenient place to lodge in, near the place where he builded this curious colledge (for the town then stood half a mile from the place where it now stands, to wit, at Bilsdone burne), therfore he made them build the towne of Rosline, that is now extant, and gave every one of them a house and lands answerable therunto. So that this towne, all that time, by reason of the great concourse of people that had recourse unto the prince (for it is remembered of him that he entertaind all his tenants that were any way impoverishd and made serve all the poore that came to his gates, so that he spent yearly upon such as came to beg att his gates 120 quarters of meale), became very populous, and had in it abundance of victuals, so that it was thought to be the chiefest towne in all Lothian, except Edinburg and Hadentone. He rewarded the masons according to their degree. As to the master masone he gave 40*l.* yearly, and to every one of the rest he gave 10*l.*, and accordingly did he reward the others, as the smith and carpenters, with others."

After tracing the history of the building, Mr. Britton described its several parts, and pointed out peculiarities apparent, such as the singular character of the details, the varieties of arches, the crypt-like chamber connected with it at the east end, &c. A story was current, chiefly spread by Sir Walter Scott, that ten barons of the family were buried in the chapel or the crypt, but Mr. Burn had disproved it by excavating.

Mr. Burn said, that having had the opportunity to investigate the chapel, he had caused an excavation, three feet wide, to be made from one end of the chapel to the other in the centre, and another in each aisle, all of them down to the foundation; others also in the crypt, but nothing was found.

Mr. Fowler suggested (and the terms of the tradition bear him out) that the coffins were placed in the crypt above ground, and were carried off when the chapel was desecrated.

Mr. Donaldson was anxious to hear the style of the building accounted for. With extraordinary richness of detail there was great want of purity. In England, there was no Gothic building whereof the details were impure.

Mr. Godwin said it was difficult to account for the debased character of the details, without ascribing the building to a more recent date than that always given to it.

Mr. Billings mentioned, that a series of figures, similar to the "Dance of Death," had been recently discovered on one of the flat arches in the aisles.

Thanks having been voted to Mr. Britton, the meeting was adjourned. We are glad to be able to state, that the candidates for the medals of the institute are numerous.

ST. MARK'S CHURCH, COLNEY HEATH,

NEAR ST. ALBAN'S.

This neat little edifice, built from the designs of Mr. Hugh Smith, of Bedford-row, was consecrated on the 30th ult., by his lordship, the Bishop of London. It is Norman in style, a parallelogram in plan, without aisles, and has a semi-circular absis at the east end, and a small bell tower on the north side at the west end. There is a gallery at this same end of the church, which is approached by an external Norman staircase, similar to that in the mint yard at Canterbury.

The length of the church between the walls is about 53 feet, exclusive of the absis; the width about 28 feet, and the height, from the pavement to the ridge (the roof being open), about 38 feet. There are sittings for 356 persons. The materials used externally are Cowley white bricks and Bath stone, and the cost was 1,300*l.* The works were executed, very satisfactorily, by Mr. W. Barnett, builder, of St. Alban's.

FREEMASONS OF THE CHURCH.

ECCLESIASTICAL DESIGN.

Jan. 13.—Mr. G. R. French, architect, in the chair. The Rev. J. B. Murray, M.A., rector of St. Dunstan in the East, communicated some account of the church of St. Dunstan in the East. Mr. J. W. Archer exhibited a fine collection of rubbings from ancient monumental brasses, and archæological sketches in water colours, many of them of considerable interest. Mr. Long exhibited an amulet representing the seven sleepers, and mentioned by Prudentius; it was brought from Milan. Also two terra-cotta lamps from the catacombs in Rome, one pagan, bearing a head probably of an Indian Bacchus, the other Christian, and having the sacred monogram on the top. Mr. G. Isaacs exhibited a Roman Christian lamp of bronze, having a Latin cross on the end. Mr. Coke Smythe exhibited three full-length portraits in water colours. Mr. Charles Foster, architect, exhibited eleven sculptures, discovered at the back of an Elizabethan chimney-piece in the old Queen's Head, Islington, while rebuilding it. Mr. Henry Stothard exhibited an original unfinished design for St. Peter's, at Rome; also an original bronze medal of Pope Clement XII., portrayed on the obverse in his pontifical robes, in bold relief, and on the reverse is an interior view of a Roman basilica. Mr. Stothard directed the attention of the students to two Elizabethan staircases, one at No. 4, Middle Row-place, Middle-row, Holborn, and No. 7, Charterhouse-square, formerly a large house, but now divided into four houses. Mr. Jarman presented to the society a beautiful volume entitled "Voyage Pittoresque en Bourgoyne," a work illustrated with engravings of antiquities at Dijon, &c., very rare in England. Also, a bust of William of Wykeham, from the Strawberry Hill collection. Mr. W. H. Rogers exhibited drawings of various ancient unpublished encaustic tiles, from St. Saviour's church, Southwark, Fotheringay castle, the mansion of Sir Francis Bacon, &c.; many from the collection of Mr. Price. Mr. W. G. Rogers exhibited a fine carved boxwood boy, by M. Shee, 1739.

A lecture was then delivered by Mr. G. R. Lewis on Ecclesiastical Design. He commenced by stating, that, "of the whole range of intellectual art, ecclesiastical design claims pre-eminence; because a Christian temple, being the most sublime object that the human mind can have for its exercise, none, therefore, but the highly gifted could expect to succeed in producing a temple for the worship of Almighty God. He considered that church art demanded the highest state of culture in all the mental faculties subservient to arts, in order to illustrate artistically by sculptured forms, and architectural divisions and arrangements, the spirit of the Law and Gospel. To substantiate which, he referred to the design of the Tabernacle, which was given by God himself to Moses, who gave to Aholiab and Bezaleel the spirit of wisdom and understanding to enable them to execute the work. He then called attention to the duties of the heads of education, that they should no longer slumber at their posts, but apply their mental powers towards forming a system of instruction for legitimately exercising these neglected intellectual powers of the human mind. To produce works of high art, the mind must be trained correctly—that is, each faculty must be exercised according to its nature, in order to execute truly the impressions which the works of creation were intended to make; our artificial systems of education must be remodelled upon a natural foundation, if we desire to see the human mind fitted to produce higher art. He enforced the necessity of making a house of prayer appear what it is, and not like many of the productions of the last century, in which are copied Egyptian, Greek, Latin, and Roman Catholic art, which is applied to inconsistent purposes in the structure of Protestant churches. The early Catholic designers did not produce their sublime edifices by slavishly copying the churches existing, but designed them expressly for their mode of worship, symbolizing the leading features of the Law and Gospel in sculptured forms and architectural divisions and arrangements, giving a speakable quality, in an artistic language, of forms and colours, that all Christians who approached her for spiritual prayer should become wise unto salvation. The cruciform foundation of their churches shews that they thoroughly understood their subject—symbolizing the crucified Saviour as the true support for all Christians while in the act of prayer. But this true principle in design did not last long; ill-judged after-thoughts were added, as fixed seats among the columns, screens, and rood-lofts across the arches, chapels round the crossing—mutilating the cross, and shutting out from view the most holy part of the church, disfiguring the entrance arch into the choir, as well as all the columns of the nave. There are Catholic errors in design. But we Protestants do all that the Catholics do (with the exception of the chapels) and much more, for we patch up galleries, mutilate the windows, the arches, the columns, and often place the pulpit and desks in such parts of the church that will not convey the voice of the preacher effectually, and therefore much of the sermon is lost. New additions to old foundations create great confusion, expose our ignorance in design, and offer bad examples for imitation, the cure of which can only be expected by a due cultivation of the faculties for the arts.

The cathedrals and smaller churches shew the Catholics to have been great ecclesiastical designers, and that they designed their edifices upon the principles that Moses gave for the same purpose, and which we find in Exodus, c. 24, v. 4, "and builded an altar under the hill, and twelve pillars, according to the twelve tribes of Israel;" a principle of symbolism on which ecclesiastical design should be based, and which the Catholic designers of the middle ages thoroughly understood, being as great artists as they were deep in religious feeling—Wells cathedral to wit, and which contains an immense mass of historical sculpture of great talent, exhibiting an inexhaustible fund of invention, composition, and design, the architecture being as full of beauty and sublimity, and the religious feeling as deeply impressed in its forms, divisions, and arrangements, as the historical compositions of sculpture. In fact, their church walls were sermons, made so by the designer to remind his flock of the truths of holy writ. Such designers were not in fear of little or no encouragement, or of enduring privations while their specimen productions were subjected to an unartistic, an unintellectual and trading ordeal. They produced their works for the edification and salvation of mankind, and not for approval or rejection. They made no appeal to the public on the score of merit, but took their stand on the immoveable foundation of God's holy word, and concentrated the whole of their mental power in its illustration."

Mr. Lewis then entered upon the interpretations of the sculptured forms, and architectural divisions and arrangements of Kilpeck church, Herefordshire, a small church, but of extraordinary character, and which he has illustrated and published with explanations and interpretations, shewing the principles of ecclesiastical design. He regretted that in published architectural works design was passed over, and an enumeration of the different parts was considered sufficient information for those wishing to obtain it. "We cannot suppose that the ancient designers would inform the public that they had erected a church in their own or the *Gothic style*, with so many windows, buttresses, doors, cornices, arches, mouldings, &c. We might as well suppose that Raphael would have said that he had produced a cartoon of Christ giving the keys to Peter, made up in the following manner:—Christ, with the sheep on one side and the Apostles on the other; Peter kneeling, the others standing; the country and river in the distance. Such a catalogue of the parts which make up the picture would afford but a little insight into the profound thought, clear perception, deep discrimination, lofty imagination, surprising invention, sublime conception, powerful and harmonious colouring, true to nature in light and shadow, action and expression, shewing the soundest judgment in the excellent selections he made of the different persons, and other matters required for the subjects he painted. Then should follow the intellectual and religious qualities of the various beings his subject demands; after which a close examination of the consummate skill evinced in the benign and solemn expression of our Saviour while pointing to the flock and delivering his charge and keys to Peter, who is all obedience, accepting

in an attitude of deep veneration the charge with heartfelt love, while the rest of the apostles shew the varied and active workings of their religious and intellectual minds. Our early churches are works of religious art also, and require similar explanations. The many sublime compositions of sculpture are of too great interest to be passed over as mere ornamental fillings up of empty spaces in the architecture, forgetting that they are part and parcel of the soul of design, in which unity and harmony stamp them with the most profound originality, very different from our incongruous patch-works. A great mind would not employ himself on a religious subject with frivolities, but, on the contrary, would make every part of his work accord with his subject. He is not obliged to go back 3,000 years to hunt after heathen monstrosities, whims, and caprices for the adornment of Christian churches. He would not lower himself to such a degradation, nor would he offend his maker by such a perverted offering.

FOREIGN ARCHITECTURAL AND COLLATERAL INTELLIGENCE.

Prussian Expedition to Egypt—Professor Lepsius.— This important expedition, which has extended over a space of three years—and has merited for its chief (Prof. L.) the name of the German Champolion, is now brought to a close, and the materials for its publication are arranging at Berlin. From the city of tombs, near the Pyramids of Gizeh and Sakhara, up the high Nile-lands of Sennaar and Meroe, every spot which testifies in any way of the civilization of ancient Egypt, has been elucidated by some real discovery of antiquarian or architectural science, through that indefatigable and ingenious traveller. Witness thereof—the complete restoration of the pyramids, a theory of their erection, and the final examination and explanation of the adjacent tombs. At Fajum the Labyrinth has been discovered, and conjointly with Mr. Linnant, the exact position of the Lake of Möris been laid down. At Thebes, Mr. Lepsius caused exact and complete drawings of the Memnonium to be made, and another copy of the Rosetta stone has been discovered in Philæ—also, those remarkable inscriptions upon the heights of the Nile at *Semne*, have been brought to light, which will elucidate much of our geological and hydrographic knowledge on ancient Egypt. Above all that is to be placed, the systematic following up of Egyptian monuments from the shores of the Mediterranean to the second Nile delta, in a chronological order, and thereby the more exact determination of that most ancient and enigmatic Æthiopic (Negro!) state of civilization—and the ascertaining, how much and at what period it influenced that of Egypt, and what it received, reciprocally, therefrom. Those after all, only preliminary researches of Champolion and Rosselini, have only received now, by their German follower, a systematic scientific completion—and there is no doubt left, that the history of *Misraim* began five thousand years hence, and will undoubtedly, for ever, be the incipient point of profane history and our system of civilization. The language of monumental hieroglyphics—so important on account of the origin of language and the art of writing, will receive equal aid from Professor Lepsius's labours, whose philological acquirements are generally appreciated. Thus an undertaking has been completed, which reflects highly on the liberality of the King of Prussia, and his knowledge in the selection of able men for his purposes. The material results of this science and art-expedition, have been 1,200 drawings, consisting of elevations and plans of monuments, executed with great skill and perseverance by Messrs. Frey, Conradi, Erbkam, and Weidenbach, together with extensive art-collections, partly bought by Mr. Lepsius, or presented by the Viceroy to Frederic William IV. The professor has returned by Damiette to Syria, whence he went to Constantinople, accompanied by Dr. Bethmann, who had employed several months in Cairo, in the compilation of a comparative Calendary, which may throw some light on the chronology of this very ancient dwelling-place of man. Dr. B. has, moreover acquired very interesting data towards a comparison of Arabic and Gothic architecture, from which former, the latter may have sprung. Mr. Lepsius has not extended his researches to the Delta, where, however, the vast accumulation of Nile-alluvium strata and the periodical inundations make every research very difficult and expensive. It remains to expect, that some *upheaving* of the earth, may—sooner or later, bring this "scene to light."—*Preussische Allg. Zeitung.*

Rome.—"Mechanism" of art.—Pictures for the Campo Santo at Berlin.—Sculpture.—The Daguerreotype in the collections and museums of Italy.—A somewhat novel phenomenon has been observed of late in that metropolis of art, as great hosts throng around fine models either with or without costume; *typic* cartoons, if we may so call them—preparations for preparations of a future art-work—the picture. To whatever perfection of form (of the model), or even colorit such *mechanism* may arrive—yet it is to be taken into consideration, that *art*, being an outbursting of mind, will hardly ever avail any thing by such contrivances, which, are to be considered, in the best, merely as the *innocuous* pastime of the wealthy.—Two men, however, residing now at Rome—we mean Cornelius and Overbeck, smile, most probably, at such art-mechanism, and pursue their own mind-flight. The former has selected from his rich series of drawings for the Campo Santo at Berlin, one, which he has executed in a huge cartoon—viz. an allegory of the powers which distress and destroy mankind! The execution is that of juvenile freshness and spirit. Overbeck, on the other hand, has nearly completed an oil painting, destined for his native city, Lubeck—the Sepulture of Jesus Christ.—The Descent from the Cross by *Tenerani*, a *rellievo* made for the tomb of Prince Torlonia in the Lateran, is especially noticed. In him, the feeling for the *antique*, as exhibited in the true proportions of form, is blended with that warmth, resulting from religious sentiments. Next to him, the works of Wyatt and Gibson are much spoken of—and much promising are those of the Dane Jerichau and the Bohemian Max.—A very important vase has been, of late, dug up—being made in the fourth or fifth century of the Christian era, and shewing most strikingly the transition, or rather combination of Roman (heathen) and Christian art. It is made of black marble, and about four feet high. Acanthus leaves and other antique ornaments are to be seen—even two Satyr heads; while the upper part contains (underneath a gracefully bent rim) two basso-relievos, the Virgin with the child, and Christ on the throne, surrounded by his apostles. This interesting document of alloy of Roman-Christian art, has been deposited in the Collegio Romano, and will, most probably, be engraved in the work, which Professor Marchi is preparing on the catacombs, and old Christian art.—A German artist, of the name of Dr. Braun, has commenced to copy several ancient and modern plastic works by the means of galvanoplastic, and his trials have been most satisfactory. It cannot be doubted, that this method will be soon employed for multiplying the specimens of all the great European art-museums. It was stated also some time ago, that a German artist had discovered a mode of reproducing, by a *press*, oil-paintings of any size precisely similar in character. Lately, however, we have heard nothing of it.

Appenine Railway.—The preparatory works for this line are progressing very fast. On the side of the mountains the levels have been all completed, and it has been ascertained that the greatest rise will not exceed 3 per cent.—and consequently will have a similar slope to the line from Gloucester to Birmingham, and therefore can be worked by common engines. The tunnel, which at first was expected to be of a great length, will, according to present measurement, not be more than one mile long, like that from Siena to Leopolda. As the Tuscan government has lately authorized the construction of a line from Pistoja to Florence, the importance of the Appenine line will be much increased, as both will meet, and establish a direct communication between Bologna and Florence.—*Allg. Zeitung.*

How to force the Pope to allow Railways to pass his Dominions.—A plan has been mooted of late, in Italy, which might induce the holy father to forego his opposition against railway traffic. The papal dominions are encompassed on two sides by the Tuscan and Neapolitan territories, and on the other by the Adriatic and Mediterranean. Through the former railways are daily increasing, while the deep is furrowed by a number of steamboats. If some companies would unite, the railway lines could be extended to some points on the sea-coast, near the papal dominions, and their passengers and mails taken up by the steamers, and carried *around* H. H.'s territory into those of either Tuscany or Naples. If the holy father should find a falling off in his exchequer, he might give the subject a—second thought.

Munich Art-Collections.—The exquisite collection of terra-cotta figures, which had formerly belonged to the Swedish sculptor Fogelberg, at Rome, has been purchased by the King of Bavaria—in the first instance, as H. M.'s private property. These exquisite plastic figures have been publicly exhibited, and excited universal admiration.

Palace of Prince Calloredo, of Prague.—This huge structure, erected in the modern Italian style, and which is renowned for the number of its windows—365, equalling the days of one year, has been extended by the completion of one of its wings. The picture gallery of the prince has been transferred from Vienna, and placed in this new structure.

First Church of the New Reformers in Germany.—This is in the progress of erection at *Schneidemühl*, in the Duchy of Posen. The Reverend John Czerski has collected sufficient funds to make it an ornamented structure.

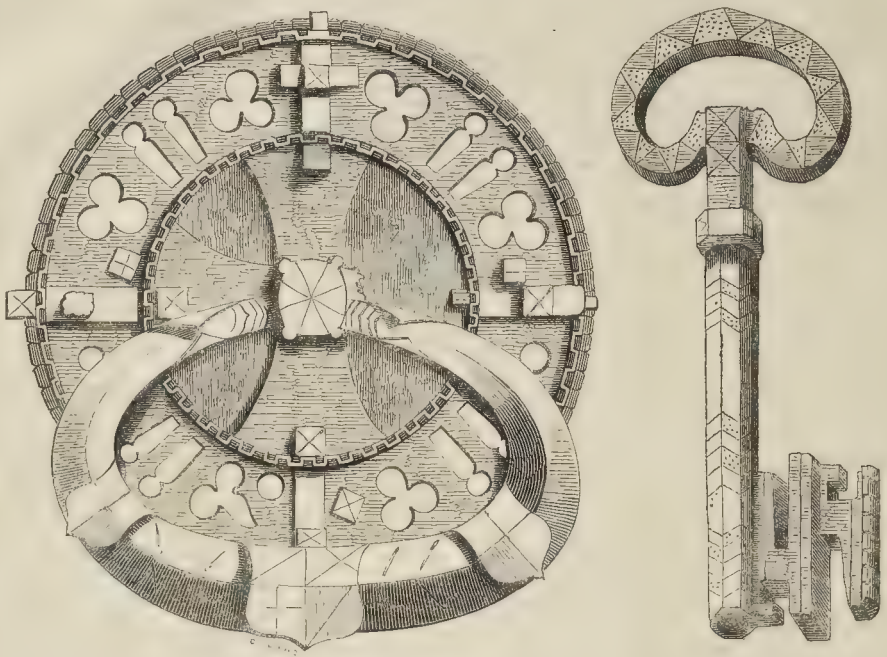
Proceedings of Academy of Sciences of Paris.—*Artesian Wells.*—The following facts will make the probability of supplying public baths with warm water from such wells, still more plausible. Hitherto it has been ascertained, that the temperature of such wells increases *one* degree at every *thirty* mètres depth. But Mr. *Mandelslohe* has sent the Academy a statement, that at *Neuffen* in Wurtemberg, a well, 385 mètres deep, exhibited the extraordinary high temperature of 38,7°—which is equivalent to an increase of one degree in every 10,5 mètres depth. It has been asserted, that the basalts, which are the formation contiguous to the locality of Neuffen, may contain more of the igneous eradiation of the interior of the globe.—*Preservation of Timber.* The late extensive railway operations have given this subject additional value, and drawn the attention of the Academy upon it. Several procedures have been submitted to that body. Mr. *Boucherie* has buried logs of different sorts (ash, beech, larch, &c.), for three years in the ground, when they were taken up, perfectly well preserved. Mr. B. uses pyrolignic acid, as an inferior degree of preservation, and for the complete process, sulphate of copper, pyrolignited chlorate of calcyum, or the proto chloryde of sodium and mercury. Messrs. Letellier, Smith, and Ste. Preuve, have proposed some other preparations.—*Steam Engines.* Mr. Regnault has laid before the Academy "a new theory, for exactly determining the law of tension of steam at different degrees of temperature." He modifies the axiom of Watt—that the quantity of caloric required for transforming a kilogram of water at 0 into steam is constant at every atmospheric pressure, generally assumed about 650. The experiments of Mr. R. prove, that this figure, which under the ordinary pressure is 607,7, augments constantly—from 622 under the pressure of one-fifth atmosphere, to 670, when the pressure is 15 atmospheres.—The steam pile-driver and hammers of Messrs. Merin and Schneider (analogous to that of Mr. Nasmyth), occupies also much of the time of the R. S. of Paris.

Academy at Algiers.—Mr. Salvandy, Minister of Public Instruction, has made extensive preliminary researches and arrangements for establishing in French Africa a royal *Académie*, similar to that of several of the large towns of France. The fine arts will, as a matter of course, have their adequate share in this establishment.

J. L——y.

ANCIENT PIGEON HOUSE.—Mr. M. A. Lower, describing the priory, at Lewes, in an excellent little hand-book for that interesting town, recently published by him, says, that the pigeon-house, which stood to the south-west of the existing ruins, and was taken down about forty years since, was in the form of a cross, and equalled in magnitude many a parish church; the pigeon-holes were 3,228 in number!

ANCIENT IRON WORK FROM DICKLEBURGH CHURCH.



ANCIENT IRON-WORK FROM DICKLEBURGH CHURCH, NORFOLK.

Sir,—The accompanying sketches represent of full size, the handle and key belonging to the vestry-door of the church of Dickleburgh, in Norfolk. The style of architecture throughout the whole church is perpendicular, and the door on which the handle is fixed is small, with a four-centred arch, in the north wall of the chancel, opposite the priest's door. They are very fair specimens of the art of the smith in those days, displaying an amount of decoration not often found on the iron-work of the doors of country churches. In former numbers of your journal the subject of "ancient iron-work" has been ably treated, and the inferiority of modern work, in point of ornament, clearly shewn. The introduction of cast-iron, doubtless, is the main cause of this decay of art; and, therefore, it is not the operative that is to be blamed for his inability to execute that kind of work which is seldom or never called for. In viewing our ancient churches and other Gothic edifices, we feel irresistibly impressed with the belief, that a very different feeling prevailed in the architectural and building world than exists in modern times; the same feeling of regard for the sacred pile they were erecting; the same careful wish to render work substantial and lasting; the same love of adorning even the most minute and unimportant parts of the structure, pervaded every man engaged, from the architect down to the humblest mechanic, and amongst these the blacksmith was not behind in upholding the character of his craft. Looking at our present specimens, the key in particular is very clumsily constructed, and there are, perhaps, very few modern workmen who could not make them *more neatly;* but it is the *patient attention* to *minute ornament* which they would lack. Edifices must now be reared for a certain sum of money and within a certain time. Massive strength or elaborate ornament can seldom be paid for, and thus all inducement being removed, the spirit is gone which actuated the blacksmith to adorn even a bolt or a latch, and the woodcarver to imprint on the oaken panel those grotesque and beautiful representations, many of which doubtless sprung up in *his own mind* as he proceeded with his work.

The disuse of decorative wrought-iron seems to have been gradual; and we find some ornamental specimens (such as casement fastenings, hinges, &c.) of a much later date than those above alluded to. The bolt and hinges to the door of a pew (in the nave of the same church, on the joinery of which is cut the date 1631) are more in keeping with the building than the wretched 'H joints' and 'flat bolts' we often now see used.

Dickleburgh. † †

*** We have in preparation engravings at large, of some beautifully worked ancient locks.

NORWICH: ENTRANCE GATEHOUSES TO THE PALACE AND CATHEDRAL PRECINCTS.

The city of Norwich presents many architectural objects and features of a singular, picturesque, and interesting nature. Its fine Anglo-Norman castle, with vast foss, ramparts, and ballia; the fortified walls with numerous bastion towers, and entrance gatehouses, with machicolated and embattled gatehouses, are so many evidences of the former military character of the place, as well as of the fearful and precarious state of the inhabitants, whose healths and homes were subject to the marauding and murdering invasions of foreign and domestic foes. The bishop's palace within the city, was still further guarded and defended by lofty embattled walls, and only approached through large and formidable gatehouses, which could be guarded and barricaded at every approach of an enemy. Such objects, as well as the historical annals of the city, shew the lamentable condition in which its denizens were often placed. In Britton's "History, &c., of Norwich Cathedral" are recorded many instances of invasions and conflicts, in which the citizens were engaged, not merely in resisting foreign aggression, but in outbreaks and contests with each other, and particularly between the laity and the clergy. Hence, we account for the strength and height of the walls which inclosed the palace and cathedral buildings, and hence the origin and meaning of those large and formidable gatehouses, which were built in different parts of the walls. Three of these still remain to indicate, though not fully illustrate, the nature and peculiarities of those buildings. Two of them are shewn and described in the work already referred to; whilst one, called "the Eppingham Gate," is represented and noticed in the same author's "*Picturesque Antiquities of English Cities.*" The *Palace*, or *Bishop's Gate-house*, partly represented in our last number, is also delineated in the same beautiful volume, from which we borrow the following account:—

"On the north side of the palace gardens is one of its entrances. It was raised by Bishop Alnwich about the year 1430, who either built the whole, or the greater part of the west front of the cathedral. As originally executed, this gatehouse must have been a fine specimen of architecture; but it has suffered much by neglect and by injudicious repairs. The arch, with its spandrils filled with tracery and blank shields, is a good specimen of design. The latter are said to have been inserted by Bishop Lyhart, who succeeded Alnwich. The spandrils of the principal archway are ornamented with rich tracery mouldings, inclosing blank shields, which were intended to bear the builder's arms, as that of Ly-hart (a hart or deer *couchant*), is carved in several shields on the small or lateral door. Over the arches is a very elaborate frieze of panelled compartments, inclosing shields which are alternately blank, and charged with the letter M. crowned; above this is a canopied niche, containing a seated statue crowned, implying a monarch. The angles of the building have square, flat buttresses, composed of stone quoins and flints. One of these buttresses is finished with a seated figure on a pinnacle. In the room over the gateway is a fire-place."

OLD STABLE BY INIGO JONES,

AT BRYMPTON MANOR-HOUSE, SOMERSETSHIRE.

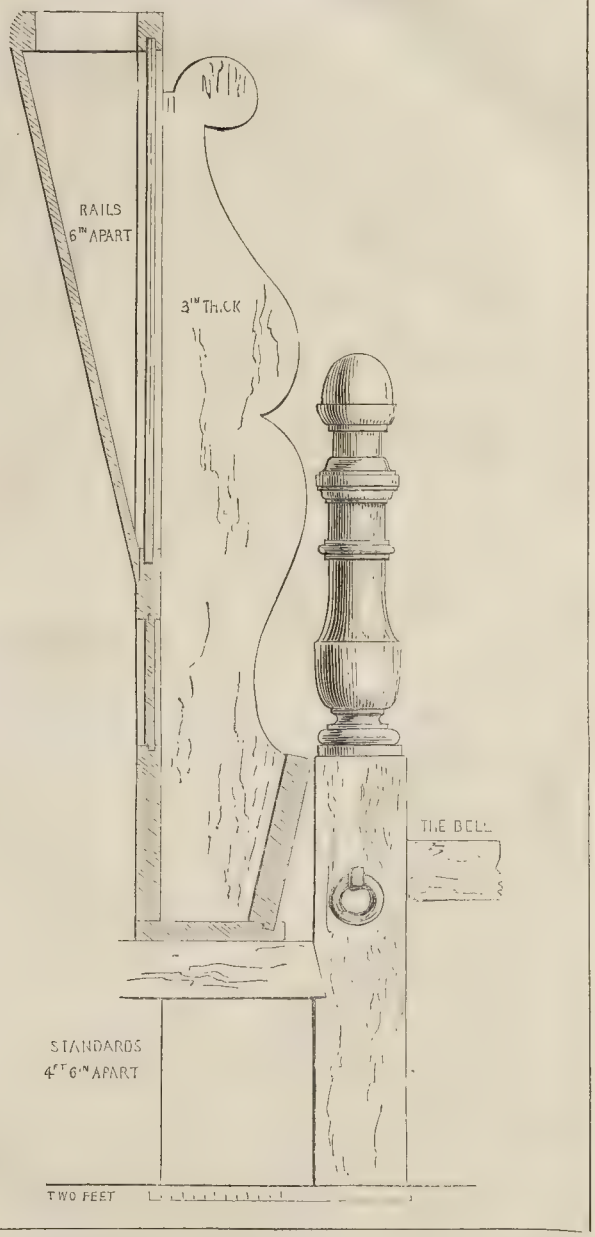
At a short distance from Yeovil, is the old manor-house of Brympton. This ancient building, which is of great interest to the architect, is of two periods, that of Henry VII. and Charles II.; that belonging to the latter is said to be the work of the celebrated Inigo Jones; and if not executed by him, there is little doubt that it was carried out from his designs by one of his pupils.

Immediately adjoining the manor-house, on the right, forming indeed one side of the quadrangle in front of the building, is the ancient Gothic chapel, which possesses a very good ornamented old timber roof. Inigo converted this venerable building into a stable.

It is now used as a place for lumber. The stalls for the horses remain, and as they are curious, I was induced to make a sketch of them, especially as no example of old stabling has yet appeared, even in your valuable paper, or in any other illustrated publication.

Horace Walpole in his account of the life of Inigo Jones states, that the front of Brympton, formerly the mansion of Sir Philip Sydenham, was erected from his designs, and if there is any reliance to be placed upon tradition, this is likely to be correct, as the garden front of Brympton, and the garden front of Hinton St. George, in the same county, are celebrated throughout Somersetshire as the works of that great architect. C.

OLD STABLE BY INIGO JONES.



THE ART-UNION CARTOONS.

Sir,—In your 152nd number, you favoured the artists with the report of a committee of the Institute of the Fine Arts, for which all those who are interested in competitions are under an obligation to you, not that the conclusions of that report are completely warranted, at least, so far as appears upon the face of it. The artists may be deserving of the censure passed upon them, and certainly as judges, whether at Bermondsey or Westminster Hall, they have given no satisfaction. But I would suggest a course which would go far to prevent the evils contemplated by the report. *No secrecy* should be allowed at all; it is a screen to the base and dishonest; it becomes an excuse to the timid for flinching from their duties; whilst it only impairs the utility of the exertions of the honest and fearless.

All the competitors should be required to record in a book, to be kept in the exhibition room, open to public view, his opinions of any or all of the works, *except* his own, together with his reasons, if possible, for such opinions, *attaching his name and address.* This should be done within a limited portion of the time of the exhibition,—say the first fortnight,—or he should forfeit his right of competition. The opinions thus recorded should be open to the public for a further time; and I would have another book in which any amateur should be at liberty to insert his opinion of any or all of the works, on the same condition of attaching his or her name and address.

These opinions will be estimated according to the value of the names respectively attached, or according to the reasoning in support of them; and guided, but not governed by these opinions, the parties who give the money should decide for themselves. It might be desirable to have two or three estimations by the competitors, but the details of the plan must depend upon the number and class of the works sent in.

The competition in cartoons for the Art-Union picture, to the exhibition of which your last numbers alluded, is, as therein stated, regarded with great interest by all who are watching the progress of the arts of this country, and especially by those who are practising them. It is the first step taken by the Art-Union in the right direction, for encouraging the higher class of art; but, notwithstanding the committee have had the courage to throw open the exhibition to the criticism of their subscribers and the public before decision, they will be guided to the selection of a piece of clap-trap and picture-making, instead of the "work of mind" they have asked for, unless they adopt some such method as I have suggested above, of obtaining opinions of competent men, *guaranteed* by their reputation as artists. For example, we find all the press running in favour of "Philippa interceding for the Lives of the Burgesses of Calais;" and yet in this cartoon, the *whole character* of the subject is lost in the *mob:* to this cartoon, as well as that opposite "The Entry of the Boy-king, Henry the Sixth," would be justly applied the criticism, "I cannot see your subject for your figures." Indeed, if it were not for the keys which form such prominent objects, I doubt if any person could discover the subject. The anger of the king,—the heroism of the burgesses, and the *consequent* benevolence of the queen—where are they? Is that miserable creature on his knees the noble-minded Eustace St. Pierre? Would not the infuriated king, when appealed to for mercy, have turned to the object who was interposing between him and his victims, instead of looking up into the skies star-gazing, or as if he were calculating whether 2 and 2 made 4 or 5? for that is his *expression* in the cartoon. Would the wives and families of these burgesses have been allowed to crowd thus indecently into the presence? Froissart tells us "Sir John de Vienne conducted them to the gates, and *the six* were admitted within the barriers to the presence of Edward; and we hear that on a previous occasion, about 500 useless mouths having been turned out of Calais, were refused passage, and perished miserably between the barriers and the town. Under these circumstances, is it possible to suppose that this riotous rabble would have

been allowed to press even *on* to the steps *of the throne?* And do not all these additions weaken the action of the queen? Will the king give way? and if he do so, will it be to the queen, the woman on the other side, or the man who holds the *bag of gold?* It is impossible to discover this from the cartoon. It has been rumoured that this cartoon is by Mr. Maclise, and certainly some of the features of his Spirit of Chivalry have been attempted, together with every fault of arrangement and execution to be found therein; but it is the grossest insult to that distinguished draughtsman to suppose that he would have allowed even an assistant in his studio to turn out such a work. It has been stated that every head in it is a study, though scarcely one is carried further than a *shaded outline*; all the eyes cast in the same mould, like Mr. Cope's jurymen, and the knight, copied from Maclise, has no room for brains at all. Philippa, who was a very fine woman, is *crushed* into a vulgar ugly lump; and the antiquarian detail is by no means accurate, though in some instances carefully wrought. There is a subject of similar nature, though placed too high to be seen properly, "The intercession of Katherine of Arragon for the Apprentices on Ill May-day," which is, in every respect, is treated in a very superior manner. The king is there in *deliberation on what the queen is requesting him to do;* the object of that request is indicated by the scene outside, to which one of the other queens is pointing; and I have no hesitation in staking my reputation as an artist, that every head in the cartoon, as well as the figures in general, are far better drawn, more carefully studied, and more complete, than the favoured cartoon I have felt it my duty to criticise; and it answers much more fully than either Philippa or the Boy King to the requisition of the committee for "a work of mind." I have only particularized this cartoon, from its being a subject of similar nature to the Philippa; I should trespass too much on your space if I were at present to notice others which also stand far higher than the favoured cartoon.

Trusting that, in aid of the professed desire of the Art-Union to encourage a higher class of art than flashy mediocrity, you will give publicity to these remarks, I subscribe myself,

Yours, &c., FRANK HOWARD.

*** The committee of the Art-Union of London have shewn their desire to elicit the opinion of artists and the public on the competition cartoons, by exhibiting them before awarding the prize, and as Mr. Howard has affixed his name to the above criticism, we insert it for their information, although (as we need hardly say to those who read our remarks last week), we hold a very different opinion.

The committee will decide on Tuesday next, after which we may have some remarks to offer.

MODERN ARCHITECTS OF SPAIN.

DON Domingo Gomez de la Fuente, of Madrid, architect of the Spanish ambassador in London, the Duke of Sottomajor, has recently visited London, in order to examine some of the principal constructions in this capital. Some of the leading Spanish architects in Madrid are, Don Narciso Pascual de Colomel, architect to the queen, and professor of construction at the Academy of Madrid; Don Anibal Alvares, professor of theory, and Don Antonio de Zavaleta, professor of architectural jurisprudence; Don Custodio Moreno, and Don Juan Miguel Inclar, are men of reputation, of advanced years, and now retired from practice. The Spanish school is divided into two sections; the senior generally maintaining their adherence to the styles of the classic periods, the younger architects, following the "movement" now prevailing throughout the European schools, introducing into their works the "*heresies*" of other periods where they find either Gothic or Moorish, or any other style adapted to produce effect or subserve to convenience. The Spaniards are still very unskilful in their mode of construction. The external walls alone are of solid brick and stone-work; all party and division walls being mere wood partitions, consisting of die square upright posts, filled in with studs. The joists are of square timber also, their distance apart being equal to their width, resembling the floors of our old Gothic houses.

THE BRITISH ARCHÆOLOGICAL ASSOCIATION.

THE general meeting, held on Wednesday evening last, was very numerously attended, and was productive of great interest. The papers read included an account by Mr. Fairholt of the paintings recently discovered at Carpenters' Hall, with incidental notices of the Hall itself, to which we shall hereafter draw our readers attention at length; tracings of the drawings were exhibited. We are prevented at this moment by want of space from reporting the proceedings, but may find another opportunity to do so.

THE ARCHÆOLOGICAL INSTITUTE.

FOLLOWING the example of the "Association" the committee of the Institute propose to devote two meetings in each month solely to the exhibition of antiquities and to archæological discussion. The first of these conversazioni was held at the apartments of the Institute, 12, Haymarket, on Friday the 9th instant, at 4 o'clock, when the chair was taken by Sir R. Westmacott, who thought it right to observe that it was far from the intention of the committee to interfere with the province and functions of the Society of Antiquaries. He conceived that the character of the two societies was essentially distinct. It was competent to the Society of Antiquaries to undertake far more important objects, its range of research might be made more comprehensive, its resources were more ample than those of the Institute, its office was not merely to collect the materials of history, but to develope history itself out of the records and muniments of past races. The Institute was necessarily subsidiary, designed to act in a pioneer capacity, and to supply those materials not otherwise accessible, on which the more important labours of the Society of Antiquaries must ultimately be based.

By the enrolment of all ranks and classes the Institute secured the co-operation of those who were the ex-officio guardians of national monuments, and professionally interested in the promotion of archæology, and of the national sympathy thus created, the Society of Antiquaries would, he felt sure, reap the benefit. He confidently anticipated that by the annual meeting of the institute a very great stimulus would be given to the study of archæology, and that in each successive visit a new and interesting locality would be explored and illustrated, and a variety of precious objects which lay concealed in private collections would be brought to light. By the smaller meetings, such as the committee held that day, they hoped to give the opportunity for much friendly intercourse and valuable discussion.

A large number of interesting matters was then brought under the attention of the meeting and discussed, including the communication of the discovery of some architectural details at St. Alban's, hitherto concealed from view.

METHOD OF FIXING PENCIL AND CHALK DRAWINGS.—For pencil drawings, a thin solution of isinglass answers the purpose. It should be allowed to run over the drawing, or be very carefully applied with a soft camel's-hair pencil. For chalk drawings, make a thin solution of size, put it in a flat dish, pass the drawing from one side to the other under the liquid, taking care that the liquid comes in contact with every part of it. The friction of a camel's-hair pencil would injure the drawing. When it is completely wetted, fasten it to the edge of a table, or to a string, by means of two or three pins, until dry. Crayon or charcoal drawings would be spoiled by this process, and for fixing them the paper should be washed over with a solution of size in the first instance. When quite dry, the surface is in a good state for making the drawing; after which it should be inverted, and held horizontally over steam. The steam melts the size, which absorbs the charcoal or crayon, and when it has again become dry, the drawing is fixed. This process may be repeated several times during the progress of a drawing, the effect being increased each time.—*Pharmaceutical Journal.*

NEWBIGGEN CHURCH.—Mr. Hudson, M.P., and Mr. John Hodgson Hinde, M.P., have each given 20*l.* towards the repairs of Newbiggen church, near Morpeth.

DESIGN IN COVENTRY.

AT a recent meeting of the members and friends of the Coventry School of Design, to distribute prizes amongst the pupils, Mr. Alderman Cope said, adverting to the funds of the School, that Government had made a considerable grant to it, on condition that the inhabitants of Coventry raised a given sum yearly; and as that sum had hardly been raised this year, he entreated them to come forward liberally with their subscriptions, and to induce their friends also to do so. With respect to the state of the School, the specimens now exhibited afforded gratifying evidence of its efficiency, and shewed that the pupils had made great progress. The School of Design at Manchester had determined upon having exhibitions similar to those of France; such was their opinion of the importance attaching to a thorough knowledge of the arts as applied to manufactures. This was what was much wanted in Coventry; but he feared the public generally, there, did not fully appreciate the advantages to be derived from such institutions. He hoped, however, that the attention of all whose interests were connected with the ribbon trade in particular, would be more alive to the benefits which this School presented; and he especially recommended the making of visits to the School, in order to witness the progress of those who were under tuition: for it was well known, that when either men or boys exerted themselves to excel in any given useful pursuits, they felt encouraged by having their progress and performances noticed. In addition to drawing, they were now taught drafting; it had also been proposed to teach the trade in all its branches—he meant every thing connected with the production of a ribbon should be taught; they might therefore hope, should this object of the Committee be realised, that young persons would go from that School as well qualified to do all that was necessary to put a ribbon in a loom, as they were at Lyons.

A correspondent of the *Coventry Herald*, comments with justice on the indifference towards the School of Design manifested by the public: He says:—Surely the circumstances of the trade are not such as to justify this in difference. What is it that has given France a preference over England in the manufacture of silk goods? Much of it is to be attributed to their skill in the art of design and colouring, and the defect in which in this country our Schools of Design are intended to remedy, similar institutions in France being the very means by which their superiority has been obtained. If competition between this country and France, in this department of trade, had never existed, or, having existed, was about to cease, still we ought not to rest satisfied while improvement could be made; but having felt the effects of competition, and viewing the present aspect of affairs—threatened with a free importation of French goods—we must be culpable indeed if we neglect any means which will enable us more successfully to rival our opponents. The utmost efforts must be made to introduce improvements in every department of our manufactures, in the pattern and texture of the ribbon, in the dyeing of the silk, and in the process of dressing. Now our School of Design is beyond all doubt adapted to aid in this course of improvement, but its utility depends much upon the manufacturers and the public generally. It is the manufacturers who must give encouragement to the youths in the school, to make the art of designing for ribbons their peculiar study; we must recollect that the pupils will naturally direct their efforts in drawing and designing, to those arts which offer the highest rewards for excellency, such as architecture, &c., and it now happens that in our school, several of the pupils who have made the greatest proficiency, are not intended by their friends to be brought up to the ribbon trade. It is an unfortunate circumstance that the manufacturers find it safer to copy from French goods than to depend upon original designs; but the evil effects of this upon the school might, to some extent, be remedied by the sacrifice of a few pounds in rewarding the pupils for good designs, although no practical use should be made of them at present.

WYNYARD PARK.—The restoration of the Marquis of Londonderry's seat at Wynyard park is rapidly approaching completion. A conservatory is now erecting on a large scale.

WESTMINSTER COURT OF SEWERS.

On Friday, the 9th instant, a special Court was held. Mr. Leslie was voted chairman of the day. The business was special: to charge a jury and receive a presentment, should the jury decide on making one, the preliminary step to making a rate on the eastern division of Westminster sewers.

The chairman having stated that his sentiments were well known on the subject of the jury receiving the evidence of the officers in open court, and not, as had been the practice, to allow the jury to leave the court and take that evidence in private, it was ultimately determined by the Court that all the evidence should be submitted to the jury in open court.

The jury having then been called into court, and having been sworn, the chairman proceeded to charge them as to the duties which devolved on them on the occasion. The returns from the vestry clerks of the several parishes in the eastern division of the Westminster sewers, comprehending portions of St. Marylebone, St. Pancras, St. Giles, and St. George's, Bloomsbury; St. Clement Danes, St. Paul's, Covent-garden; St. Martin's-in-the-Fields, St. Ann's, St. James's, Westminster, the rentals of which in the eastern division amounted to about 800,000*l.*, were then presented to the jury, with the certificates of the respective parochial authorities. The further evidence was then submitted to the jury, that the form of presentment was in its schedule of owners or occupiers, and rentals, an exact copy of the several poor-rate books, as directed by the 52nd Geo. III., local.

The jury, on being offered any additional documents or plans they might require, expressed their satisfaction with the evidence they had received, and completed the presentment.

The Court ordered the usual public notices of the presentment to be made, and then adjourned to Friday, the 16th instant, at 12 o'clock.

PUBLIC NECESSARIES.

We cannot urge too strongly the importance of this subject, in connection with the health and well-being of the community. The necessity increases every day, and it is to be hoped that our contemporaries of the press, who up to this time have been silent on the question, will throw aside all false delicacy, and give their aid in obtaining the attention of the authorities. The following letter has been addressed to the Lord Mayor:—

My Lord,—The great improvements which have taken place during the last thirty years, have diminished the public urinals which used to be found at every public-house door, but are now scarcely to be met with from one end of a street to the other, to the great inconvenience of the public. To obviate this evil, I should recommend one or more public urinals in every street, with tanks to receive the urine, which could be applied to many valuable chemical purposes, would employ a vast number of poor people, and might become profitable as well as convenient to every large town in the kingdom, if carried into effect.—I am, my Lord, your Lordship's most obedient servant,

Stratford, Bow. Thos. Stirling.

A memorial to the same effect would be numerously signed, and could hardly fail to obtain the desired object.

One of our first correspondents on this subject, whose letter, signed "Surveyor," appeared in The Builder of Nov. 29th., has forwarded a plan for public necessaries, but we do not think it necessary to publish it. He urges, that new erections should be made for the purpose, not old buildings altered; that they should be of the cheapest and most inexpensive kind; and that there should be no doors.

Chester Cathedral. — This venerable structure, which has for a considerable period been undergoing an almost complete renovation, has been re-opened for Divine worship. The alterations and repairs have been made under the superintendence of Messrs Furniss and Kilpin, of Chester, to whom the dock committee rendered much assistance by allowing the use of some of their largest stoves for the steaming of their heavy timber. The re-opening was marked by many circumstances of interest.

RAILWAY JOTTINGS.

The distance between the cross of St. Paul's in London, and the centre of the great tower of York Minster, as measured along the earth's surface, is, according to the Ordnance survey, 920,108·7 feet, or very nearly 174¼ miles, and it is said that the main line of the Direct Northern between London and York is 176 miles.——The number of plans deposited in the private bill office amount to 721, being 57 less than those deposited with the Board of Trade, and about one-half less than those originally registered.——On the 25th ultimo the first stone was laid of the great viaduct on the Cork and Bandon line. It is to cross over the mail coach road at Chetwynd valley, at Castlewhite. The foundations have been sunk to receive the masonry of the immense piers and abutments. The height of the viaduct at the centre pier will be 90 feet over the valley, and 105 feet over the foundations, and will form one of the most imposing and stupendous viaducts in the world.——The tunnel through Rose Hill, near Brighton, is nearly finished. An embankment has been raised to join the viaduct forming the junction with the present London and Brighton. When this viaduct is finished, upwards of three millions of bricks will have been used. It consists of twenty-seven arches, eight of which are turned, and the work pointed. The height of this from the ground to the base of the sleepers upon which the rails will be laid, is 72 feet, and the space across the road is 50 feet in width. All the buttresses, which are of brick, are pierced so as to take off the weight of the material, and contribute to the general stability of the erection.——The Manchester and Leeds Railway Company have voted 2,000 guineas for a testimonial to their chairman, Henry Houldsworth, Esq.; also 100 for his portrait, which is to be permanently hung up in the board-room of the company. They have also voted 1,000 guineas for a testimonial to Captain Laws, the managing director of the company. ——A tunnel of 3,482 yards will, it is said, be required on the proposed York and Carlisle, at a depth of 120 yards.——The Leeds and Carlisle will require a tunnel of 5,489 feet, or nearly 3¾ miles in length. It will also have to pass over a viaduct 500 yards in length, having 200 arches, the centre one being 130 feet high.——It is said that a railway will be brought before Parliament next session, thirty-seven miles long and "all tunnel."—— A fog signal for the prevention of railway accidents has been invented by a Mr. E. A. Cowper. It consists of a small box of explosive mixture, which, by means of a lead clip, is in one instant attached to the rail at a proper pulling-up distance from the station, the slip, or the accident, as the case may be. On the engine going over the signal, it explodes with a very loud noise, which is infallibly heard by the driver, who immediately shuts off the steam. ——The survey of the line for the erection of the viaduct by which the extension of the line from the terminus at Nine Elms is to be carried to the Belvidere-road, Westminster-bridge and Waterloo bridge, has been completed: nearly one thousand houses will have to be cleared away, The work is about to commence at the Wandsworth-road, in the course of the next week. The viaduct will pass across the Wandsworth, the South Lambeth, the Vauxhall, and the Westminster-bridge roads.——Passengers' luggage is now registered on the Brighton and Dover line. A fee of one penny per parcel ensures its safe arrival. A receipt is given to the passenger, who, by the production of it, obtains his luggage on reaching his destination.——The broad and narrow gauge experiments are still progressing under the superintendence of the respective engineers, and in the presence of her Majesty's commissioners. The rate of the gauges now stands thus:—broad gauge train of 400 tons, 23 miles per hour; narrow gauge train of 400 tons, 19 miles; excess of speed for broad gauge, 4 miles per hour.

Windsor Castle. — It is very desirable that tickets to view the castle should be obtainable in Windsor. Several parties have arrived in the town since the new arrangement came into operation on the 1st inst., for the express purpose of visiting the state apartments, but they were necessarily disappointed, in consequence of being unprovided with tickets.

LIST OF NEW PATENTS

RELATING TO ARCHITECTURE, ENGINEERING, &c. GRANTED FOR ENGLAND.

Furnished by Mr. A. Prince, of the Office for Patents of Inventions, Lincoln's-inn Fields, London.

[SIX MONTHS FOR ENROLMENT.]

Henry Waller, of Vauxhall-road, engineer, for improvements in sluice cocks. Oct. 31.

Thomas Edwards, of Islington Foundry, Birmingham, engineer, for certain improvements in steam engines. Nov. 3.

George Ewart, of the New-road, zinc manufacturer, for improvements in the manufacture of chimney-pots. Nov. 3.

Richard Atha, of Walton, near Wakefield, engineer, for atmospheric engines. Nov. 4.

Peter Armand le Compte de Fontainmoreau, of Skinner's-place, Size-lane, for certain improvements in producing artificial fuel. November 6.

Bryan Donkin, of the Paragon, New Kent-road, civil engineer, for improvements on wheels as applicable to railway carriages, and on the mechanical contrivances by which railway carriages are made to cross from one line of rails on to another line, or on to what are generally called sidings. Nov. 11.

George Hill Dutton, of Dutton, brewer, for certain improvements in conveying intelligence from one part of a railway train to another. Nov. 11.

Joseph Ramor Yglesias, of Mark-lane, London, merchant, for a new mode of application and combination of mechanical arrangements (or of mechanical and hydrostatical arrangements) already known and in use for the purpose, by such application and combination of augmenting the power or moving force of first moving machines or engines. Nov. 13.

Edward Hall, of Dartford, Kent, civil engineer, for an improved double cylinder condensing engine. Nov. 15.

James Boydell, Jun. of the Oak Farm Works, Dudley, ironmaster, for improvements in the building of ships and other vessels. Nov. 17.

Frederick Oldfield Ward, of Cork-street, Middlesex, gentleman, and Malcolm William Hilles, of Henrietta-street, Covent-garden, gentleman, for improvements in the construction of railways, and in machinery and apparatus for working carriages thereon. Nov. 18.

Christopher Vaux, of Brighton, gentleman, for improvements in apparatus or machinery for preventing accidents to carriages and passengers on railways, parts of which improvements are applicable to save lives and property in other places. Nov. 18.

Edward Brown Wilson, of Leeds, engineer, for improved apparatus applicable to swivel bridge and turn tables. Nov. 18.

Buckworth Henry Powell, of Pennington-house, Southampton, lieutenant and captain in the Grenadier Guards, for certain improvements in carriages to be used on rail and other roads. Nov. 18.

William Malins, of Mansion-house-place, London, and West Bromwich, Stafford, iron master, for improvements in constructing roofs and other parts of buildings of iron or other metals, and in the preparation of the materials of which the same are or may be constructed. Nov. 18.

Moses Poole, of London, gentleman, for certain improvements in raising and transporting earth and other heavy bodies. Nov. 18.

Ernest Edge, of Manchester, mechanic, for certain improvements applicable to the wheels and axles of engines, tenders, carriages, and waggons, to be used on railways. Nov. 20.

George Skinner, merchant, of Stockton-upon-Tees, and John Whalley, of South Stockton-upon-Tees, earthenware manufacturer, for certain improvements in the manufacture of earthenware pastes and vitreous bodies, and also a new composition and material for the same, with certain new modes of combination thereof, which improvements, compositions, and combinations are applicable to the manufacture of earthenware pastes, vitreous bodies, slabs, tiles, and pavement, and various other useful and ornamental purposes. Nov. 20.

John White, of Salford, in the county of Lancaster, engineer, for certain improvements in engines, machinery, or apparatus, for raising or forcing water. Nov. 27.

Moses Poole, of Serle-street, gentleman, for certain improvements to hinder the oxydation of iron, in all its various states, of cast metal, steel, malleable iron, and also to render malleable iron more hard and durable. Nov. 27.

VENTILATION OF HOSPITALS.

For a few years past a great deal has been argued and spoken of in the course of conversation on the subject of ventilation; may I, Sir, be permitted to offer a few straight-forward matters of fact, with reference to the case in point.

In the year 1807, a friend of mine, then an officer in the quarter-master generals' department of the British army in Sicily, informed me that one of their most healthy hospitals, situated on the sea-line wall of the town of Melano, had become suddenly so unhealthy, as to oblige them to remove the patients therefrom. Sometime afterwards, this same officer consulted with Docter Macadam, surgeon of the 20th Dragoons, as to the cause of this change; his reply was, it was occasioned by a want of ventilation, which arose from having increased the height of the wall between the building and the sea. Previous to this being done, a column of air from the sea was constantly passing through large folding doors on the ground floor, thereby pervading the whole of the building through the opening in the roof, and keeping the premises in a healthy state. The line-wall was raised to increase the strength of our defences against an attack of the enemy, with which we were threatened. With reference to the opinion of Doctor Macadam, this officer proceeded to act by cutting openings in the shape of loop-holes, flush with the floor of a tier of barrack-rooms, which were considered unhealthy, and opening holes in the wall flush with the ceiling, for the escape of foul air. Some time after, soldiers occupied these rooms, and continued healthy.

On the evacuation of the island by the British troops in 1815, this officer proceeded to Corfu, where he observed in a hospital, made over from the French to us, the same mode of operation, with respect to the openings flush with the floors, and windows reaching from the ceiling. As soon as the patients were up in the morning, and dressed, and moved to an adjoining room, these floor vent-holes were thrown open by removing the inside flap, and letting down the windows from the top; after which the room became perfectly sweet at the end of a few minutes. Whereas other buildings fitted up as hospitals by the English authorities were constantly subject to an unpleasant salve-like smell. Investigator.

ABBEY OF ATHENRY, IRELAND.

FALL OF THE GREAT TOWER.

Sir,—The noble ruins of the once celebrated Abbey of Athenry, situated in the diocese of Tuam and county of Galway, are now nearly destroyed by the recent fall of the great central tower.

The abbey was founded in the year 1241, by Meyler de Bermingham, Second Baron of Athenry. In 1423 the church was partly consumed by fire; active steps appear to have been taken immediately after, by the Dominicans for the reparation of the entire fabric. This abbey is noticed in Grose's Antiquities of Ireland, by the late Dr. Ledwich, who says, that "in 1644 it was created into an university (*studium generale*), with four others, for the Dominican order, by order of a general chapter held at Rome." In this the learned antiquary must have been mistaken, as we find by the 16th of Elizabeth, the monastery with its appurtenances, thirty acres of land, in Athenry, &c. were granted for ever *in capite*, to the portrieve and burgesses of the town of Athenry, at the yearly rent of 26s. 4d., Irish money.

The following remarkable inscription, placed over the door of the refectory, was observed to be quite legible in October, 1725, as certified by nine gentlemen of the locality, whose names are on record:—"*Carolus manus rubræ me fiera fecit.*" Ledwich, after his usual sceptical manner, pronounces the inscription a forgery.

The newspapers, which briefly notice the fall of the tower, are quite silent as to the cause. It is, however, easy to conjecture, that owing to the sacred edifice being some sixty years ago converted into a barracks! or more properly speaking the materials of the walls being so used, the tower must have become, in some degree, isolated by the removal of portions of the transept, and nave walls. The work of destruction thus begun, it is easy to conceive that time, severe frosts, and a humid climate, would be sure to complete the havoc.

The foregoing inscription may be thus translated,—*Charles of the Red Hand caused me to be built.* Ledwich, as before stated, to get over a *seeming* difficulty, from the acknowledged testimony of early writers, who give the Baron Athenry as the founder of *the abbey*, at once asserts the inscription to be a forgery. On the other hand it is a well authenticated fact, that Cathal Crovderg (Charles), was a titular king of Connaught, and died in 1224, just seventeen years before the abbey was founded. If we then assume that the refectory, or other small buildings (appendages to all abbeys) were commenced *before* the main building or church, may this not have been done by this Cathal or Charles, the principal works being afterwards carried on by the munificence of De Bermingham.—I am, Sir, &c.,

Gorey, Dec., 1845. J. K.

ARCHITECTS' RESPONSIBILITIES.

Sir,—Having carefully perused a letter which appeared in your last number, on "Architects' Charges and Responsibilities," I am anxious to correct an error which, in my opinion, is absurd. I refer to the fourth clause, on superintendence, wherein Mr. George Wightwick states that the character of an architect would not at all be "impugned" by his allowing "roofs to leak, plumbing partially to fail, plastering to crack or become discoloured, drains to yield offensive odours, joinery to shrink; and many other evils to shew themselves through the carelessness of the workmen" (I suppose), without being remedied.

Now, an architect is bound to protect his employer against all such evils as are here enumerated, and if the builder, his foreman, or operatives are careless, he ought to have power to dismiss such workmen, &c., and to compel the builder, within a certain time, to employ others in their stead.

To persons at all experienced in the building art it is unnecessary for me to state, that it is (or rather ought to be) enjoined in every specification, that a certain sum is to be reserved from the contract money for a determined period, as a security for the proper standing of the materials and workmanship, and if at the expiration of that period any bad work should appear, then the contractor should remedy it at his own expense, and it is the architect's duty to see that he does so. With regard to a clerk of the works, of course he is a necessary person in large buildings, but in small, too expensive; and even where a clerk is engaged, it is too frequently the case that he requires great watchfulness on the part of the architect.

And for the architect to allow such workmanship to remain (as Mr. Wightwick's letter seems to imply) would not only be endangering his own reputation, but defrauding his client. I speak this with all deference to Mr. Wightwick.

With regard to the remainder of the letter, I quite agree with him, and *admire* the plan of putting it into the hands of his clients; but no clause in it ought to apologize for bad workmanship, for as I have said before, it is the architect's imperative duty to see that the work is properly executed.

Trusting that these few remarks will obtain your consideration,—I am, Sir, &c.,

An Architect.

London, 12th Jan. 1846.

"Proceedings under the Metropolitan Buildings Act."—Mr. Weale has just published a small volume under this title, by Edward Lawes, Esq., which will be found of the greatest value by all who are connected with house property within the limits of the Act. It contains, in a portable form, a digest and classification of the various awards made by the official referees up to a certain period, the modifications authorized by the Commissioners of Woods and Forests, and some account of the office of buildings, and the course of practice pursued there.

Westbury.—There is a probability of the fine old church at Westbury being restored by the liberality and spirit of the town and neighbourhood.

THE THEATRE AT MEXICO.

A correspondent of *The Times*, in a letter dated October, 1845, gives the following account of the Teatro Nacional of Mexico, which, in his opinion, is "far superior to all buildings of the same kind in London, Paris, or any other capital of Europe for lightness, elegance, and comfort."

The building, of which the theatre forms a part, contains a café, hotel, restaurant, billiards, and card-rooms. It presents to the Calle Bergara a very handsome front, within which are found two *patios*, or squares, with galleries running along each, and communicating with the reception-rooms. These *patios* are covered with glass, and are ornamented by a profusion of natural flowers, and a few orange trees, which have a charming effect. They form at night a kind of crush-room, through which all Mexican belles must pass to and from the the boxes, and they are consequently crowded with young men pretending to taste or fashion, who exchange *adios* and glances with the dear creatures as they are marched in solemn procession, under the guidance of unforgiving fathers, or sympathizing mammas. Next to the last *patio* are two staircases, communicating only with the boxes, which are private property, the access to them being thus separated from the money part of the house; and beyond that is the entrance to the pit, and the ground-floor of boxes, which are subject to distinct regulations from those of the upper tiers.

The boxes of the upper tiers are admirably arranged. A slight division, in a waving line, not breast high in any part, separates one from the other, so that there is a free circulation of air through all. They are cut down in front so low that the whole person of the occupier is seen from every part of the house, and ladies have not to complain, as in Paris and London, of being shut up in cases in which their heads and shoulders are only visible, and all the elegance of the general toilette concealed. A Mexican lady sits enthroned in her box, as on an elevated platform, presenting the whole of her graceful person and brilliant costume to the admiration of her friends. A slight rail, a few inches high, conceals only her feet, and secures her from falling over into the pit; but enough is understood, especially on gala nights, to prove that a Mexican architect has been the first to discover that beautiful women, seen to full advantage, are more ornamental in an open box than silk curtains or mouldings of white and gold. The boxes being private property, are furnished according to the taste of the owners; some are very handsomely fitted up, and the form of the house is so well aranged, that from every seat not only are the performances seen and heard, but from every chair in every box the whole of the other *patios* are visible. Attached to each box is a retiring room, or *cuarto*. Between the acts the *cuartos* are filled with smoking coteries, in which it must be owned the ladies, with their paper or straw cigarettes, are most indefatigable. As these *cuartos* are in darkness visible, only one candle, or dull lamp, being found, it is amusing as you pass to see them suddenly lighted up with so many flashing fires like glow-worms, and to hear the chatter of the performers, who contrive to talk and smoke with unceasing rapidity.

New College at Canterbury.—We stated some time ago that a site in the city of Canterbury (the ruins of the ancient Abbey of St. Augustine) having, by the gift of a lay member of the church (Mr. Hope) been devoted to this purpose, and a sum then amounting to 39,000*l.* having been already contributed towards its accomplishment, it was proposed to commence immediately the principal quadrangle of the college, including the chapel, hall, library, and apartments for fifty students, with the requisite accommodation for the officers and servants of the establishment. The provisional committee now report that one entire side of the quadrangle, containing rooms for fifty students, is externally complete and covered in; that the hall and offices are also in an advanced state; and the chapel, warden's house, and fellows' building, begun; and it is hoped that the library and lecture rooms will be commenced in the spring. There is at present every reason to expect that the buildings will be ready for the reception of students by the end of August next.

NEW POLICE COURT VINCENT SQUARE.

A new police-court, in lieu of Queen-square, to be known as the "Westminster," has lately been opened. The front is in Vincent-square; the business entrance is in Dorchester-row. The court itself is a good capacious building, about 30 feet by 24, and exceedingly lofty; it is also very light, and might furnish hints in the construction of our superior courts. The waiting-room is of a very different character. It adjoins the court, and is sufficiently large for ten or a dozen persons to sit uncomfortably in; it is paved with asphalte, and has a door opening in its centre, to the constant annoyance and danger of those who are compelled to wait their turn. The inconvenience attending this arrangement is not wholly experienced by the public, the room itself being so small, in contact with the court, and at times much crowded, every word and laugh are distinctly heard, to the annoyance of the magistrate in the performance of his duties. The room appropriated for the inspector to review charges in is absurdly small; to meet this deficiency, a sliding-door is made in the wainscot, which separates it from the passage, and the passage itself is to be used for the culprit. The cells are admirably constructed; they are seven in number, and are warmed by a hot-air apparatus; in every respect they reflect great credit upon the humanity of those who designed them. †

Correspondence.

THE QUADRANT, PICCADILLY.

Sir,—You would be doing the inhabitants of Regent-street and the public, a great service by inspecting and exposing the botching manner, in which the Office of Woods and Forests allowed the Quadrant to be built originally, and perhaps your exertions might obtain some uniformity in the repairs that are about to take place. All the housekeepers excepting five, wish the whole of the columns and terrace removed, and are willing to pay the cost. If, however, that cannot be done, a sky-light in the manner of Swan and Edgar's all through, might in some way remedy the present evil.

I remain, Sir, &c.,

A Subscriber to The Builder.

*** The removal of the columns is quite out of the question. We have too few covered walks in London, quietly to yield up one of such an extent as the Quadrant. The introduction of a glass covering, rendered easy by the remission of the duty, would remedy the evil complained of, viz., darkness in the shops, and will, we trust, be concurred in by the owners generally.

POWER OF RUNNING WATER: WATER WHEELS.

Sir,—I should be obliged if any of your engineering correspondents could give me the following information:—I have a stream of water flowing through my premises at the rate of eighty gallons per minute, with a fall of 9 feet; I wish to know what power it would give me, with an overshot wheel of that diameter, and if enough for a circular saw (which I wish to apply to it), what sized one it would drive? If not sufficient for the purpose, can an increase of power be obtained by having a breast wheel, with the fall of water reduced to 5 or 6 feet, by a reservoir of 3 to 4 feet depth, from which, by a sluice, double or treble the quantity may flow on the wheel for a given time, and what would be the proper diameter for the wheel? By your insertion of this, it will oblige. Yours respectfully,

Isle of Wight, Jan. 6th. T. P.

Caution to French Polishers.—On Monday evening, as two men, in the employ of Messrs. Powell, cabinet-makers, &c., Argyll-street, were pouring some spirit used in polishing from one vessel to another, a spark, it is supposed from the candle, communicated itself to the spirit, and, in a moment, the shop was in one vast blaze. Such was its violence, that it carried away the whole of the glass sashes, &c., to a considerable distance; and, it is certain, had there been shavings about the shop, the whole premises must have been destroyed. One of the men is very much burnt, though not dangerously.—*Bath Gazette*.

Miscellanea.

Extension of Liverpool.—The increase in the number of houses built in Liverpool has been great beyond all precedent during the last two years, as will be seen from the following statement:—No less than 2,450 houses were erected in 1844, and the still more extraordinary number of 3,728 were erected in 1845, within the Parliamentary borough, to say nothing of the hundreds built beyond the boundaries, in the direction of the Old Swan, and the still greater number built on the Cheshire side of the river. To some extent this extraordinary increase in the number of houses has been the result of the excellent regulation which forbids living in cellars, and so far it is a proof of an improved mode of living rather than of an increase of the population; but, even after every allowance has been made for that circumstance, the increase is surprising, and shews that Liverpool is still in the full vigour of its growth. The following particulars of the increase of houses from 1838 to 1845 are very remarkable:—

	Houses.
In 1838	1,052
1839	997
1840	1,577
1841	1,761
1842	2,027
1843	1,390
1844	2,450
1845	3,728
Total	14,982

—*Liverpool Times*.

London Sewage Company.—We have received a copy of a report upon the proposed works, by Mr. Wicksteed, but must look a little further into the merits of the company before referring to it. We are acquainted with Mr. John Martin's plan, and the company formed to carry it out. The fact of a Mr. Martin being advertised as secretary to the London Sewage Company, with which Mr. *John* Martin has *nothing to do*, has a very questionable appearance. We forbear, however, to make any comments until we have further information.

Trafalgar Square.—The public cry out loudly for lights in the square, and cannot understand why darkness should be persisted in, when the gas is laid on, and all things apparently ready. This "finest" site is also the most unfortunate.

Bristol Academy of Fine Arts.—The first annual meeting of the Academy was held last week, and a very gratifying report was read. We shall refer to it next week.

MEETINGS OF SCIENTIFIC BODIES.

During the ensuing week.

Monday, Jan. 19.—Statistical, 12, St. James's-square, 8 P.M.

Tuesday, 20.—Syro-Egyptian, 71, Mortimer-street, Cavendish-square, 8 P.M.; Civil Engineers, 25, Great George-street, 8 P.M. (Anniversary.)

Wednesday, 21.—Geological, Somerset House, 8½ P.M.; London Institution, Finsbury-circus, 7 P.M.

Thursday, 22.—Royal, Somerset House, 8½ P.M.; Antiquaries, Somerset House, 8 P.M.; R. S. Literature, 4, St. Martin's-place, 4 P.M.

Friday, 23.—Royal Institution, Albermarle-street, 8½ P.M.

Saturday, 24.—Royal Botanic, Regent's-park, 4 P.M.

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For the execution of works on the Lynn and Ely Railway, being a length of about 13 miles.

For the execution of works on the Lynn and Dereham Railway, being a distance of about 9 miles.

For the execution of works on the Dublin and Belfast Junction and Navan Branch Railway, being two contracts respectively of the lengths of 8 miles 1638 yards, and 8 miles 154 yards.

For the execution of works on the South Wales Railway.

For the execution of the works on the Erewash Valley Railway, being a length of about 17 miles.

For building one or more chimneys for the Kingston Cotton-mill Company, with all the requisite excavations, &c.

For supplying the Liverpool Dock Company with a given number of pontoons or iron boats for the support of the landing stage now in course of construction.

For the execution of the embankments and other works connected with Revelin Reservoirs, Sheffield.

For the execution of the works on the Bridlington Branch of the York and North Midland Railway, being a distance of about 19¾ miles.

For supplying her Majesty's several Dock-yards with colours and other ingredients for making paint.

For the execution of works on the Newry and Enniskillen Railway, being a distance of about 5¼ miles.

For the execution of extensive alterations, &c. on the Whitby and Pickering Railway.

COMPETITION.

The committee for promoting the projected Hospital at Birkenhead are willing to receive designs and estimates for such building. A premium of 50*l.* will be given for the most approved design, 30*l.* for the second in estimation, and 20*l.* for the third.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At Duxford, Cambridgeshire: 100 ash, elm, and poplar timber trees; and 900 ash, elm, and alder poles. Some of the ash are of large dimensions, and superior quality.

At Poulshot Lodge, near Devizes: 387 elm, and 83 oak trees, of very large dimensions.

A Windsor, near Southampton: 87 prime oak timber trees, of large dimensions, and exceedingly sound.

At Steeple Mordan, near Royston: 4,000 larch, Scotch, and spruce poles, &c.

At Babraham: a large fall of ash, elm, sycamore, beech, and other timber trees; also some fine larch and other spires.

At Herringswell, near Mildenhall: a large quantity of valuable larch and spruce timber trees, &c.

On the Kennet estate, near Newmarket: 72 oak timber trees of excellent quality, very straight and clean, and of large dimensions, from 20 to 100 feet each; also several ash and elm trees, 2 large poplars, &c.

In the Home-field, near Fryern Court-house, Fordingbridge: 220 ash timber trees, very clean and sound.

At the Angel Inn, Sutton, Surrey: 400 oak, ash, and elm timber trees, some of large dimensions (the principal part being oak).

TO CORRESPONDENTS.

"A Builder."—*B. could not substantiate a claim.*

"A Subscriber."—*Address Mr. Thomas Fry, Birkenhead.*

"A Landlord."—*Our esteemed correspondent must pardon us for postponing his communication.*

"The Allotment System."—*A correspondent, used to agricultural operations, is anxious to obtain a five-acre allotment in any part of the country west of the Severn, and wishes to know how he should proceed to effect his object.*

"Manchester School of Design."—*The pamphlet is published by Simpkin and Marshall.*

"A Subscriber."—*The improvements alluded to are not expected to be made immediately.*

Received:—"Budownik;" "H. E. K.;" "J. J.;" "E. P.;" "F. M.;" "B. B.;" "Oak and Stone."

Various correspondents must excuse us for postponing consideration of their communications.

*** Correspondents are requested to address all communications to the Editor, York-street.

NOTICE.

Full price and thanks will be given by our publisher for copies of "The Builder," for any week in October.

ADVERTISEMENTS.

FINE ARTS.

By Her Majesty's Royal Letters Patent

LORIMIER'S TRANSPARENT PLANES for Perspective Drawing; BENJAMIN WEST, Patentee.

"This Instrument will enable Artists and others to make any Drawing, whether from Nature or Models, in perfectly true perspective, so that a likeness or landscape may be taken in a few minutes absolutely perfect. It is used by her Majesty's Royal Sappers and Miners, Chatham. To Travellers it would be found serviceable, since it can be employed without the knowledge of drawing."—*Art Union.*

Price 18s. and 25s. Apply for Agents to BENJAMIN WEST, 2, St. James's-walk, Clerkenwell.—Sold by BARRITT and Co., 173, Fleet-street, London; GRIFFIN and Co., Glasgow, and by all Fancy Stationers, &c.

TO BUILDERS, PLUMBERS, ENGINEERS, AND IRONMONGERS.

BEST PAN WATER-CLOSETS, with round Valve, complete, 30s. each.
Plumbers' Bib, Ball, and Stop Cocks, ½ in., 20s.; ¾ in., 28s.; 1 in., 56s. per doz.
Lifting Force Pumps on Planks, 2½ in., 4l.; 3 in., 4l. 15s.
Washing Coppers, 1s. 1d. per pound.
Water Balls, ¾ in., 15s. per doz.
Gun Metal Steam Cocks, Safety Valves, &c., and every description of Brass and Copper Work equally low, at A. McGLASHAN and Co. Brassfounders and Coppersmiths, 16, Long-acre.

N.B.—Every article warranted.

SEWERS, MIDDLESEX, HOLBORN, AND FINSBURY DIVISIONS.

NOTICE IS HEREBY GIVEN, that a Court of Sewers for Holborn and Finsbury Divisions in the County of Middlesex, will be holden at the Sewers Office, No. 7, Hatton Garden, on Friday, the 30th day of January, 1846, at 2 o'clock in the afternoon precisely.

JOSEPH UNWIN, Summoner and Cryer.
10th January, 1846.

Sewers's Office, for Holborn and Finsbury Divisions, &c.
No. 7, Hatton-Garden.

To Builders and others, interested in Buildings, or in Ground for Building upon, within the District of Holborn and Finsbury Divisions, the Parish of St. Leonard, Shoreditch, and the Liberty of Norton Folgate, in the County of Middlesex, and the borders and confines of the same.

THE COMMISSIONERS of SEWERS for the above limits do HEREBY GIVE NOTICE, that previous to making any new sewer in any street, lane, or public way, or in any part intended to become a street, lane, or public way, or to carry or drain off water from any house, building, yard, or ground, into any sewer under their management, or within their jurisdiction, application must be made by petition, the form of which may be had at their office; to which must be attached, a plan of the intended line of sewer; and which must be constructed conformably with their regulations.

And, in order to prevent the serious evils and inconveniences that must arise from ground proposed to be built upon being excavated to too great a depth, the commissioners have directed that, upon application being made at their office, previous to the excavation of such ground, information shall be given as to the lowest depth at which the same can be drained.

And the commissioners do also give notice, that whenever the lowest floors or pavements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any sewers, or drains into sewers, to be made for the service of such buildings; and further, that no buildings or erections of any kind will be permitted to be made upon or over any sewer.

All communications made with any public sewer, without previous application as aforesaid, will be stopped out; and the parties making the same will subject themselves to a fine.—By the Court,

STABLE and LUSH, Clerks.

*** The public is also informed, that all rates imposed by the said commissioners are to be paid by the tenant, and allowed by the landlord out of the rent, except where the tenant, by special covenant or agreement, is bound to defray the same.

HOLBORN AND FINSBURY SEWERS, MIDDLESEX.

THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persons about to Purchase or Rent Houses or Property, or take Land for Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Parties to apply for at the above Office. By the Court,

STABLE and LUSH, Clerks.

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDDLESEX, No. 1, Greek-street, Soho-square.

TO BUILDERS and Others interested in buildings or in ground for building upon, within the district under the jurisdiction of this Court, drained by watercourses falling into the river Thames, between the city of London and the parish of Fulham.

The Commissioners hereby give notice, that by an Act of the 47th Geo. III. (chap. 7, local) it is required that, previously to the making of any new sewer in any street, lane, or public way, or in any part intended to become a street, lane, or public way, or to carry or drain off water from any house, building, yard, or ground, into any sewer under their management, or within their jurisdiction, a notice in writing shall be given to them, or to their clerk at their office, and that such new sewer or sewers shall be constructed and made in such manner and form as shall be directed by the said Commissioners, and not otherwise.

And, in order to prevent the serious evils and inconveniences that must arise from ground proposed to be built upon being excavated at too great a depth, the Commissioners have directed that, upon application being made at this office previously to the excavation of such ground, information shall be given as to the lowest depth at which the same can be drained.

And the Commissioners do also give notice that, whenever the lower floors or pavements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any sewers, or drains into sewers, to be made for the service of such buildings.

It is recommended to all persons about to purchase or take houses, or other premises, to ascertain whether such premises have separate and distinct drains into common sewers.

All petitions must be delivered at this office at least three clear days before they are presented to the Commissioners; and all such petitions will be called on in the order of their application, and the name of any party not present when called on to support the application will be struck out, and the proceedings must in consequence be commenced de novo.

All communications made with any sewer without leave of the Commissioners will be cut off, and the parties making the same will subject themselves to a fine.

The provisions of the Metropolitan Buildings Act (7 and 8 Victoria, c. 84) do not supersede the authority of the Commissioners of Sewers in the above respects, but their powers are expressly reserved, and their regulations made subservient to the purposes of that Act. The execution of such works, under the superintendence of the district surveyor alone, cannot therefore warrant the making of any sewers or drains within this commission, nor relieve the parties making them from the penalties above mentioned.

By order of the Court,
LEWIS C. HERTSLET, Clerk.

CAEN STONE.

LUARD and BEEDHAM have a quantity of the above stone, of the best quality, direct from their Quarries at Allemange, which may be inspected at the Norway Sufferance Wharf, Greenwich.—Further particulars at Mr. G. GATES', 18, SOUTHWARK-SQUARE, SOUTHWARK.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

SAMUEL CUNDY begs to inform Architects, &c., that every description of Stone, Marble, and Granite work is executed at the cheapest possible rate.

Estimates given for Mason's Work in all its branches. Gothic Work, Tombs, Monuments, &c.

MARBLE WORK for Halls, Dairies, Tables, Columns, Vases, at most reasonable prices.

A large collection of Designs for Mural and other Monuments.

CHIMNEY PIECES from Twelve Shillings upwards.
Depôt for CAEN STONE, &c.

THE WESTMINSTER MARBLE COMPANY inform the Public that the great reduction they have made in the price of their VEIN MARBLE CHIMNEY-PIECES, they are supplying them at a lower price than the Slate Chimney-pieces made up to imitate marble. They also invite Architects and Builders to inspect their stock of elegant carved Chimney-pieces, executed in a style entirely unequalled in this country.
WESTMINSTER MARBLE WORKS, EARL-STREET, MILLBANK.

A Vacancy for a respectable person, who is well acquainted with the marble trade, to assist in the out-door department. Apply by letter only.

POLONCEAU'S BITUMEN PAVEMENT for paving Foot walks, Terraces, Garden walks, Stables, Coach Houses, Granaries, Corn Stores, and Salt Warehouses. For the exclusion of Damp and Vermin in Basements it is particularly adapted, and for Roofing Dwelling Houses, Portico, Balconies, and Sheds.

Price 3s. 6d. per square yard.

BITUMEN for covering the Arches of Bridges, Culverts, &c. &c. on Railways and other places (with instructions for laying it down), may be had at the rate of 45s. per ton, by applying to JOHN PILKINGTON, 15, Wharf-road, City-road.

TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorised CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced. I. FARRELL, Secretary.
Stangate, near Westminster Bridge, Jan., 1845. Seyssel Asphalte Company.

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

TO ARCHITECTS AND BUILDERS.

DOOR SPRINGS AND HINGES.—GERISH'S PATENT DOOR SPRINGS, for CLOSING every description of DOOR, consists of Single and DOUBLE-ACTION BUTT HINGES in Brass and Iron for Doors to open one or both ways, and Rising Hinges for the convenience of Doors opening on uneven Floors. Likewise Swing Centres, which consist of a combination of power unequalled by any made at present. Manufactured by F. W. Gerish, East-road, City-road; and sold by all respectable Ironmongers in the United Kingdom.

TO ARCHITECTS AND BUILDERS.

COLLINGE'S PATENT HINGES.—Sole Manufactory, 64, BRIDGE-ROAD, LAMBETH, where a great variety are always on view, for Church, Park, Coach-house, and all other Doors and Gates, of large or small dimensions, a gate of a ton in weight moving with these hinges as easily as a wicket; they are also admirably adapted for drawing-rooms, being highly ornamental, and folding-doors fitted with them may be removed and replaced in an instant. Rising and spring Hinges, also double-action Butts on the most improved principle, and very superior Fastenings for exterior Gates, at moderate prices. To be seen at Charles Collinge and Co's Patent Axletree, Sugar-mill and Spherical-hinge Manufactory, 64, Bridge-road, Lambeth.

BUILDERS, PAINTERS, GLAZIERS, and others supplied with every article used in the trade upon the best wholesale terms.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5 Princes-street, Leicester-square, London, for complete lists, priced, of dry and good Colours, Brushes, Pumps, Closets, Plumber's Brass Work, and all materials.

COLOURED and ORNAMENTAL GLASS of every description at the very lowest prices.

BRITISH and FOREIGN SHEET for Horticultural and all other purposes, as low as any house in the kingdom.

LAMP SHADES AND GAS GLASSES.

Gas Contractors, Fitters, Glass Merchants, and others supplied with any description. Lists of nearly 100 patterns, with prices affixed, sent to any part of the kingdom gratis.

CLOCK MAKERS, ALABASTER FIGURE MAKERS, ARCHITECTS, MODELLERS, and others, supplied with FRENCH ORNAMENT SHADES,

for covering Models of Public Buildings, Geological Curiosities, &c., &c., of all sizes and shapes. List of Prices may be had on application. Bee Glasses, Striking Glasses for Nurserymen, Fish Globes and Confectioners' Glasses, &c., of every size and description.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

FOREIGN WINDOW GLASS.

THOS. MILLINGTON begs to inform his friends, that he continues to receive weekly large consignments of FOREIGN GLASS, which he is determined to offer upon the very lowest terms. Address, 87, Bishopsgate-street Without.

PLUMBERS' BRASS WORK, WATER-CLOSET PUMPS, &c.—These articles require the greatest attention and care in the manufacture, and will be found superior and cheaper than at any other manufactory. Best Pan Water Closets, 32s.; 2½ Lift Pumps and Planks, 4l. 10s. 0d.; 3-inch Pumps, 5l. 10s. 0d.; ¾-inch Bib Ball and Stop Cocks, 2s. 4d. each, and every article in this branch equally low. Every article warranted.—Address, THOS. MILLINGTON, 87, Bishopsgate-street.

VARNISH.

THOS. MILLINGTON begs to inform the Trade, Builders, Painters, and others, that this article can be had at his Manufactory, of the best quality and at the very lowest price. T. M. has long been a manufacturer, and has devoted much time and attention to it, using only the best of gums, and sparing no expense in the manufacture. Fine Pale Oak or Wainscoat Varnish, per imperial gallon, 10s.; Fine Carriage Varnish, 12s.; Copal, 18s.; Body Copal, 24s.; Gold Size, 10s; White Hard, 18s.; Brown Hard, 18s.; French Polish, 18s. per gallon. Paint, Dryers, Colours, ready and ground, and every article in the trade. If quality is taken into consideration, this will be found the cheapest house in London. Address, 87, Bishopsgate-street Without.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; a boy can use it as well and effectually as the best workmen: it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 20s. per gallon.

STEPHENS'S LIQUID OAK, MAHOGANY, ROSE, and SATIN WOOD STAINS, for Staining various sorts of Inferior Woods, so as to give them the appearance and character of the more costly and ornamental kinds; also for reviving the natural colour of Wood Carvings and Panellings, and other ornamental Wood Work, when such has become faded from age or other causes.

IN THE BUILDING AND DECORATING NEW CHURCHES, where it is desirable to give to the cheaper kind of Woods the appearance of Antique Oak, or to make Deal assume the character of Oak Panelling, whereby the effect of the more costly may be produced by the use of a cheaper material, these Stains will be found more effective than any means hitherto employed.

IN OLD MANSIONS AND HALLS, where the Wood Carvings and Panellings have faded, the application of these Stains will be found to revive and bring back the rich natural colour, and which colour may be varied from the lighter to the deeper shades of the most Antique Oak.

The BIRCH WOOD, which has a fine natural grain, with little colour, is particularly suited to the application of these Stains; and the appearance which it assumes after Staining is so near that of the natural wood, that is is only when the grain and colour of the latter is particularly fine that it is preferred. Beech, Birch, Elm, Ash, and other Woods, English and Foreign, receive the Stains and produce various imitations.

For the exposed Timbers of the inside of the ROOFS of CHURCHES, for which north country Timbers and Deals are generally used, by brushing them over with the Stain, which operation is very rapidly, and of course economically, effected, the appearance of an Oaken Roof will be produced. For colouring the backs of the Seats, Pews, the fronts of Galleries, the Pulpit, &c., it is equally advantageous.

Prepared by HENRY STEPHENS, and may be obtained at 54, Stamford-street; of Mrs. ROWLAND, Painter and Glazier, 3, Broad-street, Golden-square; and at the Office of "THE BUILDER," 2, York-street, Covent-garden, at which places specimens of their application may be seen.

ROYAL ADELAIDE GALLERY, Lowther Arcade, Strand.—Professor Keller's New Groups and Tableaux also a Grand Promenade Concert, under the direction of Mr. A. Sedgwick; principal vocalist, Miss Pearce. After the concert on Friday, a Lecture on Phrenology, by Mr. Logan; also the effects of the Laughing Gas. The Gas Microscope on Thursday and Saturday. Nickel's Compressed Air, and Pilbrow's Atmospheric Railway; the Dissolving Views and Chromatrope every evening. Poses Plastiques, by Professor Keller. Conductor, Mr. A. Sedgwick; Leader, Mr. Zerbini (leader of the balls at the Court and Almack's.

NOTICE TO INVENTORS.

OFFICE for PATENTS of INVENTIONS and REGISTRATIONS of DESIGNS, 14, LINCOLN'S-INN-FIELDS.—The printed Instructions gratis, and every information upon the subject of PROTECTION for INVENTIONS, either by Letters Patent or the Designs Act, may be had by applying personally, or by letter (prepaid) to Mr. Alexander Prince, at the office, 14, Lincoln's-inn-fields. Where may be had, price 12s., or, through any bookseller in the United Kingdom, of Wm. BENNING and Co., law booksellers, 43, Fleet-street, the LAW of PATENTS and REGISTRATIONS, with all Forms and Cases up to the present time, by SIDNEY BILLING, Esq., barrister-at-law, and ALEXANDER PRINCE, of the Office for Patents, 14, Lincoln's-inn-fields.

The Builder.

No. CLV.

SATURDAY, JANUARY 24, 1846.

THE General Post-office, in St. Martin's-le-Grand, was commenced at the latter end of 1823, and finished in 1829, at the cost of nearly 240,000*l.* including the furniture and fittings. A general invitation to forward designs had been addressed to architects in the first instance, and was accepted by 89 persons, who submitted nearly 100 designs; no one of them, however, was considered practicable, and Mr., now Sir Robert Smirke, being applied to, designed and executed the building as we now see it. The front extends 390 feet; the width of the centre portico is 75 feet, and its projection 25 feet; the columns are 37 feet high, and 4 feet 2 inches in diameter.*

Although accommodation was provided for a larger amount of business than was carried on at the time of its erection, the increase has been so great that, as we mentioned in a previous number, Mr. Sydney Smirke has been called on to construct two large additional rooms, for sorting letters and newspapers.

The new offices are built over the existing offices of the inland department. One of them is 105 feet long by 33 feet; the other is 90 feet long by 50 feet. For executing the former no great peculiarity of construction was required, the new roof being carried by iron-arched trusses, cast in two pieces. In executing the latter, it was necessary, although the span was considerable, to avoid encumbering the lower floor with any pillars or intermediate supports of any kind. The new roof is supported by seven iron arches, each cast in three pieces, and these support also the floor, by means of iron suspension rods, two depending from each iron arch, and dividing the bearing into three equal spaces, as represented by the engravings at p. 42. To these suspension rods are bolted iron bearers, which form the tie, or chord, of the arches, and which are also cast with sockets, to enable them to lay hold of all the timbers of the floor and of the old ceiling of the inland-office beneath.

The chief difficulty in executing this work consisted in the necessity of keeping perfectly undisturbed the old ceiling, with all its heavy cradling, and of avoiding the adoption of any expedient whatever, that could impede for a moment the regular transaction of business below, where a multitude of clerks are constantly engaged.

These ponderous masses of iron were lifted and carried over the ridges of the intervening roofs, and gradually lowered into their places without the slightest injury or accident; a task which would scarcely have been possible but for the facilities afforded by that ingenious modern contrivance, the flying windlass. Each of these enormous frames of iron was put to a severe test, and proved perfectly rigid; shewing a truth of work highly creditable to Messrs. Dewers, the founders, whose steam planing-machine enabled them to give to all the parts bearing on each other, a far more exact and uniform surface than would have been otherwise practicable. The section and parts at large will sufficiently explain the construction. The rooms are lighted by skylights.

An ingenious machine has been constrived to raise and lower the letters and letter-carriers from the bottom to the top of the building, and *vice versa*. It consists of two endless chains worked by a steam-engine, which carry in rapid succession a series of shelves, each large enough to hold four or five men with their bags. The chief difficulty, of course, was to cause the shelves to pass over and under the pivots on which the chains turn, at top and bottom, in a horizontal position, and this seems to have been perfectly attained. Indeed, the works generally are satisfactorily executed, and reflect credit on all concerned.

Description of the Engravings.

Fig. 1. Section of roof over the sorting-office (with a portion of that over the letter-carriers' office), and the ceiling of the room beneath. The rafter selected is one from the centre of the room, in order to shew the details of the skylight,—the radius of the circle is 25 feet, struck 2 feet 3 inches from the floor. The beds and joints of the rafter are all worked fair and true, and faced throughout their entire length to an even surface; this was done either by the planing or slotting machine, or where that was found impracticable, they were chipped and brought to a fair bed with the file. All the bolt-holes were rymed or drilled through their entire length. The whole of the wrought-iron bolts are of the best faggotted S. C. iron; those which connect the ribs of the rafter, as well as the principal bolts throughout, were heated towards the middle and head, and shrunk after the nuts were tightened. The suspension-rods, 2¼ inches in diameter, are of the best Crawshays iron, and were tested to bear 35 tons previously to their being fixed.

Fig. 2. Plan of the back of one of the principal rafters, shewing the sockets to receive the purlins.

Fig. 3. Plan of bearer to floor, shewing its connection to principal rafter, and the sockets to receive binders of floor.

Fig. 4. Plan shewing top of principal and stay-bar to frame of skylight.

Fig. 5 shews the face of centre-joint of principal truss under skylight.

Fig. 6. Plan of the side beds in principal truss.

Fig. 7. Details of wrought-iron suspension bolt.

Figs. 8, 9, and 10. Details of joint and section of bearer.

Fig. 11 shews the mode of supporting the binders of old ceiling from the new binders of floor.

Fig. 12. Section (the reverse way) of template, and standard of principal truss.

* An account of the building, with plan and elevation, will be found in Leed's edition of "The Public Buildings of London."

SALE OF THE CHURCH OF ST. BENET FINK.—The internal fittings, &c., of this church were disposed of by auction a few days since. The sale was most numerously attended, and many of the lots realized a price much beyond their actual value, from the circumstance of their connection with Sir Christopher Wren. Lot 12, the carved oak poor-box, with lock, &c. (date on the lock, 1683), fetched four guineas. Lot 17, the carved and panelled oak pulpit, with sounding board, &c., went for fifteen guineas. The paintings of Moses and Aaron, the carved and panelled oak fittings of the altar, the marble floor of the same, and the two tablets with inscriptions in gold, were purchased for 50*l.*

FINE ARTS IN IRELAND.—The fine arts have been pressed into the service of "Repeal" in Ireland. Engravings and books are to be given to persons who collect repeal rent to a certain amount within a given time!

BIOGRAPHY OF ARCHITECTS.

CONTRIBUTIONS TOWARDS A LIFE OF INIGO JONES.

IN contemporary literature, a large amount of labour is at present directed towards the biography of eminent men. Any claims to distinction through services in the field, or the senate, how little soever fitted to rank their authors with the truly great, who have sent their own names down the stream of time, are sure to meet with recognition from some ardent panegyrist or admiring relative. How remarkable then does it appear, that the biography of the great in art has yet to be written. The "Lives of British Artists," by the late Allan Cunningham, are rather pleasant notices of the individuals, and the style of art in which each excelled, than any thing attempting the extended range, which the interesting nature of the subject seems to call for. Designed merely for popular use, they are well adapted to their object, and would supply some valuable suggestions in any future biography. The unpublished documents connected with the history of art, and the lives of architects in England, must be very numerous. Many of the drawings of Sir Christopher Wren, still existing in the libraries at Oxford, are hardly known to professional men. Of Inigo Jones's designs, a very small number have yet been published, and it is even uncertain, what buildings were really his works. Much interesting matter might be obtained from the Harleian MSS., and from other sources, concerning his office of Surveyor of the Works, his designs for the court masques, and the comparative cost of labour and materials at that and the present day. In the accounts of the revels at court in James the First's reign,* Jones's name is frequently mentioned; and here and in the MSS. in the Harleian Collection, allusion is made to his remuneration, his models, and even to the livery, which in accordance with the custom of those days for those attached to the person of the king, he wore as the court architect. Mr. Peter Cunningham has also contributed some particulars to the "Papers of the Shakspeare Society," lately published.† In the Lansdowne MSS. may be seen the "Original plots and profiles of scenes erected at the New Masqueing House, being eight in number, by Inigo Jones." Reference may also be made to Jones's "Stonehenge Restored;" to his son-in-law's defence of the same book; to the "Audit Office Enrolments," quoted and first published by Mr. P. Cunningham, and to the fac-simile sketch-book, executed from the original in the possession of the Duke of Devonshire, at the expense of his grace. From these and other sources we find, that the payments to the then Surveyor of the Works were as follows: "Fee at 20s. per diem; one clerk, 6d. per diem; expenses when he rideth, at 4s. per diem; boate hire, at 4s. per diem."—*Harl. MS.*, 1848, fol. 216. In 1610, the salary of Simon Basyl, the surveyor, was as follows (*Harl. MS.*, 1857, fol. 18):‡

THE WORKES.

Surveyor	Mr. Basill	Fee 2s. a day—36li. 10s. One Clearke att 6d. a day, 9li. 2s. 6d. Expenses when hee rideth, att 4s. a day, esteemed at .. 53li. 5s. 8d. Botehire.... 13li. 6s. 9d.	112li. 5s. 8d.

Inigo Jones's first office under the crown, which was that of Surveyor of the Works to Henry, Prince of Wales, ceased in 1613, after the death of that prince. Jones was at Vicenza, on his second visit to Italy, in Sept. 23rd, 1613, and at Rome in the following year. Simon Basyl was still the surveyor to the crown, but at the end of the year 1615, his salary was discontinued, and Inigo Jones appointed surveyor, with pay, commencing from the 1st of October, previous, at the rate of 8s. per diem for his entertainment, 80*li.* per annum for his recompence of availes, and 2s. 8d. per diem for riding and travelling charges "to sundry of His Majesty's Houses." This is given by Mr. Cunningham from the accounts of the paymaster of the works, preserved in the Audit Office. The king's warrant to Lord Hay for the issue of livery from the royal wardrobe, for Jones is dated 16th March, 1616. According to a MS. in the British Museum this livery

* Extracts from the "Accounts of the Revels at Court in Elizabeth and James's reigns; with Introduction and Notes." By P. Cunningham, Esq. Printed for the Shakspeare Society: London. 1842.

† "Inigo Jones and his office under the Crown," in the Shakespeare Society's Papers. 2 vols, 1844-5.

‡ Also quoted by Mr. Cunningham.

consisted of five yards of broad cloth for a gown, at twenty-six shillings and eight pence the yard; one fur of budge for the same gown price four pounds; four yards and a half of budge to line the same, at five shillings the yard; for furring the same gown, ten shillings, and for making the same, ten shillings. Here follow other particulars concerning the yearly delivery of this costume of an architect. At a later period in his life, Jones, when not attired in his official capacity, was noted for his rich dress of velvet, which seems to have been the occasion of some of the satire of which he was the constant object. The value of the livery, according to a document in the Audit office, was 12*l.* 15s. 10d. In 1629, a grant of 46*l.* per annum was made by Charles I. to Jones, as an equivalent for house rent.

Jones was the friend of two sovereigns, and of the greatest men of the time, amongst whom was the painter, Vandyke. He was himself a landscape and perspective painter of great ability. In the scenery of the masques, he produced many of his finest architectural designs. In the machinery and accessories, he must have displayed great skill, introducing—as we are told by Ben Jonson—many beautiful and novel effects. Probably no other architect,—Brunelleschi, perhaps, alone excepted—ever had so great a share in changing the style of architecture in a nation. In considering that change, it is to be remarked, that the style of Jones himself underwent great alteration. His first manner was the union of the style he had acquired in Italy, with the previous fashion, which he was unable to subvert; his late style was produced, when he had perfected his knowledge by a second visit to Italy, and, by the scenery of his masques, succeeded in rendering other views in matters of taste familiar to the nobility.

Jones's annual receipts from the crown are thus given by Mr. Cunningham*—

"Entertainment at 8s. per diem ..	£146	0	0
Recompence of availes	80	0	0
Expenses when herideth, esteemed at	53	5	8
Value of livery	12	15	10
Equivalent for house rent	46	0	0
	338	1	6

or about 1,500*l.* of our money." Several inaccurate statements having been printed respecting his allowance as surveyor, we may quote the following:—

THE WORKES.†

Surveyor	Mr. Jones	Fee 36li. 10s. One Clearke at 6d. a day. Expenses when hee rideth, at 4s. a day, esteemed at £53 5 8. Botehire, at 20d. a day, £13 6 8.	£112 5 10

This is about 498*l.* of our money.

Jones's disquisition on Stonehenge, in which he attempted to prove, that it was a Roman temple, was commenced at the command of James I., but was not published till 1655, after the artist's death. The copy dedicated to the Earl of Pembroke and Montgomery, is stated to have been full of comments on the architect, in the handwriting of the earl, who calls him "Hinico Jones, *alias* Iniquity Jones, a justice of peace and of the Quorum i and Custos Rotulorum," along with other statements, entirely devoid of foundation. This very copy, it seems, "was in a bookseller's catalogue less than a year ago for 6s. 6d!" We wish some one would whisper to us the whereabouts of that bookseller. Mr. Cunningham, in concluding his interesting paper, announces that he has access to an account of "Charges incurred in building a Banquetting House at Whitehall, and erecting a new Pier in the Isle of Portland for the conveyance of stone from thence to Whitehall;" and we regret, that the extracts have not appeared in the second volume of the Society's papers, as at first proposed. E. H.

ARTISTS' GENERAL BENEVOLENT INSTITUTION.—A body of artists, following the example of the authors, have arranged a private subscription dramatic performance in aid of the fund of this very useful institution. It is fixed to take place on Tuesday next, at the St. James's Theatre, under the direction of a committee of well-known men. Douglas Jerrold has written an address expressly for the occasion.

* Inigo Jones and his office, &c., *ut supra.*
† Harl. MS. 4257, quoted by Mr. P. Cunningham.

PROFESSOR COCKERELL'S LECTURES ON ARCHITECTURE.

THE second lecture of this course was delivered on Thursday, the 15th instant, at the Royal Academy, and contained much new and interesting matter. Mr. Cockerell commenced by stating, that he was about to offer some remarks upon the restoration of medieval architecture in this country, and the question—how far the imitation of other rituals was adapted to the wants and circumstances of the present day; the distinction between what was merely copy, and that which was design; with the history of the revival of Gothic architecture in England and France; some of the fundamental principles of the style, and the interpretations of Vitruvius by Cæsarianus, and the early commentators. Veneration for the monuments of antiquity was one of the most praiseworthy sentiments, which it was essential in every respect to foster in a nation. The Romans had once been reproached by Horace for the want of this feeling, and that author had urged in strong language, that the road to greatness would never be attained, whilst the regard for national monuments was deficient:—"*Donec templa refeceris*," said he. But, whilst this respect for ancestral institutions and works of art was felt, we ought not to forget what was due to ourselves, nor the respect, which we should have for posterity. The reproach of imitation certainly attached to us in our practice of Gothic architecture; we copied the forms indeed, but the soul and character were wanting; our architecture belonged to another age, and for this reason, that we did not possess the *principles* of medieval art. Regard for antiquity lost half its merit, when it degenerated into mere fac-simile reproduction. Nothing could deserve respect, but what was sincere and true; and the more exact the copy, the greater was the failure in that point, which was the highest merit of the original. Referring to the influence of the Cambridge Camden Society, he said that it had discovered itself in pursuit of other objects than those of art, and consequently had been put down.—That it should be our endeavour, in applying old forms, to produce new combinations, at the same time representing ourselves, and the circumstances of the present day.

The professor then proceeded to consider, what course was requisite to obtain the desired result. That mode was carefully to investigate the history of the rise and progress of Gothic architecture, and to discover the geometric principles of design, as had been pointed out by Professor Willis; and in considering those principles, Mr. Cockerell said, that it was his intention to offer some suggestions concerning their origin, which he believed had not yet been made. He had always greatly admired the style, but at the same time had not hesitated to deprecate the imitation of its forms in the manner, previously adverted to. He then sketched the history of the revival, and spoke of the influence of Horace Walpole, and of Batty Langley, James Wyatt, Grose, Bentham, and the publications of the Society of Antiquaries. He considered, that Mr. Essex, of Cambridge, had done more in the examination of the principles than any one of his day; his papers in the "Archæologia" were extremely valuable. He passed a high eulogium upon the industry of Carter, and of his successor, Mr. Britton. As Dr. Johnson had shewn, how a single individual could better compile a dictionary than could the whole French Academy, so Mr. Britton had done more for the illustration of Gothic architecture than the whole Society of Antiquaries. He ascribed great merit to Rickman, as an illustrator of the different styles, but condemned the practice of looking first at the orthography, or appearance of a building in elevation, and *lastly*, at the icnography, or arrangement of the plan. This was the inversion of the proper and natural course, and was not the system he should adopt. In allusion to Professor Willis, and his great services in the solution of many difficult questions, he said, that the Cambridge professor belonged to that class of patient investigators, of whom Wren was the head. The principles of the architecture of Wren were those of the architecture of the middle ages, which that architect was well acquainted with, and greatly venerated. St. Paul's Cathedral was built on Gothic principles.—Ware's book on arches was a work of great value.—He next referred to the labours of Soufflot, the architect of the Pantheon at Paris, who occupied a similar position in the progress of art, to that which Wren held in England. He entered into some comparison of these eminent men, saying that the Pantheon was built in imitation of St. Paul's Cathedral; but that in the constructive part, the imitation of medieval architecture was carried to too close a point; the supporting piers were too weak, and a failure had been the consequence. Soufflot had collected together many drawings of Gothic buildings in France, and these drawings had been seen by many English architects, but had never been published; and it was not known where they were at present to be found. He said, that it did not appear, that the Gothic architects understood mathematics: dynamics and stereotomy, they understood empirically; and they often produced surprising works, but often failed. Thus, at present, we had done little more than collect the materials for correct analysis, but, from which it could be shewn, that no random or caprice entered into the fundamental principles of the style. The present state of the Church was in the highest degree favourable to progress in architecture; the establishment was awakening from the apathy in which it had slumbered, and, incited to exertion, would derive new strength from the attacks of its enemies. In fifty years hence, they might hope for great results. He then quoted an eloquent passage from the discourse of an eminent modern divine, in argument for an increased attention to the architecture, and decoration of churches.

Mr. Cockerell, in continuation of his remarks on the discovery of the principles of Gothic design, said, that he had long suspected, that much might be gleaned from the old translators of Vitruvius. The greatest difficulty in their examination was the obscurity of the text. In this expectation he had not been disappointed, having found a rich harvest of materials, by which facts were elucidated, that previously were inexplicable, and which materials he now proposed to lay before them. He said, that it was a remarkable circumstance, that the architects of the middle ages deemed their churches an exact expression of the principles of Vitruvius. Had he not visited Germany, he said, he might long have remained in ignorance of the remarkable similarity, that existed in the plans of old Gothic buildings, and those given by the old commentators, and translators of Vitruvius. Of these men, the most important was Cesare Cesariano, who wrote about 1520, and was conservator of Milan Cathedral in the third century after its erection. That architect himself was half a Goth; and constantly referred to Gothic buildings to illustrate the text of his author.—The translation by Cesariano is a very scarce work, and the diagrams shewn by Mr. Cockerell were taken from the work of Gianbattista Caporali (which he also exhibited), who had given them as exact copies of those of Cesariano. The different forms of temples, described by Vitruvius under names, now understood to refer to different arrangements of columns circumscribing the *cella*, by the early translators were explained in an entirely different manner. The reference to columns—*peripteral, pseudo-dipteral*, &c.—was understood, as applying, not to the exterior, but to the interior; whilst *tetrastyle, hexastyle*, or *octostyle*, were supposed to refer to the number of projections, or buttresses. Thus, the temple *in antis* was represented as square in plan, with four central columns.



The elevations, in the diagrams exhibited, were all in the Italian style, the front of the "temple *in antis*" having four pilasters. The plan of the prostyle temple was similar to the foregoing, but the pilaster at each angle had a column advanced in front of it. *Amphi-prostyle* was supposed to mean that the projections were continued in the flanks. From the farther end of the plan projected the tribune, or chancel, with semi-circular apse. This arrangement was compared with that of a Gothic church in Germany, and the plans of each were found to correspond. The elevations also resembled each other in general arrangement, and in the position of the turret ("hecuba tholata"). The professor considered, that this interpretation of Vitruvius was well known to Sir Christopher Wren, who belonged to the last lodge of Freemasons, which may be supposed to have treasured up the secrets of its predecessors,

and who had followed out the arrangement in many of his churches. Drawings of several of Wren's churches were here exhibited, and the attention to a system of proportion was certainly very remarkable in them, as shewn by lines, intersecting the different parts, drawn in red. Mr. Cockerell remarked, that the arrangement of the "temple *in antis*" was adapted to the Christian religion from the symbolic allusions, which might be drawn from it; the three divisions representing the Trinity, and the four columns the four evangelists. He pointed out, that the angles of the different plans were strengthened by projections; and this was in accordance with the directions of Vitruvius, as to increasing the dimensions of the angular column. These large counterforts were to be noticed in many old Roman buildings. He quoted from Cesariano in illustration of these remarks, and in reference to the termination of the chancel or tribune, for which the author gave several forms, but said that the "learned" preferred the square termination, as practised in most English cathedrals. This led to some concluding remarks on the state of learning in the 15th century, which was a state of profound ignorance, and yet high respect and veneration for classical knowledge, illustrative of which he read extracts from Lydgate's Book of the History of the Siege of Troie, in which the architectural splendours of that city were represented under the forms and decorations of the middle ages. * *

BRITISH ARCHÆOLOGICAL ASSOCIATION.

At the meeting on Wednesday, the 14th instant, referred to last week, Mr. Pettigrew, the treasurer, in the chair, more than fifty volumes of books and pamphlets were presented by various English, French, and German authors to the society.

One of the principal attractions of the evening was a beautiful bronze figure of the goddess Ceres, of exquisite workmanship, sent to the society by the Duchess of Beaufort, with some gems discovered in the excavation of a Roman villa near the ducal residence. Some Roman vessels, and curious round polished stones were also exhibited, on the uses of which, whether for slings, deposited as relics, or for trituration, no positive opinion was given. A very curiously-wrought hilt of a Scottish claymore, with a rude portrait of Prince Charles Stuart upon it, was also exhibited. Mr. Fairholt's careful tracings and drawings, copies from the mural paintings discovered a few weeks since in Carpenters' Hall, London Wall, excited much attention. Several communications of great interest were read, including one by Mr. Croker, from the pen of the Marquis of Worcester, author of the "Century of Inventions," addressed in vain to Charles the Second, for indemnification; he and his father having expended nearly a million of money fruitlessly in the cause of Charles the First; the eccentric marquis alludes to his invention of a water or steam-engine of great and marvellous power.

Mr. Roach Smith read a paper from Mr. Jewit, containing particulars of the ancient hospital of St. Giles, for lepers, at Shrewsbury, and the miraculous virtues of the waters of St. Winifred's Well, in North Wales. Some elucidatory remarks were made by a gentleman present, as to the component qualities of the water, and its freedom from sulphate of lime. The moss from this well of St. Winifred's is, with pious Catholics, to this day considered a specific for many diseases; and the crutches, sticks, and biers still hang suspended among the rich architectural tracery of this picturesque well as trophies of the miraculous effects of its pellucid waters. A long range of mountains, stretching half way from Chester to the sea, are the natural reservoirs and filters of this wonderful spring; and *Moel vamma*, or the mother of the mountains, has more to do than the decapitated head of Winifred, with its vast crystal gurglings! Papers from Messrs. Lower, Rev. Beale Post, Messrs. Prior and Pretty, were in part postponed until the next meeting. Sir William Chatterton, Alderman Moon, and the Honourable Ridley Colborne were received as members.

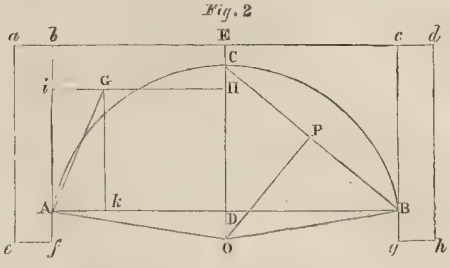
CLANDOWN.—A new church is about to be erected at Clandown, near Bath. The Prince of Wales, as Duke of Cornwall, has subscribed 100*l.* towards the expenses.

ON THE EQUILIBRIUM OF PIERS.

WHAT we have done at page 8 applies to the semi-circular arch when the summits of the piers and the road-way are in the same horizontal plane; but when the arch is some segment less than a semi-circle, the investigation, as well as the construction, is somewhat more difficult, in consequence of the elements which it involves; the general result, however, assumes a form nearly the same as equation (D), and for this reason, the process which it represents will be nearly the same as that just exemplified.

Let ACB (fig. 2), be a segmental arch, of which the span is AB; the versed sine, or

Fig. 2



height, DC, and CE the thickness at the crown, or the depth of the key-stone; *abfe* and *cdhg* being the upright piers as in the preceding case.

Draw the straight line BC, which bisect in the point P, and at P erect the perpendicular PO to meet CD produced in O; then is O the centre from which, with the radius OA or OB, the segmental arch ACB is described. Let G be the place of the centre of gravity of the semi-arch ACE*b*, and through the point G let the horizontal and vertical lines *i*GH and G*k* be drawn, meeting the pier in the point *i*, the axis DE in the point H, and the span or base AB in the point *k*, and draw AG. Then, because G is the centre of gravity of the semi-arch ACE*b*, the whole mass of which it is constituted, may be conceived to occupy that individual point, it will therefore produce the same effect on the pier as is produced by the arch in the actual form of its construction. Now, if G*k* represent the force of the semi-arch in the direction of gravity, then will *k*A represent that part of it which acts against the pier in the direction of the span or base BA; therefore, if *w* denote the weight of the semi-arch ACE*b*, then we have

$$Gk : kA :: w : \frac{w \cdot kA}{Gk}$$

This is the force exerted at the point A to turn the pier about the point *e*, but the leverage on which that force exerts itself is A*f*; consequently, the momentum or mechanical impulse is expressed by $\frac{w \cdot kA \cdot Af}{Gk}$, which must be equal to the momentum of the pier. Now the area of the pier is $bf \cdot ef$, and the leverage is $\frac{1}{2}ef$, so that the momentum is $\frac{1}{2}bf \cdot ef^2$; hence, by comparison and reduction, we get

$$cf = \sqrt{\frac{2w \cdot kA \cdot Af}{bf \cdot Gk}}$$

being precisely the same as equation (A) for the semi-circular arch previously investigated.

Let A denote the area of the semi-segment ACD; then will AD·DE — A, express the area of the semi-arch ACE*b*; and since this is proportional to, and represented by the weight *w*, we have

$$cf = \sqrt{\frac{2(AD \cdot DE - A) \cdot kA \cdot Af}{bf \cdot Gk}} \ldots\ldots (E)$$

In this equation the quantities A, *k*A, and G*k* are as yet unknown, but they are all determinable from the data by the rules of mensuration, and a well known property of the centre of gravity; for if we suppose the rectangular plane ADE*b*, to revolve about the side AD, which remains fixed, it will, during the revolution, generate a cylinder whose radius is DE and altitude AD, while the semi-segment ACD generates half a circular spindle, whose radius is DC and half the length AD; and the difference between the cylinder and half the circular spindle, will be equal to the solid generated by the revolution of the semi-arch ACE*b*, and this is equal to a prism whose base is the area of the revolving plane, and altitude equal to the circumference of the circle described by its centre of gravity. Now, by the rules of mensuration, the solidity of the cylinder is expressed by the term $3{\cdot}1416AD \cdot DE^2$, and that of one-half the circular spindle by $2{\cdot}0944(AD^3 - 3A \cdot OD)$; consequently, by subtraction, we get

$$3{\cdot}1416\,AD \cdot DE^2 - 2{\cdot}0944(AD^3 - 3A \cdot OD),$$

and if this be divided by 6·2832 times the area of the semi-arch, we shall obtain the value of the ordinate G*k* as follows:—

$$Gk = \frac{1{\cdot}5AD \cdot ED^2 - (AD^3 - 3A \cdot OD)}{3(AD \cdot DE - A)} \ldots\ldots (F)$$

In this equation we have introduced another quantity whose value is not known *à priori*, but which is readily assignable from the data; we mean the central distance OD, that being necessary for determining the solidity of half the circular spindle.

Again, if we conceive the rectangular plane DA*b*E, and the circular portion DAC, to revolve simultaneously about DE the axis of the arch, and DC its height, the one will generate a cylinder whose diameter is AB and altitude DE, and the other a spheric segment having AB for the diameter of its base, and DC for its height or versed sine, and the difference of these will be the solidity of the figure generated by the contemporaneous revolution of the semi-arch CA*b*E.

By the rules of mensuration, the solidity of the cylinder thus generated, is expressed by the term $3{\cdot}1416AD^2 \cdot DE$, and that of the spheric segment by $0{\cdot}5236\,DC(3AD^2 + DC^2)$; therefore, by subtraction, we get

$$3{\cdot}1416\,AD^2 \cdot DE - 0{\cdot}5236\,DC(3AD^2 + DC^2),$$

which being divided by 6·2832 times the area of the semi-arch, gives

$$HG = \frac{6AD^2 \cdot DE - DC(3AD^2 + DC^2)}{12(AD \cdot DE - A)}$$

and by subtracting this from the radius DA or H*i*, we obtain

$$Ak = \frac{6AD(AD \cdot DE - 2A) + DC(3AD^2 + DC^2)}{12(AD \cdot DE - A)} (G)$$

Then, if the values of G*k* and A*k* as represented in the equations (F) and (G), be respectively substituted in equation (E), it will be, $cf =$

$$cf = \left(\frac{3AD^2(2DE + DC) + DC^3 - 12AD \cdot A}{3A \cdot OD + AD(1{\cdot}5DE^2 - AD^2)}\right)^{\frac{1}{2}} \times \left(\frac{Af(AD \cdot DE - A)}{2bf}\right)^{\frac{1}{2}} \ldots\ldots\ldots (H)$$

This equation for the thickness of the pier, is more complex in its form than that for the semi-circular arch, and it involves two quantities, that require to be found by a separate computation; these are the central distance OD, and A, the area of the semi-segment CAD, the rules for which may be found in books on mensuration.

In consequence of the very complicated form which the resulting equation assumes, it would be difficult so to express it in words as to render it intelligible to the general reader, but, if the steps employed in resolving the following example be carefully attended to, there will be no difficulty in applying a similar process to any other case.

Example 2.—Let AB, the span or base of the arch ACB, be 100 feet, the versed sine or height DC, 41½ feet, the thickness at the crown or length of the key-stone CE, 6¼ feet, and A*f*, the distance from the foundation to the spring of the arch at A, 10 feet; what must be the thickness of the sustaining pier?

In applying the above equation to the resolution of this question, the first thing to be determined, is OA or OB, the radius of the circle, from which is found the central distance OD, and A, the area of the semi-segment CAD. Now BC, the chord of the semi-arc, is equal to the square root of the sum of the squares of the semi-span, and height of the arch; that is $BC = \sqrt{BD^2 + DC^2}$, and the triangles DBC, BOP, are similar; consequently, by the property of similar triangles,

we have DC : BC : : BP : OB; that is, 41·5 : $\sqrt{50^2+41{\cdot}5^2}$: : $\frac{1}{2}\sqrt{50^2+41{\cdot}5^2}$: OB = 50·87 feet, and if from this we subtract the height of the arch, we get 50·87 − 41·5 = 9·37 feet for the central distance OD; and by the rule for the circular segment, we get A = 1558 square feet, very nearly; hence the numerical values of all the quantities that enter the equation are known, and the remaining part of the process is therefore as follows :—

$$Af(AD{\cdot}DE-A) = 10(50\times48-1558) = 842\times10 = 8420,$$

$$3\,AD^2(2DE+DC) = 3\times50^2(2\times48+41{\cdot}5) = 7500\times137{\cdot}5 = 1031250,$$

and to this latter result let the quantity $DC^3 = 41{\cdot}5^3$ be added, and it becomes

$$1031250\times71473{\cdot}375 = 1112723{\cdot}375;$$

but $12\,AD{\cdot}A = 12\times50\times1558 = 934800$;

let this be subtracted from the above sum, and we get 1112723·375 − 934800 = 177923·375; then, if the first and last of these results be multiplied together, we have

$$177923{\cdot}375\times8420 = 1497114817{\cdot}5$$

for the numerator of the fraction, and the denominator is found as follows :

$$3\,AD{\cdot}DE^2-2\,AD^3 = 3\times50\times48^2-2\times50^3 = 345600-250000 = 95600,$$

to which difference, let be added the quantity,

$$6A{\cdot}OD = 6\times1558\times9{\cdot}37 = 87590{\cdot}76$$

and we get

$$95600\times87590{\cdot}76 = 183190{\cdot}76,$$

and if this be multiplied by 58 feet, the whole height of the pier, we have

$$183190{\cdot}76\times58 = 10625114{\cdot}08$$

for the denominator; hence it is

$$ef = \sqrt{\frac{1497114817{\cdot}5}{10625114{\cdot}08}} = 11{\cdot}87 \text{ feet.}$$

This, therefore, is the process as it is actually required to be performed, in determining the thickness of the piers for the two cases which we have exemplified; they are, however, the very simplest cases of which the problem is susceptible, for when the forms of the pier and the arch are different from those which we have assumed, the equation will become more complicated according to the forms made use of; the chief difficulty, however, consists in finding the position of the centre of gravity, or the co-ordinates by which it is determined; for when these are supposed to be known *à priori*, the operation as well as the equation by which it is indicated, is comparatively simple.

The method that we have employed in determining the position of the centre of gravity, is well deserving of the reader's attention; and if it be carefully pondered and well understood, it will be of the utmost use in leading the practical man to the determination of that important point in numerous other cases for which no general rule is given. T.

FOREIGN ARCHITECTURAL AND COLLATERAL INTELLIGENCE.

British and German Antiquarianism.—There exists, we believe, no "*historical-antiquarian map*" of this realm—one, to wit, on which all the sites of important buildings, roads, &c. (and, of course, those of all important battles, pageants, &c.), are correctly laid down.* Such a map would exhibit a graphic picture of the history of the country—typified in structural or other art remnants, as well as derived from *tradition* and the written records of time. If we, however, construct such a chart within our mind's eye—and fill up the expanse of these lands with those (in the aggregate) *numberless* minsters and cathedrals, and convents and abbeys, and monasteries, castles, mansions, palaces and colleges, as they existed shortly before the (first) Reformation; when, forsooth, almost every village possessed its substantial "stone and oak" house of worship—many of them patterns of beauty and solidity and sterlingness; we say, then, that it must have been a splendid land: not only "merry old England," but splendid old England—indeed. Italy may excel this country in the singleness of her majestic structures, some of them of a time *ante*-historical in regard to England—but not in the dense crowd of man's *greatest* works, scattered all over the land. France and Germany bear the same proportion—save the deficiency of Italian antique buildings. Over Italy and France, moreover, as upon many parts of Germany, the structural and art-demolishing process of first Reformation—previous civil wars without end, have not passed to that extent, as they have bereaved England of her finest monuments.—For the sake, however, of arriving at our subsequent corollaries—we have to single out *Bohemia* and *Austria* (the province), and allude to the perfect state of preservation of many of their ancient structures, not only on account of the freedom from the ravages of Reformation, but of the *Conservative* spirit which has constantly actuated the owners and trustees of such structures. The Cathedral of Prague—although, like the Dome of Cologne, never completed, exists in perfect preservation with all its finials, foils, and mouldings—as well as paintings, carvings, brasses, and old jewelry, just the same as it was in the fifteenth century; one of the finest specimens of mediæval art in Europe. But not only places of worship have been preserved in this way—it is the same with the castles and mansions of monarchs and other Great. Such is *Karlstein*, royal residence built by Emperor Charles IV., about 1360. There,—I see it still, towering from out of its rock foundation, a gigantic pile of building, amongst the surrounding wooded and wild mountain ranges of Bohemia. Here, the carved ceilings and stalls of the chapels, the armories and stained-glass windows—nay, even the first specimens of combined fresco and oil paintings (previously introduced from the East), have remained intact—in fact, the greater portion of the immense castle is, if not inhabited, at least habitable. The same spirit of preservation has animated the trustees of smaller religious buildings—nay, even private individuals. An example of the former is the chancel of the Templars' Church, near *Schöngrabern*, in Lower Austria (erected in the twelfth century), the outside of which is covered with Basso-relievos of the rites—nay, heathen *mysteries* of this half-secret association. Still, there they are, as complete and unscathed as the day when the last stroke of chisel passed over them. The landed proprietors of Austria have followed in the same wake—and *Greifenstein*, the castle where King Richard I. (Cœur de Lion) was kept a prisoner about 1190, has been repaired and renovated many years ago, and made accessible, nay, comfortable, to the visitor. The same with Lichtenstein, near Vienna, the cradle of the princely house of that name. It is not only the *material* preservation and the material *sight* of such structures, which is to be taken into consideration—but the many lessons (of art and otherwise) which we may derive therefrom. These, added to *our* present worth—provided this age possesses any such, will then necessarily increase the radii of our civilization.

Emigration of Foreign Artisans.—A number of masons, bricklayers, and carpenters, about one hundred, have left the duchy of Modena, to settle in French Africa (Algiers), as the Government have put forth, that the wages of one of the above artisans at Algiers, are five francs a day, equivalent to seven or eight at Paris or other crowded cities.—The number of German artisans also, who emigrated last year to South Australia, was considerable, as according to the official "Table of Revenue, Commerce, &c., of Great Britain, for 1844," largely circulated by German emigration agents, the wages of masons and carpenters at Sydney, are from eight to twelve shillings a day.—*Allg. Zeitung.*

Railroads in Tyrol.—This alpine and picturesque country is also engaged in railway plans, but which here are fraught with great difficulties. Some years past the Rosenheim-Inspruck line was spoken of, but as even the Salzburg-Munich was very unpromising, the plan did not much proceed. Since the late project of some Venetian and English capitalists, to construct a line through the southern valleys to the Bodensee, the Verona-Bregentz lines have been anew considered. But the difficulties of even this single line are very great—viz. the regulation of the course of the Adige, the passing of two water-sheds, and the Arlberg—besides the incalculable sums, which the destruction of the line by torrents or snow-drifts would occasion. Easier would be a line from Botzen to Inspruck. The passing of the Splügen is also mentioned, as the fittest for the Indian mail, if the plan were otherwise practicable. As the association-buildings in Lombardy have proceeded not quite satisfactorily—the opinion in Tyrol is, that these lines should be undertaken, as in Belgium, by the state.

Telegraphs at Algiers.—They were established in French Africa as far back as 1837—but then only from Algiers to the camp of *Bouffaric*. In the year 1842, however, a director was sent from Paris, to study and report on the lines to be executed. In the year following, the line from Algiers to Miliana was completed, consisting of eleven stations. It was further extended to Blida, in both cases either in houses already existing, or little turrets built for that purpose. Each of these consists of three rooms on the ground-floor, and one above, the terrace surrounding it being furnished with a battlement and loop-holes. The further lines proposed are from Algiers to Orleansville and Medea, and even Muscara and Constantine are spoken of.

Bridges in France.—The Minister of Public Works has laid before the Council of State the draught of a bill modifying the scale of charges on the Ponts des Art, Austerlitz, and de la Cité—which belong to a private company. During the year 1845, the number of royal ordonnances, authorizing the erection of suspension and other bridges in France, has been twenty-five, the expenses to be borne either by the corporations (*communes*), or by budget.—*Le Siècle.*

Interior Ornamenting of Public Offices at Paris.—The spacious saloons of the comptroller general's office (*Cour des Comptes*) have been ornamented in a splendid style with pictures, busts, &c.

Public Parks and Bathing Places, Vienna.—The necessity for places of exercise and recreation of the people, was started at Vienna, seventy years ago—by Emperor Joseph II.; and so eager was H. M. in this undertaking, that large trees were dug out in depth of winter, and transplanted in the *Augarten*. The inscription, which this philanthropic sovereign placed on the entrance to his public park, deserves to be noticed. "*To all men devoted recreation-place—by their esteemer*," Josephus II.*

Railways the surest guarantee of "Peace amongst men."—It is obvious, that all the expense, nations are now incurring for building such gigantic lines of rapid communication, to which is to be added, the whole scope and activity of the country, which is led into these channels and veins—would be at once annihilated, if a war was to break out in any part of Europe. To destroy a line of the *old road*, a vast number of engineers, sappers, and miners would be required—while the sleepers and rails of the *new roads* could be faster taken off, than they ever have been put on. In fact, half a dozen men with a couple of crowbars might do more harm to a line of a hundred miles in a few days, than hundreds of workmen could replace in a year.—*Gräntzbothen.* J. L——y.

* We are aware that the new ordnance charts exhibit the lines of the Roman roads—but this, of course, is but a portion of what an antiquarian map would realise.

IRON AND THE IRON TRADE.

The quarterly meeting of the ironmasters was lately held at Birmingham. It was not so numerously attended as heretofore. This may be attributed in some degree to a dispute now waging between the great masters on the one part and a number of small factors chiefly residing in Walsall and Wolverhampton on the other, with respect to the exact days on which the quarterly meetings are due. The prices, however, remain firm, with a decided tendency to a rise in all descriptions of iron. 10*l.* per ton for bar iron is firmly maintained; indeed; there was little inclination to sell at this price, and but few sales were effected. There was an advance of 10*s.* per ton on Shropshire pig-iron, which now stands at 5*l.* 10*s.* There was no advance on Staffordshire pig-iron, the price of which may be quoted at from 5*l.* to 5*l.* 5*s.* per ton. The Glasgow pig-iron trade has experienced a rise of late; nearly 4,000 tons were sold last week at 80*s.* to 82*s.* 6*d.*, after which 1,000 tons realised 83*s.* Several of the makers are open for contracts or sale for immediate delivery at 85*s.*, but it is

* *Allen Menschen gevidmeter Belustigungs-Ort—von ihrem Schätzer.*

believed that 83s. 6d., prompt cash, would buy from makers 8,000 to 10,000 tons.

To shew how cheaply iron is obtained, and how the mechanical skill and labour expended upon it totally overshadow the original price, the last number of the *British Quarterly Review* gives the following curious and instructive calculation :—

Bar-iron worth 1*l.* sterling, is worth, when worked into—

Horse shoes	£2	10
Knives (table)	36	0
Needles	71	0
Pen-knife blades	657	0
Polished buttons and buckles	897	0
Balance springs of watches	50,000	0

Cast-iron worth 1*l.* sterling, is worth, when converted into—

Ordinary machinery	£4	0
Larger ornamental work	45	0
Buckles and Berlin work	600	0
Neck chains, &c.	1,386	0
Shirt-buttons	5,896	0

Thirty-one pounds of Shropshire iron has been made into wire upwards of 111 miles in length ; and so fine was the fabric, that a part of it was humourously converted, in lieu of the usual horsehair, into a barrister's wig! The process followed to effect this extraordinary tenuity, consists of heating the iron and passing it through rollers of eight inches diameter, going at the rate of 400 revolutions per minute, down to No. 4 on the wire gauge. It is afterwards drawn cold, at Birmingham or elsewhere, down to the extent of 38 on the same gauge, and so completed to the surprising length of 111 miles.

Of the quantity of iron manufactured in Great Britain, South Wales produces 279½ thousand tons, Staffordshire, 219½; Shropshire, 81¼; Scotland, 37⅝; Yorkshire, 33; Derbyshire, 22½; and North Wales, 25.

WESTMINSTER COURT OF SEWERS.

At a court held on Friday, the 16th inst.; Joseph Fuller, Esq., in the chair—

Mr. Le Breton proceeded to submit several motions defining the duties of the surveyor; and subsequently his motion, which had been adjourned from the last court, was put from the chair: "That the salary of the chief surveyor, to be appointed in pursuance of the order of court of the 14th November, 1845, and confirmed, be 600*l.* per annum; and that measures be taken to invite candidates to apply for the office."

Mr. Leslie urged the impolicy of the delay which Mr. Le Breton was occasioning, and the risks the commissioners would run in advertising an office of 600*l.* per annum, while from the dismissal of the officers there was absolutely nothing but confusion. No doubt 150 or 200 persons might be collected, as candidates, but their abilities could alone be evidenced by a trial, and that could only be obtained after the election of one, and which, after all, would depend more upon the success of the party in the canvass, than in the real ability of the individual for the office. The officer the court required was a man of ability and activity; one who would fearlessly discharge his duty. He saw such an officer in Mr. Phillips, the clerk of the works, whose form of sewers had been adopted by the court; whose reports as to the abominable condition of the sewers in his district had awakened the court as it were, from a trance. These were two most important points, the form of sewers, and the actual condition of the existing sewers. He thought the wise course for the court to adopt was, to let Mr. Phillips have a trial to carry out his own form of sewers, and the mode in which he had so successfully cleansed a sewer in Berners-street with such a vast saving of expense, and avoidance of nuisance. He would, therefore, ask the court to support the amendment he was about to conclude with, and if successful in that, he should give notice of motion for the next court to appoint Mr. Phillips as chief surveyor for a limited period, upon trial, at a salary of 250*l.* per annum.

The honourable commissioner's amendment was, "That it is not expedient to invite candidates for the office of surveyor until a trial be made of Mr. Phillips, whose form of sewers had been adopted by the court."

The motion was seconded by Mr. Cumberlege, who gave way to Capt. Bague. The gallant officer declared himself in favour of the amendment; there was so much propriety in it, that he, although seldom voting with Mr. Leslie, would do so on this occasion. He saw in Mr. Phillips a young man of talent and industry, and the court wanted such an officer ; not one who, if Mr. Le Breton's motion was carried, would for the 600*l.* a year come down in his kid gloves and perfumed handkerchief, but who would neglect the more unpleasant duty of going into the sewers, or soiling his fingers; he should therefore support the amendment.

Mr. Allason was decidedly opposed to Mr. Phillips, who was very well as a clerk of the works, and might in that capacity be very useful to the court. Whatever Mr. Phillips's talent might ripen into, at present he was not fitted for them ; their officer should have talent of first-rate description ; he should oppose the amendment, and thought the court should not lose the opportunity of advertising for candidates.

Mr. White, although he did not like Mr. Phillips's forms of sewers, thought he had shewn great ability, and as the amendment was only to give Mr. Phillips a trial, he would support the amendment.

Mr. Cumberlege having seconded the amendment, wished to say a few words as to Mr. Phillips. He thought him a young man of very rising talent, and it was the duty of the court when such ability was exhibited, to promote the individual as opportunity arose, as the effect of the example would be very beneficial to the establishment. He had displayed great activity, and evinced great talent in the discharge of his duties ; his drawings, also, had been remarkably well done.

Mr. Cantwell was decidedly opposed to Mr. Phillips's appointment: he pledged himself that no man of honour and integrity would accept the 600*l.* per annum without doing the more disagreeable parts of his duty in examining the dirty state of the sewers.

Mr. Gutch also was opposed to the appointment of Mr. Phillips. Although he was ready to admit, he had shewn considerable talent, he still thought him unfit for the many duties the court would expect from a person placed at the head of the establishment.

The amendment was carried by 10 to 8.

Mr. Leslie then gave notice, that at the next meeting of the court, he should move that "In consequence of the order of court this day, January 16, 1846, that Mr. Phillips's appointment be made as chief surveyor upon trial for six months, at a salary of 250*l.* per annum."

Mr. Le Breton gave notice that he should move as an amendment to Mr. Leslie's notice of motion "That at the next court, measures be taken to advertise for candidates for the office of chief surveyor, at a salary to be then fixed."

An extraordinary sensation was produced by the reading of a report from Bryant Budd, labourer in trust.

Mr. Leslie rose to move, that Mr. Budd's report be printed and circulated among the commissioners, there being so small a number present.

Captain Bague implored Mr. Leslie not to persevere in his motion for printing Mr. Budd's report, as if such a document were to be sent forth, the court must indeed hide its diminished head.

Mr. Willoughby thought Mr. Budd's a very candid statement.

No commissioner would second the motion for printing the report, and the matter dropped.

The report in question is one of the most extraordinary documents that ever came before us, and shews that the establishment of the Westminster Sewers' Commission, with nearly 15,000*l.* at the bankers, the control of arrangements of vital importance to the community, and possessed of most arbitrary powers, is perfectly disorganized, and in such a state of confusion and inefficiency as should not be allowed to continue for twenty-four hours. We are prevented from printing it *in extenso*, partly by the feeling expressed by Captain Bague, and partly by want of space ; but we cannot refrain from quoting some portions of it and urging the commissioners, for many of whom we have the greatest respect and much personal consideration, to take immediate steps to produce a more seemly state of things.

The writer, who, it should be said, has been a servant of the commission twenty-four years, "and during that long service has not been once reprimanded by the court," commences his report by saying, "I am sorry from my impaired health and nervous state I could not do it better, but I presume the truth is all you require."

After the determination of the commissioners to do all work under 50*l.* in cost themselves, instructions were wanted, but could not be had; no preparations were made, no orders could be obtained :—

"All this time the complaints kept coming in, and were often repeated, until the office had no appearance of business, for no one seemed to know when or how the business was to be done. We had no contractor for materials, no place prepared to put them in ; no implements for our use, no person appointed to conduct this great undertaking. People whispering, and wanting to know what we were doing, and what was the cause ; some laughing at us,—we making all sorts of excuse. This strange state of things continued about ten days, and nearly the whole of your business on the eastern and western divisions of sewers was stopped." "Twenty or thirty half-starved men" were then engaged, "some with an old garden hoe, or an old broken pickaxe; indeed some of the things would have done for the British Museum as curiosities rather than tools."

No good bricks could be had, and "all things continued to go on as bad as possible. I did all that I was ordered as faithful as my limited authority would admit; but it appeared as if I was born to trouble, for Mr. Dowley was taken very ill, which I was not surprised at, from his state of mind ; and no one offering to take his place, I was obliged to go on as well as I could."

The office became a laughing-stock, and the poor labourer-in-trust "had not a night's sleep for a week." "You must consider the state of our office: Mr. Dowley ill for the last month; Mr. Doull's days are numbered with you, therefore he is not willing to enter into more difficulties than he can help ; no assistant surveyor ; nearly double work put upon us ; every thing strange to us, every thing uncomfortable ; we cannot please you, we cannot please ourselves, or any body else."

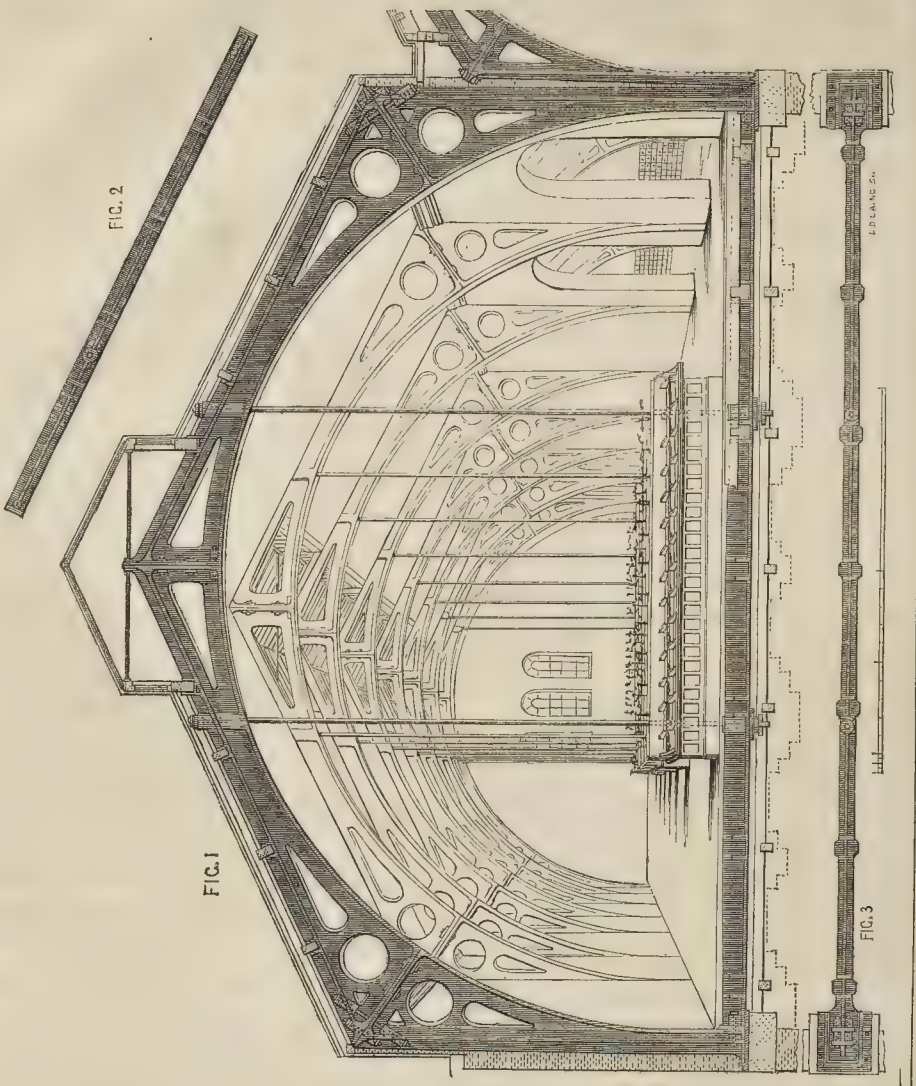
And he closes what he justly calls his unpleasant report, with the following :—"If the last sixty-nine days of my service should surprise you, what would *twenty-four years, were I allowed to report upon them?* The inefficiency of your officers might easily be found out if proper inquiry was made; the thing is very plain. The improvement in your sewage is also very plain ; but the inquiry is so limited, and knowledge of sewage so bad, that I never saw a good report in my life : most persons that write upon it know nothing but writing : but if your honourable court were to appoint a committee of inquiry, and go to the right quarter for information, there would be little difficulty about it."

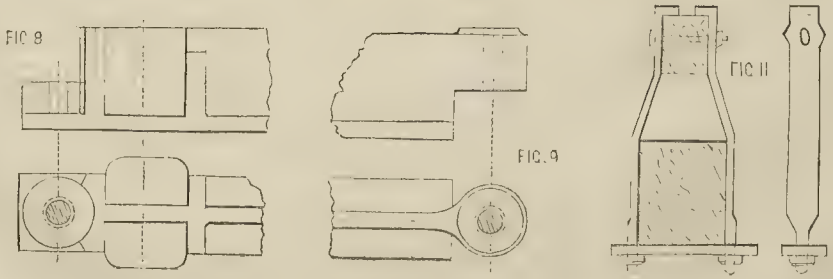
We have room for only one remark, and that is, to beg the commissioners to find no offence in this plain speaking. Their officers are at last taking courage, and are telling them the true state of things ; we trust they will do all in their power to induce them to persevere in this course, rather than to check it.

A Crystal Chamber. — The *Mining Journal* says "They are at present constructing, on the top of the Royal Observatory in Paris, a study cabinet, the walls of which, as well as the ceiling, are of pure crystal. It is in this chamber that M. Arago will work to watch the march of the stars, planets, and comets, by the assistance of a monster telescope, which is now being made. It is expected that this new transparent observatory will be terminated by the month of July next, and will be a *chef d'ouvre* of art.

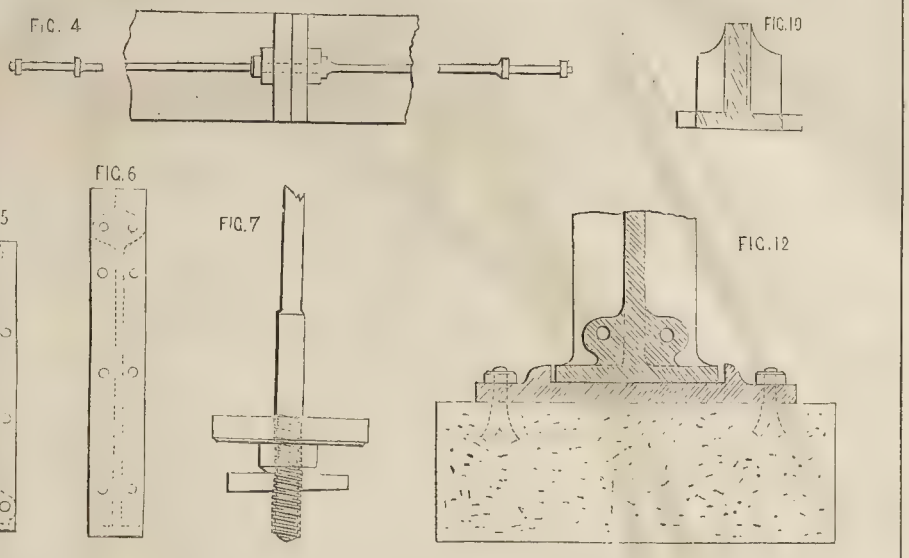
Suspension Bridge at the Falls of Niagara.—It is in contemplation to construct a suspension bridge above the Falls of Niagara, so as to join the Canadian Railway and the United States. The execution of the works will most probably be confided to Mr. Charles Ellett of Philadelphia, or to Mr. John A. Rebling of Pittsberg. The estimated cost is 43,200*l.*

NEW SORTING ROOM IN THE POST OFFICE.





DETAILS OF CONSTRUCTION.*



AWARD OF ART-UNION PREMIUMS.

The Committee of the Art-Union of London decided on Tuesday last, after a long and careful investigation of the merits of the various cartoons submitted in competition for the £100*l.* premium, that the author of No. 10, "Queen Philippa interceding for the lives of the Burgesses of Calais," was best entitled to receive the commission, provided he was found competent to execute the painting. On opening the sealed letter bearing the same mark as the cartoon, the artist was seen to be Mr. H. C. Selous, best known by his illustrations of "The Pilgrim's Progress," and a cartoon to which the Commissioners of Fine Arts awarded a prize in their first competition.

The meeting at which the decision was made, was very numerously attended, and the great merits of several other cartoons were canvassed at considerable length. The decision was ultimately arrived at *nem. con.*, and we have no doubt will be coincided in by the great majority of persons capable of judging. The duty of the committee was an onerous one; we happen to *know* that it has been performed by them with the greatest care, solicitude, and impartiality. Artists generally are indebted to them for the course they have pursued, more especially for throwing the works open to the public *before* making the selection. We have long urged the importance of having such an exhibition in architectural competitions, and trust the present example may serve to assist in obtaining that result.

We hope every artist who has submitted a cartoon will now forward his name to the committee, that they and the public may know with certainty who responded to the liberal and well-judged endeavour, made by the Art-Union of London to encourage the production of works of a high class. We annex six or seven of the artists' names, whose works are unmistakeable, or have been *publicly* recognized.

No. 10. Queen Philippa. *Selous.*

No. 25. Seizure of Mortimer. *Noel Paton;* to whom the Art-Union awarded an honorary premium some time ago.

No. 12. Howard visiting a Prison. *Armitage;* known by his cartoon rewarded by the Fine Arts' Commissioners.

No. 23. The Welcome of the Boy King, and

No. 1. Queen Eleanor obliging Fair Rosamond to swallow Poison. *Edward Corbould.*

No. 13. Non Angli, sed Angeli. *G. Scharf.*

No. 21. The Death of Harold. *G. E. Hicks,* who obtained the Art-Union premium for outlines last year.

No. 16. Oliver Cromwell about to slay Thurlow's Clerk. *Stothard.*

We will give in an ensuing number the names of any other competitors who may authorize us to do so.

We have reason to believe, the committee will award honorary premiums next week, to two or three of the other cartoons.

Sir,—You admitted into your last number a letter from Mr. Frank Howard, on the subject of the cartoons now exhibiting at the new Water-colour gallery in Pall Mall. The same gentleman has favoured the *Athenæum* with a similar epistle, under the signature of "An Historical Painter," as will be seen on reference to the current number. I have been a subscriber to the London Art-Union from its commencement; have watched with gratification, not merely its extraordinary progress, but the more extraordinary effect it has had in leading the public to find interest in matters connected with the fine arts, and furnishing ample opportunity for the development of artistical ability through the kingdom, and could speak from personal knowledge (if that were my object), of the conscientious, untiring, and able manner, in which the committee of this society has worked to enlarge its usefulness. But I do not take up my pen to address you on this head—it is, I believe, almost universally recognized, at all events I can conscientiously affirm that it ought to be.

My object is to draw attention to a hint infamously thrown out by Mr. Howard in the second letter alluded to, to the effect that the opinion in favour of "Philippa and the Burgesses of Calais," almost unanimously expressed by the London press, had been induced by "the nods and becks and wreathed smiles" of the committee. Moreover, as I am credibly informed, he has in other quarters asserted this still more broadly. Now, Sir, on the part of a portion of the London press, I take the liberty of telling Mr. Howard that this calumnious assertion shews as much his gross ignorance as his bad feeling. The committee could have no reason to attempt to produce this unanimity. They opened the exhibition before even the consideration of the cartoons took place, purposely to obtain the opinions of others; and if they *had* been so weak as to attempt to guide the press, would have failed as a matter of course. The right-minded and accomplished gentlemen in whose opinions on matters of art the conductors of the *Times, Herald, Chronicle, Post,* &c., &c., confide, are not in the habit of attending to "nods and becks," and will probably take some convenient opportunity so to inform Mr. Howard.

The propriety and good sense of this insinuation are only equalled by the knowledge of art exhibited by his selection for especial praise, in contrast to "Philippa," of the cartoon called, "Ill May Day." To say, as he has the hardihood to do, that this drawing answers much more fully than either "Philippa" or "The Boy King" to the requisition of the committee for "a work of mind," is positively an insult to common sense, and will not serve to increase the reputation of Mr. Frank Howard.

I have the honour to be, with best wishes for the continued success of "The Builder."

An Old Writer on Fine Art.

FALL OF A VIADUCT ON THE ROUEN AND HAVRE RAILWAY.

On Saturday, the 10th instant, about six o'clock A.M., the great viaduct of Barentin on the Rouen and Havre Railway fell with a tremendous crash. The viaduct consisted of twenty-seven arches, each of 50 feet span English; the extreme height of the middle was 100 feet. The actual height of the piers varied according to the extremely differing heights of the bottom and sides of the valley along which it ran; they were however brought up to one common level in solid stone, and above that level all the works, piers, arches, and spandrils were of brick made in the neighbourhood. The arches were semicircular and built, as most English bridges are, in distinct brick rings. In the bottom of the valley the alluvial deposit was between 20 and 30 feet thick. The piers were either founded on the solid chalk or on piles, where the nearness of the river and the depth of the deposit rendered it difficult or impossible to reach the rock.

The viaduct has been a twelvemonth in building, and the four or five arches at the Rouen end had not been finished more than two months. Such was the state of things on the morning of the accident, up to which time no symptoms of yielding, or settlement of any kind had occurred, except a small crack in the foundations of one of the stone piers, which

* See p. 37 in the present number.

did not extend to the brickwork. The arch that first gave way was where the ballast was being put on, which leads to the surmise that they had not loaded the arches properly, and since this portion of the work (the last built) had been done in wet weather, and open to the rain of several weeks before the concrete was put in the arches, the mortar was necessarily weakened, and remained unset. The resident engineer fancies the foundations gave way. Some of the French papers attribute the accident to the use of bad materials. At present all is surmise respecting the cause. The French Government has ordered a rigid inquiry into the affair, and by competent persons. It is only fair, therefore, to wait the report of the commissioners, and the reply which the chief engineer will no doubt make to it, when we shall again revert to the subject.

FALL OF A BRIDGE ON THE SOUTH EASTERN RAILWAY.—This unfortunate occurrence, following so closely on the heels of the disaster in France, has induced much alarm. The cause of the failure of the bridge is not yet understood, some attributing it to the floods, others to the original construction. It was a kind of viaduct, resting on brickwork abutments, which passed over the Medway valley, near Tunbridge. A similar accident happened in Belgium a few years ago, when the line was first opened.

BRISTOL ACADEMY OF THE FINE ARTS.

THE report read at the first annual meeting of the members of this Academy, to which we alluded last week, and the remarks made by various speakers on the occasion, referred to the erection of a fitting building for the purposes of the Academy. "The committee believe that it would be attended with very beneficial results, and their only hesitation is founded on the limited extent of the funds of the Academy, and on their anxiety that nothing done at this time should prove an embarrassment to the period— not, they trust, very far distant,—when a larger outlay being justified by the increased means of the society, a building in every way worthy of its objects might be erected. In the meantime, however, they are sensible that annual expenses will be incurred, which the possession of a suitable building would prevent; and they entertain a strong belief that the announcement of a determination to proceed in its erection in the approaching spring would be highly agreeable to the donors and subscribers."

A room for the study of the life-model is open three evenings in the week. "The study of the old masters has been pursued at the Victoria rooms, where Mr. Miles has kindly deposited pictures for that purpose, during five days in the week, and it is proposed that this shall be continued during the winter months." "On every Thursday this room has been set apart for the establishment of a ladies' class, for studying from the life, under the direction of an artist." "It is hoped by the committee that classes for perspective may soon be formed, calculated as they are to be eminently serviceable to a great number of young persons, who sketch and draw as amateurs, and seldom go through the essential steps leading to accuracy of delineation. As an object of the highest importance, the committee have especially directed their attention to the establishment of prizes, to be competed for during the present year. To this they have appropriated 55*l.* and they are glad to state that other funds have been placed at their disposal, for this object, to the amount of 65*l.*; making a sum of 120*l.* to be contended for at the next exhibition."

The treasurer's cash account shewed the income to have been as follows:—Receipts of the exhibition of paintings, including sale of catalogues, 205*l.* 9s.; donations, 1,191*l.*; subscriptions, 97*l.* 5s.; and dividend on stock, 60*l.* 16s. 6d.: total, 1,554*l.* 10s. 6d. The expenditure, 321*l.* 0s. 9d.; leaving in the banker's hands a balance of 1,233*l.* 9s. 9d. So far the report.

The local papers contain statements as to a difference of opinion that has arisen amongst the members, and which involves rather an important principle. In November last Mr. West, the keeper of the observatory at Clifton, an artist, and a man of considerable natural ability, proposed two gentlemen for election. Their talents as artists were allowed; but because one of them held a place of small emolument under government he was opposed, and a "determination" to the effect that any one in trade, place, or situation is ineligible as an artist member, was carried by the artists present. In consequence of this, Mr. West felt *himself* virtually excluded, and resigned. In reply to a request from the members, that he would reconsider his resignation, he addressed to them a communication, from which the following is an extract:—"As you hope to be patronised you should shew the public you deserve it by rejecting at once and for ever the narrow gauge of exclusiveness, which you are now on; it cramps all energies, has an uneasy progress, and is a long time on the road. Adopt the broad gauge of a liberal feeling for art, and your success and progress, as a body, in the public estimation, will be much more easy, rapid, safe, and certain. Fling aside the mean prejudice, that because a man by necessity is obliged to follow a trade or hold an office, whatever his talent may be, 'you'll have none of it.' Remember Chantry was a ploughboy; Bird for a long time after he was able to produce talented work, was a tea-tray painter; was Lord Landsdowne disgraced in having the weaver poet Thom at his table—a journeyman weaver then as he is now? There are many such precedents and examples. Where would Bird, Chantry, and Thom have been had all held the absurd doctrine, that while a weaver —no poet; while a tea-tray painter—no artist? Where would most of our talented artists have been if all had adopted the 'narrow principle' that now appears to actuate the majority of you? Adopt the advice I respectfully offer to you as a body. By your own patronage and help to art, you will appear before the Bristol public as a lesson or an example—you will take an elevated position. Keep your exclusive feeling, and the city will look down upon you perhaps with contempt. Endeavour to assist talented individuals when or where they may be discovered; honour yourselves by making them and claiming them as one of your own; rescue ability or genius when depressed by poverty; fear no shame to grasp in fellowship the hand of talent, however fortune may have disguised it."

NOTES IN THE PROVINCES.

ST. MARGARET'S church, Ipswich, is now undergoing considerable improvement. The whole of the pews will be removed, and open benches substituted; the lower part of the east window, which has been blocked up for more than a century, is to be re-opened and furnished with new tracery; and the whole church is to undergo a purification from whitewash, which the zeal of former churchwardens had given it. The western gallery will most probably be removed, as it not only disfigures the church, but impairs its stability. The alterations are being made mainly through the liberality of Mr. W. C. Fonnereau, under the superintendence of Mr. Ringham.——Water-works upon an extensive scale are about to be constructed at Great Yarmouth. Mr. Thomas Wicksteed is the engineer.——The Dundee water-works are being prosecuted with energy. The large reservoir and clean-water basin at Craigton Muir, on the Panmure estate, are considerably advanced; and, by the liberality of Lord Panmure, every facility will be given in execution of the work. The space to be covered by the reservoir will extend to about ninety or one hundred acres.——The London and Birmingham Railway Company have presented 150*l.* towards the repairs of the church of St. John, Coventry. It was presented in answer to an application for voluntary assistance. This is the only church in Coventry without a steeple.——The new barracks at Preston being finished, it is expected that the Lancashire Militia will shortly take possession of them.——It is confidently expected that the north wing of the University College Hospital will be commenced during the approaching spring. It is calculated to cost 4,000*l.* the whole of which with the exception of about 600*l.* is already subscribed for.——At Wickham-market, on new year's day, was laid the first stone of a new subscription building, to be appropriated to various public purposes. Much form and ceremony was used on the occasion. ——A very large mill which was in the course of erection at Scarrs Foot, near Kendal, was almost entirely destroyed last week by a severe gale of wind and rain.——A fortnight ago, the upper story of a brick-built stable, in the occupation of Mr. Wood, Doncaster, fell with a tremendous crash. The immediate cause of the accident is not stated. Fortunately, no lives were sacrificed.——It is in contemplation to erect a new police station at Swindon, to consist of entrance-hall, rooms for superintendent &c., with a justice room above, and two wings containing cells for prisoners. The estimate for the building, excluding the site, is 500*l.* The magistrates at present administer justice at a public-house.——The ancient church of Colemore, near Alton, Hants, has lately undergone complete restoration. The roof has been stripped and repaired; the timbers freed from whitewash, stained, and varnished; an ancient transept, long desecrated, has been restored; and the whole of the church has been repaved, and provided with low seats of a very simple character.——A testimonial to the venerable Sir Charles Morgan, Bart., will shortly be erected on one of the heights of Tredegar-park. It is to be a column, which will command a view of the British Channel, and a considerable portion of South Wales. Sir B. Hall, of Llannower, is chairman of the committee to carry out the project, and has subscribed 100 guineas towards it.——The new church at Malvern Link, Worcestershire, was consecrated last week by the Bishop of Worcester. The font, which is spoken of as being "novel and elegant," was a donation of the Countess Somers. The Earl Somers gave not only sufficient land for the site, but also 500*l.* towards the endowment.——Considerable improvements at West Ham are in contemplation, among which may be mentioned the erection of a public hall, and the establishment of gas works sufficiently extensive to insure the whole district being well lighted.——It is proposed attempting to raise, by the proceeds of a bazaar, the existing deficiency of 1,000*l.* in the sum required to enlarge and improve St. Nicholas's Church, Yarmouth.——A company has been formed within the last fornight, whose object is to convert the Warwick and Birmingham Canal into a railroad. Sir John Macneil is the engineer.——Among the projects of the past week is one which contemplates the construction of very capacious wet docks, with an extensive range of wharfage, at Plymouth. A company is forming with this object in view. Mr. J. K. Brunel is the engineer.

CHRONOLOGY OF EGYPTIAN MONUMENTS.

EVERY day increases our knowledge of Egypt, and our means of further increasing that knowledge. The "Literary Gazette" of last week (recently enlarged, cheapened, and improved) reports a very important communication, made by Mr. Birch to the Royal Society of Literature, on the Egyptian obelisk in the At-Meidan at Constantinople, which throws a new and striking light upon the annals and chronology of Egypt, in connection with Bible history. The hieroglyphics record the fact, that Thothmosis III., the erector of the memorial, who reigned 1736 years B.C., had pushed his conquests as far as Naharaim, or Mesopotamia. The monolith shrine, commonly called the sanctuary of Karnac (which is now in the *magasin* of the Louvre), is a monument of the same reign; and Mr. Birch announced that he had examined the copy of the long hieroglyphic inscription which covers it, published by the society in 1823, and found it refer to the same transaction. He also announced the important fact, that he had found there the names of the two chief cities of ancient Mesopotamia, Babylon and Nineveh. The latter had before been read by Champollion on another monument; the former is Mr. Birch's own discovery. Mr. Osburn, than whom there is no Egyptian scholar more competent to give an authoritative opinion, took the opportunity of congratulating the society upon this first step towards any thing like precise information on the subject of the foreign names inscribed on the monuments of ancient Egypt. He also explained that another foreign name, occurring in the inscription on the sanctuary, written in hieroglyphics by the consonants *r*, *d*, and *n*, he had himself ascertained to be that of the founders of Aradus, an

ancient city of Phœnicia, situated on the Mediterranean to the north of Tyre. The name often occurs in the hieroglyphic legends of the conquests of the successors of Thothmosis, where the people are said to consist of two divisions. The lower or northern division was called by the Hebrews the *Arvadites* (Arvadin, as the Phœnicians would have written it); the upper or southern division was afterwards called, *Rephaïm*. A great many other names—indeed, we may note those of all the principal foreign nations inscribed on these monuments—are now satisfactorily ascertained: an immense advance is thus made in the cultivation of this difficult branch of literature, and one that will elucidate many most interesting points in the earliest histories of mankind.

BRUMMAGEM ARCHITECTURE.

Sir,—A contemporary journal has lately edified its readers by some curious criticism, in which he has converted what are wholesome principles in themselves, into absurdities by pushing them into extravagance and ridiculous excess. Every one readily admits that the merit of buildings is greatly enhanced by their being constructed with genuine and permanent materials. The satisfaction which visible beauties, those of design and form, afford the eye, is no doubt considerably increased when we feel assured that, owing to the durability of the materials employed, the work is calculated to last for an indefinite period, perhaps for ages. But it is surely going to a most rediculous extreme to stigmatize the use of fictitious materials, and cheaper *succedanea* for the more expensive kinds, as paltry Brummagem; and further, to decry in the most sneering manner, buildings of considerable merit for their design, merely because all their materials are not exactly genuine, or of so costly a kind as they might have been; for which offence their employers and not architects are answerable, since the latter would as willingly make use of Portland stone or even Carrara marble, as of Roman cement.

People want to have things appear costly, but to come cheap; and in order to gratify their unreasonable humours, several ingenious persons have set their wits to work, and invented a variety of artificial substances and compounds, and some as substitutes for the natural materials; and some of them imitate them so perfectly, as to be equally beautiful in appearance. But now starts up a most formidable critic, who pronounces his solemn ban upon every thing of the kind as arrant sham, deception, and Brummagem; sparing not even scagliola columns. Were his own sweeping denunciation as powerful as his will, it would infallibly prove a death-blow to a hundred inventions, patents, and manufactures. Adieu to Brown's scagliola and Keene's cement; to Bielefeld's papier-maché for architectural decorations; to Cartonpierre; to the crockery-ware for pavements, imposed upon us under the name of encaustic tiles; to veneering with costly woods for the "shamming" outsides of pieces of furniture; to paper-hangings in imitation of silk or velvet; to stamped leather; to bronzing—and why not also to gilding itself—to such "clumsy deception" and arrant make believe as that of coating wood-picture frames with gold-leaf, as a substitute for frames of the solid.

How it may strike you, Mr. Editor, I pretend not to say; but it does strike me that your "contemporary" has mounted upon a steed akin to that of Johnny Gilpin, and that he has carried him a very much greater length than he intended to go. Surely it was going quite far enough to go to the extent of abusing the "Companion to the Almanac,"—a publication till now spoken of at least *civilly* by the "civil" and representing the architectural information and remarks in it to be downright nonsense, without so much sputtering. According to him, "Freeman's-place" does not at all deserve the character given of it in the "Companion," as being a fine piece of street architecture, "exceedingly well-proportioned as to the quantity as compared with the entire surface." And why? because, forsooth, the ground-floor, which is treated as an arcade, and where consequently the openings are considerably wider than the piers, does not answer to the remarks upon the 'fenestration' generally. The critic, however, has chosen to shut his eyes entirely to all the rest, and fix upon the ground-floor alone, and in order to make it appear that it is that part which is especially noticed in the "Companion," he has turned the words "this façade is exceedingly well proportioned, &c.," into "this *arcade* is exceedingly, &c." Still he does "not intend the slightest censure" on the design itself. Verily the architects must be vastly obliged to him for such a sop *à la* Mrs. Candour; and he does not intend the slightest censure, he only plainly denies the chief merit claimed for their building, assuring them that it is not the fine unbroken mass which the "Companion" fancies it to be. Pity that he did not turn round to the Royal Exchange, for he might then have fallen foul on that as being very much like a "conservatory," since in that structure also, the ground-floor consists chiefly of large glazed openings between comparatively narrow piers.

Of the writer's civility, both Barry and Hardwick come in for a share; the former is told that his fountains in Trafalgar-square are "intensely ugly!" the other that the ceilings of the drawing and council rooms in the new building of Lincoln's-inn, are but "Brummagem," and that such is the opinion of the benchers themselves. "The criticism," observes the critic, "to be sure, is not that of professed (qu. professional?) architects, but it is at least that of gentlemen, and men of educated taste." It is rather likely to strike most persons as being but very Brummagem sort of criticism, since it is to be presumed that men of educated taste, are able to discuss matters of taste with something more like reasons and arguments, than vilifying epithets and contemptuous expressions amount to.

Budownik.

THE MOSQUES OF KERBELA.

The entrance to Kerbela a "sacred" city held by the Schytes has been immemorially interdicted, not only to Christians, but to all but a certain people. Monsieur Lottin de Laval, a French archæologist having recently explored it, has addressed a communication upon it to M. Champollion, which appears in the *Courier d'Orient*. We avail ourselves of a quotation in the *Athenæum* for the following description of some of the buildings there. "I had been told that the two mosques of Kerbela were of unrivalled beauty—and I found it true: they exceed their fame. That of the Imaum Hussein is the most sumptuous. A vast pile of masonry supports the cupola; and this cupola is entirely built in bricks of copper, about eighteen centimètres square, covered over with plates of gold of extreme purity. Three minarets spring up by the side of this sumptuous cupola, adorned with painted porcelain, enriched with flowers and inscriptions as far up as the Muezzin's gallery. Above this gallery are open colonnades on the two minarets which flank the southern gate; and these colonnades and the final shafts are gilt likewise. The interior is in harmony with this unheard of splendour. The side walls are of enamelled porcelain, having a dazzling effect. Wreaths of flowers and friezes covered with inscriptions in Talik characters intermingle with remarkable elegance; and the cupola is adorned with mirrors, cut facet-wise, and with strings and pendents of pearls. The tomb of Hussein is placed in the centre of this cupola. It is a square mass, of considerable height,—covered over with viels wrought in pearls mixed with diamonds, sapphires, and emeralds." Three balustrades protect this mausoleum. The first is of massive gold, wrought with great art. The two others are of massive silver, carved with the patience and skill of the Persian.

"The mosque of Imaum Abbas, situate to the east, has no wealth of gold, silver, or precious stones; yet, in my opinion, it is, in an architectonic point of view, far finer. Two minarets only flank its southern gate, and tower above its bold and magnificent cupola—built in porcelain, covered with wide arabesques of a very grand character, and with flowers of gold on a ground of tender green. When the hot sun of Araby darts its burning rays on this richly-coloured mass, the splendour and magnificence of the effect are such as thought can scarcely picture and no painting can convey. The body of the edifice is octagonal,—adorned in enamel of a lapis-lazuli tint, and enriched by interminable inscriptions in white. All around are pierced, moulded windows, retiring within indented frames; and the great door, of the same style—flanked by two galleries, sustained by light and graceful columns—projects boldly out, in a manner closely resembling the porch of our ancient basilicæ. The court of this mosque is vast, square, and pierced at each angle with gates of great richness.

INSTITUTION OF CIVIL ENGINEERS.

The session was opened on Tuesday, the 13th inst. Sir John Rennie, president, in the chair. Press of matter forced us to postpone our notice of the proceedings.

The paper read was a "Description of the machinery erected by Messrs. Maudslay and Field at the Minories station, for working the London and Blackwall Railway," by A. J. Robertson, associate.

It commenced with a general account of the railway, quoted from Mr. Bidder's appendix to Mr. Stephenson's report on the atmospheric railway, as a parallel was then attempted to be drawn between the system of rope traction and that of propulsion by atmospheric pressure. The railway is about 3¾ miles in length, built upon arches, and worked by two pairs of stationary engines of 400 horse power and 200 horse power respectively, at the Minories and Blackwall termini. Wire ropes of 3⅝ inches in circumference, or 1¼ inch diameter, formed of four strands, each composed of forty-two wires, extend along the length of the railway, guided by grooved pullies, and coiled alternately at each extremity on drums, which are worked by the engines. The carriages are attached to the ropes by "grips," which can be detached at pleasure; and the carriages are arrested by breaks, so as to deliver their passengers at the numerous stations along the line, from whence about two-thirds of the amount of traffic is obtained. The carriages travel alternately along either line; and the signals for starting and the general working of the line are given by the electric telegraph. At first, some difficulty was experienced from the repeated fracture of the hemp rope, which was then used. Wire ropes, with swivels at given distances, were, however, adopted; and at present, in about two thousand journeys each way in each month, not above two fractures occur. Mr. Stephenson and Mr. Bidder, who, with other members, took part in the discussion, gave some curious particulars of the difficulty arising from the twisting of the rope, which was the cause of the destruction of the hemp rope, which had not any swivels in it. The cause of the torsion could not be satisfactorily accounted for; but it was conceived, that the circumstance of the rope being lapped *under* the drum at the Blackwall end, and *over* the drum at the Minories end, might have some influence in the matter.

In the discussion, it was stated that the rope now used was formed of six strands laid round a hempen core, each strand composed of six wires also laid round a hempen core. That there was an evidence of very early corrosion whenever the wire came in contact with the hempen core. The power required to move the rope alone, was about 200 horse power with a hemp rope, and with the wire rope, on account of its greater weight, it required about 250 horse power. As to the question of expense; that point must not be considered abstractedly; it must be remembered that the traffic could not be carried on at the requisite speed by locomotives if they were required to stop seven times in 3¾ miles; it was therefore a question whether the system of rope traction, by which the traffic could be conveyed at a given speed, or whether the intermediate traffic, should be abandoned. The latter, commercially speaking, could not be done, and the rope system was persevered in. The expense of working the engines and rope was stated to be about fourteen pence per train per mile.

The annual general meeting of this society was held on Tuesday evening, 20th inst., when the following officers and council were elected:—Sir John Rennie, president; W. Cubitt, J. Field, J. M. Rendel, and J. Simpson, vice-presidents; J. K. Brunel, B. Cubitt, J.

Locke, J. Miller, W. C. Mylne, R. Stephenson, F. Taylor, J. F. Bateman, Sir J. Mac Neill, and T. Sopwith, members; Lieut. Col. Colquhoun and S. M. Peto, associates.

The annual report of the council announced the past session to have been one of unexampled brilliancy, and the actual position of the institution to be very flourishing in every respect,

Telford medals were presented to Messrs. P. C. Delegarde and G. Edwards, and premiums of books to Messrs. Vulliamy, Bodmer, and Redman, for papers read last year at the meetings.

The opportunity of the presentation of the annual report, was seized by the council for explaining succinctly to the general body, their intentions in proposing modifications of the existing bye-laws. From the statement, it appears, that the present bye-laws are based upon a code of regulations framed when the charter was granted, and by these the institution has been governed since 1828. The great progress, however, made by the profession of engineering, demanded certain modifications, which have been made from time to time by the council, but always within the spirit and meaning of the actual laws. These they now seek to incorporate in the code of laws, in order that all the members may be cognizant of them. It is proposed that the members should form the first class, the associates the second, and the graduates the third class, the latter being assimilated to the student class of other societies. The associates are raised to the second class, on account of their acknowledged value in the society, and the efficient aid at all times given by them in every step tending to the advancement of the profession.

It is proposed that the president should be changed every two years, in order to secure a rotation of the office among the members, and render the attainment of the post an object of ambition, and an incentive to industry and perseverance among the younger members of the profession. Some opposition was expressed to these views of the council, which, however, appeared to meet the wishes of the majority, and the council announced their intention, of presenting the proposed modifications for the discussion of the special meeting of members summoned for January 27th.

EARLY CARVINGS IN WOOD.

At recent meetings of the Society of Antiquaries, many interesting communications have been read. Amongst them may be mentioned a letter from Mons. Delapierre, secretary of the Belgian Legation, relative to a document discovered amongst the Records in Flanders. He stated that numerous evidences of the connection which subsisted between England and that country in ancient times, had fallen under his notice, tending to prove the Flemish origin of many works of art or decoration still preserved in England. The works of the Flemish carvers in wood were in especial esteem, and numerous fine examples exist in the churches of Norfolk and other parts of England, which may be regarded as their productions. The document found by Mons. Delapierre related to a dispute which had occurred at Bruges, in the year 1441, between William Carebis, a Scotch merchant, and a certain monk of Melrose Abbey, acting on behalf of the abbot of that monastery, and Cornelius de Aeltre, citizen of Bruges, and master of the art of carpentry, who had agreed to supply certain stalls for Melrose, after the fashion of the stalls in the Abbey Church of Dunis, in Flanders, and carved according to the design of those which existed in the choir of Thosan, near Bruges. The work had been impeded by popular commotions at Bruges, during which the master carver had been deserted by his workmen, and suffered severe losses. It is thought that many similar evidences exist in the archives of Flanders, which would throw light on the History of Art in England, and shew the extent of that influence which the productions of our continental neighbours exerted at various times in forming the prevailing taste of the day in regard to works of Art, as well as the elegancies or decorations serving as accessories to domestic or church architecture. Several of the engraved works preserved in England, commonly termed sepulchral brasses, were produced by artificers of Flanders, although few similar examples are now to be found in that country.

IMPROVEMENTS IN THE CITY.

Sir,—In continuation of some observations on this subject at page 22, Vol III., allow me to state, that the intended street from Amen-corner to Lincoln's-inn-fields is a part of a large and comprehensive plan for improving the thoroughfares of the city, the said street being intended to receive such part of the traffic from London bridge and water side commerce as will pass through an intended improvement of the line of Cannon-street and Watling-street, which will thus relieve Cheapside of many thousand vehicles, both from the west end and east end of the town.

With respect to the improved line of Gresham-street (late Cateaton-street) although not quite satisfactory, it is yet not too late to make it answer, what I believe it was intended for, namely, to receive a portion of the traffic of Newgate-street. This could be accomplished by the removal of the block of houses at the south end of the General Post Office, St. Martin's-le-Grand, and forming a street from that opening (which you will observe is close to Newgate-street) to Lad-lane, and widening the latter. The property that would be required to form such a short but useful street is not very valuable.

The partial failure of Gresham-street, in not being made more straight and spacious, may be charged on the parsimony of the citizens. If the latter would come forward in a liberal manner, and assist the city authorities to carry out the several plans of improvements with a handsome loan, instead of discouraging them by continual opposition, I am persuaded there would be no cause for disapprobation after the completion of the works, but the city would be the most convenient, the most healthy, and the most splendid in Europe.

I am, Sir, &c., T. I. M.

FITTEST STYLE FOR INTERIOR DECORATION.

At a meeting of the Decorative Art Society, January 14th, the following theme was discussed, "Under what circumstances in modern decoration ought the Gothic or the Italian style to be preferred." As might have been expected in the consideration of such a subject, the observations were discursive upon architectural proprieties and taste; and it was not until nearly the termination of the proceedings that the arguments became more definite. It was remarked, that a backward tendency, by an application to the earlier state of the arts, for the decorations of the new palace of Westminster, should be regretted; and it was said that selected artists were on the continent for the purpose of studying the style and manner of Giotto, Cimabue, and that school. It was argued that precedents ought to be studied, but not looked upon so much as fixed rules for embellishments, and that past efforts should rather be considered as examples of what had been applied under certain circumstances and restrictions, than as being the only ones suitable and appropriate to any recognized and imitated form in architecture; also that it ought to be open for the present age, by an application of superior drawing, execution, or colouring, to impart a new and peculiar effect to forms of another period. This argument was pursued by stating, that it was necessary only to have regard to principal lines in the arrangement of harmonizing and contrasting forms of ornament, to create that unity and completeness of expression so striking when produced, but which is seldom attained, from the deficiency of scientific deliberation upon *mere* ornamental details.

A discussion then arose upon the restrictions to be regarded in fitting and furnishing the interior; and allusion was made to King's College Chapel, Cambridge, where the screen, stalls, stained-glass, &c., are in the style of the Revival, and have been condemned as displaying impure taste. It was contended, that the Gothic style would be found to impose great difficulties in rendering all modern conveniences and necessities in unison with it, and yet obtain grandeur of effect. Another question was also prominently sustained, viz. as to what extent imitative decoration in colour, such as arabesques, may be associated with the geometrical ornaments in Gothic architecture; and which, if either, should preponderate in embellishment; also, what limits ought to be regarded in the treatment of each? Several observations were also made upon ecclesiastical decorations, recently executed in and near to the metropolis; and in the description, considerable merit was said to be found in some of them. The meeting adjourned to the 28th inst., with the desire to collect further determinate opinions on this important question.

YORKSHIRE ARCHITECTURAL SOCIETY.

A quarterly meeting of the above society was held in its rooms in York, on the 15th instant; Mr. E. B. Wheatley in the chair.

After the Rev. J. Sharp, one of the secretaries, had read the minutes of the previous meeting, grants of 5*l.* towards the stained glass in Lund Church, and 5*l.* towards encaustic tiles in Maston Church, Yorkshire, were made.

The Rev. J. Fawcett (another of the secretaries) brought forward the subject of the restoration of the parish church, Bradford, Yorkshire, and exhibited two large crayon drawings of the church *as it is*, and the church *as it is to be*. The reverend gentleman stated, that above the present plaster ceiling of the nave, there was a very fine and perfect perpendicular oak roof, which it was the design of the restoration committee to open out. He suggested that a small grant made by the society towards such an object, would not only be most thankfully received, but also that it would have the effect of bringing into more public notice the claims of the society which made it. Mr. E. Smith, Acomb, York, after this gave notice of a motion for the next meeting, for the sum of 20*l.* towards this very desirable object.

The Rev. J. Fawcett then brought before the notice of the society, the *British Archæological Institute*, which proposed to hold its annual meetings in York, in the autumn of the present year. He said that he thought the Yorkshire Architectural Society would do well to render its services to the institute, and offer to it all the accommodation in its power. The committee requested Mr. Fawcett to communicate to the institute that the Yorkshire Architectural Society would most gladly offer the use of its rooms for the forthcoming session, together with any other assistance which might be considered desirable.

GAS.

Sir,—The subject of gas is of such general importance, that a few remarks thereon, suggested by the letter of "Carbon," in No. 453, will not, I trust, prove unacceptable to the readers of your interesting and well-conducted work, the circulation of which I am well aware is not confined to the building trades only.

Every impartial person will agree with "Carbon" in his remarks respecting meters. The Chartered Gas Company enforce the use of them by all their customers; and doing so, has been productive of a saving to the consumer as well as advantage to the company. It would be well for all parties if no gas were to be supplied except by meter; but it is not easy to see how that system would, as "Carbon" asserts, *compel* the companies to manufacture gas of *greater illuminating* power. I should suspect it would be more likely to have a directly opposite effect, if it had any at all, which I doubt.

The illuminating, or "radiant" power of gas depends upon the proportion of carbon it contains. The atomic proportions of carburetted hydrogen (coal gas) are, hydrogen 2 + carbon 6 = 8. The proportions in oil gas are, hydrogen 2 + carbon 12 = 14; and its radiancy is from twice to four times that of coal gas, dependant upon its freshness and the sort of burner used. London gas seldom contains its due proportion of carbon, in consequence of its being an object to produce *good coke* as well as gas. In the northern counties, where coal is so much cheaper, coke is comparatively valueless; and there every attention is solely directed to produce gas in perfection. When I was at Liverpool, ten years ago, I could not get coke from the gas works—it was so exhausted in the retort as to be useless. Here,

on the contrary, I find it is almost as commonly used as coal. It is therefore with good reason our companies style themselves "gas light and *coke* companies."

It is with pleasure I perceive that the price of gas has been so much reduced at Liverpool, and have no doubt but that a very considerable reduction of price in London is practicable; but it by no means follows, that the companies here will be able to supply gas at as low a rate as the northern companies do, nor does it appear reasonable to expect it. We must bear in mind that they are mercantile speculations, and of course have to look to the interest of their shareholders as well as of their customers. Independently of the enormous amount of capital sunk in their works (which must bear interest), it is to be considered that their expenses are much greater: coals before they reach the works cost more; iron is in the same position; wages are higher, and materials for buildings and repairs cost more;—while from the never-ending disturbance of the pavement for repairs of roads, sewers, and water-pipes, the leakage of the pipes is much greater. It is a barbarous system throughout, and beyond expression costly; yet from the number of conflicting interests there seems but little prospect of a remedy.

One word of advice to consumers of gas. It is very true that the inspectors ought to explain the construction and use of meters to them; but let no consumer therefore think that he understands the matter, and, should any thing go wrong in the supply, take the remedy into his own hands. The inspector is the proper officer appointed to see that the supply is unimpeded; and should any escape of gas or stoppage take place, let the consumer instantly send for him. I know an instance where the landlord of a tavern, finding a slight escape of gas at the union-joint of the meter, took his carpenter's pincers to screw it tighter, broke the joint; and before the inspector could arrive, the cellar and whole house was full of gas. When the inspector reached the spot, the landlord, with an unpardonable carelessness, was about to precede him to the cellar *with a lighted candle!* but was pulled back by the inspector, who descended in the dark with a lump of clay in his hand, with which he plugged the pipe. Had an explosion taken place, the consequences would have been awful—the house being full of people. It is strange that no one thought of the main cock all the time; but that shews the prevailing ignorance of the proper course to be pursued. This event took place in this neighbourhood only a few months since, and ought to be a warning.

I am, Sir, yours, &c., J. A. E.
Camden Town, Jan. 19th, 1846.

Correspondence.

BUILDERS' ESTIMATES.

Sir,—In last week's Builder you gave a statement of the tenders for rebuilding part of Portman-market, and properly ask "How is this frightful difference to be explained?" I appeared for Messrs. King on that occasion, and remarks having been made as to the lowness of the lowest tender and of mine, Mr. Williams said, he took it lumping. I replied, jumping and not lumping, I was sure. Not having heard any thing further, I presume the lowest party will do the work on finding security for the due performance of it. Two similar instances have recently occurred: the first case was a public-house to be built at Walworth for Mr. Ireland, of Fetter-lane; the result of tendering was, a person named Brown got the work at about 800*l.*, or two-thirds the amount of the next party; of course he found securities, and when he had raised the brickwork up to the plate for the two-pair floor, he could go no further, and parties again had to tender for the finishing. I did so for the party who was next him in the first estimate, at 600*l.* The securities then found out that they were likely to be severe losers, and agreed themselves to finish it, but they did not thoroughly do so, as my employer did it after all. The second case was with regard to works to a gentleman's house at Tollington park, in which, for building a large drawing-room, and offices under, and sundry alterations to the house, a man named Buck got the work at 180*l.*, and the next tender was 350*l.* I made the remark to the architect that the 180*l.* were only wages for the job, leave alone what the man gave for material; the answer was he should have good securities! Now, Mr. Editor, it is by exposing as you do, this frightful state of things which may be the means of bringing parties to their senses, and lead others to ask what the material will cost, and how much for labour will be required, before they are gulled into becoming security. I am, Sir, &c.,

Islington. E. Porter.

DILAPIDATIONS.—CHARGE FOR OCCUPANCY.

Sir,—In your valuable publication of November 22nd, you insert a letter from "A Surveyor," on the subject of "Charge for occupancy," after the expiry of term of a lease, during the time necessary to complete repairs, neglected by a lessee; and you give in a general way, an opinion that such a charge is not customary and could not be recovered, and ask the opinion of your legal friends.

In your number dated December 6th, Mr. Tattersall replies rather fully; and in that of December 13th, Mr. George Smith writes to the same effect; and here, so far as I have seen, the matter ends, which I much regret, for as a landlord I cannot but take a serious interest in the subject; and, therefore, most respectfully draw your attention to it by asking you to peruse carefully your correspondents' letters, and express a hope of seeing the question more fully discussed by both the professions.

Before I conclude, permit me to differ entirely from the argument used, viz. that by non-notice, the lessee is discharged; for the power of entry reserved to the lessee is a privilege, not an obligation, and is frequently disused from courtesy; whereas the lessee's covenant is an obligation, solemnly entered into under hand and seal.

I am, Sir, yours, &c.,
London, January 9th. A Landlord.

WESTMINSTER ABBEY—CONTEMPLATED ALTERATIONS.

The change of deans, four having held the appointment within a period of about two years, has tended to interrupt the anxious wishes of the chapter, to devise means of accommodation for the very large increase of persons who throng this venerable church, especially on Sundays, when the rush to get in (until Dean Wilberforce caused the doors to be opened half an hour before the service began) was frightfully alarming.

The choir will be enlarged by placing the beautiful oak skreens back, so as to include the pillars within the choir; more light will be obtained, by filling the upper parts of the pannels with plate-glass, like Canterbury Cathedral; the prebendal stall will be close to the skreen, and two rows of seats for the laity in front of them on either side.

The seats in the centre will be made to accommodate eight persons, four on either side of a division, to avoid confusion in passing each other; these will be continued to a convenient distance from the steps to the communion; the pews will, of course, be removed; the organ also will probably be removed to the arches on either side of the loft, which will be formed into a gallery, capable of accommodating a large number of persons, without altering the appearance or character, of the edifice, *which will then be seen from east to west* in one uninterrupted view, shewing the beautiful west window to very great advantage. □

Immense Log of Mahogany.—A most extraordinary log of mahogany, lately imported from Cuba, is now to be seen at the east wood wharf of the West India Import Dock. We were not able to ascertain its cubic measurement, but so immense is the mass that it has attracted the attention of all persons engaged in the trade. Its qualities of grain and texture are said to surpass its dimensions. It is the property of Mr. Deletti, who has purchased it for the large sum of 1,000*l.*

Safety Harbour at Achill.—Sir Richard O'Donnell, Bart., has offered to give 1,000*l.* if the Government will give the remaining amount, to construct a safety harbour at Achill.

Miscellanea.

Colour in Decorations.—We may estimate the prosperity of a nation by the general enjoyment amongst its people of the necessaries and luxuries of life, but we can form an opinion on its intellectual refinement only by the manner in which the first principles of taste are exhibited along with such enjoyment. The decorations of temples and other public buildings form no true criterion of judgment in this respect. These, for the most part, are the works of great artists, and great artists but seldom appear upon the stage of human life. Such men possess intuitively a knowledge of the principles to which I have alluded; but, although the same degree of knowledge can never be imparted by instruction, yet such a general understanding of the principles alluded to may be diffused amongst a people as to elevate the character of the most simple attempts, and thus assist in rendering its effects visible through all the ramifications of society. But with all our Academies of Art, Schools of Design, Institutes, Associations, &c., there has as yet been no such general dissemination of these first principles; and, consequently, there exist no statutes in the republic of art,—no code of laws for the guidance of public opinion in forming its judgment upon the merits of such works as are subject to the rules of æsthetics. Under such circumstances the decisions regarding works of ornamental art and matters of taste cannot be expected, and it is thus we, every day, see the principles of design openly violated, not only with impunity, but frequently with encouragement. Nor can it be expected that the public should endeavour to acquire a knowledge of laws which many of those who profess to follow high art seem to disregard. Attention to the elementary principles of harmonious colour in the decoration of our ordinary dwellings, in such of our manufactures as admit of it, and even in our dress, will, in some measure, assist in diffusing one kind of knowledge of what constitutes visible beauty, and the more effectually that we are in our climate, for a considerable portion of the year, compelled to dispense with the gratification and instruction which external nature affords the eye, and in the absence of works of high art, to content ourselves with that which the interior decorations of our dwellings present.—*Hay's "Principles of Beauty in Colouring."*

Cask-making by Machinery.—Considerable sums of money have at various times been expended in trying to bring to perfection machinery for making casks, but heretofore this object has been unattained, some parts always having to be finished by manual labour. A very ingeniously constructed machine (which we have had an opportunity of inspecting) has at last, however, been constructed by Mr. W. Wild, of Bedford-street, Broughton-road. The lags or staves, hoops, and heads, are, in the first instance, dressed off by other machinery, which is being constructed for the purpose; afterwards, the finishing machine is fed with the previously-prepared heads, hoops, and staves, and will in two minutes' time turn out a complete barrel, vastly superior in workmanship to what has hitherto been effected by manual labour. Old barrels can also as easily be repaired by the same machine, the only difference in time being occupied in the taking to pieces of the old barrels previously to substituting such fresh staves, heads, or hoops as may be required previously to feeding the machine. The barrels, when completed, are vastly superior to any heretofore turned out by manual labour, the machine fitting each stave as close as though the whole barrel had been formed of one piece of timber, thus doing away with the necessity, when made by hand, of filling up any defects with rushes, which plan it is well-known has the effect of rendering casks very foul, unless extraordinary care be taken, and consequently much time occupied in thoroughly cleansing them. The inventor is an operative, who has spent much time and money in bringing his machine to perfection, and is anxious to patent it, but his limited means are inadequate to the expenses.—*Manchester Courier.*

Vacant Lectureship. — The office of lecturer on the principles and practice of geodetical operations at the College of Civil Engineers, Putney, is at present vacant.

MOVING HOUSES IN AMERICA.—"One need not walk through the many streets in New York, without witnessing in one of them a removal or lifting up of a house; this is almost peculiar to American mechanics, and I was never tired of looking at it. The practice has contributed very much to the straightness and uniformity of the streets, and so perfectly at home are they at it, that if an advertisement were to appear in the 'Sun,' the 'Herald,' or the 'Tribune,' to remove the London Mansion House to Hampstead Heath, there would be several offers for the job. As for the north side of Middle-row, they would think nothing of removing it bodily at once to the Model Prison at Clerkenwell without any of the young *misses* of the family being in the slightest degree interrupted in their usual avocations. As for the everlasting and dangerous nuisance of Holborn Hill, which I have been looking at more in sorrow than in anger for these forty years, in New York it would be levelled in a week. A worthy tradesman in the city of Brooklyn, opposite New York, wanted to convert his two parlour windows into a shop-front; 'No, no,' said the builder, 'don't throw away your parlour, I will lift the house up, and build you a much better, loftier, and more spacious shop, where the parlour now stands. The screws and timbers were accordingly brought, and I saw the two-story brick house go up slowly and imperceptibly, whilst the daughters were looking out of window, as if nothing was going on more than usual. I watched the alteration every time I crossed the ferry to Brooklyn, and in course of two or three weeks the tradesman was occupying his new and handsome *store*, as the shops are called."—*Rambles in the United States and Canada.*

MEETINGS OF SCIENTIFIC BODIES.

During the ensuing week.

MONDAY, Jan. 26.—British Architects, 16, Grosvenor-street, 8 P.M.; Geographical, 3, Waterloo-place, 8½ P.M.

WEDNESDAY, 28.—British Archæological Association (Western Literary Institution), Leicester-square, 8½ P.M.

THURSDAY, 29.—Royal, Somerset House, 8½ P.M.; Antiquaries, Somerset House, 8 P.M.

FRIDAY, 30.—Royal Institution, Albemarle-street, 8½ P.M.

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For the execution of works on the North Wales Railway.

For the erection of new buildings and alterations at the George Inn, Buckden, near St. Ives.

For supplying the Stargard and Posen Railway Company with 12,677 tons of iron rails of first quality.

For the erection of a portion of the River Wall of the Liverpool Docks, being about 360 feet in length by 40 feet in height.

For supplying the town of Gravesend with the following stones:—York Flag, Castle Hill, Rock Hill, Aberdeen Granite, and Devonshire Kerb. Also for the performance of pavement works.

For the execution of works on the Leeds, Dewsbury, and Manchester Railway, being the Churwell contract in length about 2½ miles, and the Dewsbury contract in length about 3½ miles.

For the execution of works on the North British Railway, being the Hawick Branch.

For the supply of twenty-five goods waggons, 5,000 stone blocks, and 20,000 sleepers, to the Maryport and Carlisle Railway Company.

For the supply of 150,000 sleepers to the Midland, Nottingham, and Lincoln, and Syston and Peterborough Railway Companies.

COMPETITION.

The directors of the Eastern Union, and Ipswich, and Bury St. Edmunds Railways, offer a premium of one hundred guineas for the most approved plan (with estimates) of a joint passenger and goods station to be erected at Ipswich; and a further premium of fifty guineas for the second best.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At Dry Drayton, Cambridgeshire: 160 ash and elm timber trees, some of which were felled last season. They are of excellent quality.

At Mistley, Essex: an extensive assortment of oak, ash, elm, and soft-wood timber.

At Ashbocking: 200 Scotch firs, 40 ash, elm, and willow trees, &c.

At York-street, Rotherhithe: several loads of English and African oak in planks, &c., 10,000 oak, locust, and fir treenails, &c.

At Novar Rosshire: upwards of 10,000 Scotch fir timber trees.

At the Spread Eagle Inn, Southweald, Essex: 1,000 alder poles of fine growth; 500 oak ditto.

At Springfield Wharf, Essex: 13,000 oak, elm, and fir sleepers, &c.

TO CORRESPONDENTS.

"Practical Man" *can hardly be serious in saying that we should refuse to advertise goods proferred at low price. Where is the line to be drawn?*

"B. B."—*The drawing of bridge sent so closely resembles in arrangement a mode recently patented by Mr. Russell, that we do not think it desirable to engrave it.*

"G. F." *reached us too late for present No.*

"Dr. A." *shall hear from us.*

"T. A. H."—*We must know something more of Rutter's light before we can insert praise of it. In a professional capacity, we have recently employed Messrs. Platow to fit up one of the lights, and shall presently be able to judge.*

"Referees' Awards."—*We shall give a digest of several next week.*

"J. D."—*We will look to the chapel, &c., in New Oxford-street.*

"The Son of a Builder."—*Write to Mr. Laing, 5, Upper Smith-street, Clerkenwell.*

"A. C."—*The whole of the Building Act was given in a number of* THE BUILDER *at the end of* 1844, *but it is out of print. Either Laxton's or Skyring's Price-book will answer his purpose.*

"C. E."—*Write to the secretary of the company.*

"T. Y. K." and "F. S."—*A line addressed to Mr. Thomas Fry, Birkenhead, will doubtless elicit the desired information.*

"A. J. G."—*We cannot comply with his request.*

"F. H. R." *will find a mode of setting pencil drawings in our last number.*

"Budownik."—*We hope to be excused for a few omissions. We have a regard for our more ancient contemporary.*

"J. E."—*We advise an advertisement.*

Received:—"R. C. L.;" "F. B. L."

ADVERTISEMENTS.

TO ARCHITECTS AND BUILDERS.

GEORGE BARTLETT, Architectural Modeller, 33, Duncan-terrace, City-road, begs leave respectfully to inform Architects and Builders that they can be supplied with every description of Plaster and Cement Architectural Ornament in every style, from designs of the most eminent Architects of the day. An endless variety of trusses for shop-fronts. 1,000 feet of enriched soffit or bed mould delivered to order at twenty-four hours' notice.

G. B. has a vacancy for an out-door apprentice.

REMOVAL.

THOMAS JOHN CROGGON

Begs to inform the Trade that he has removed to 8, LAWRENCE POUNTNEY-HILL and THREE CRANES WHARF, 69, Upper Thames-street. Orders addressed to either place for ROMAN CEMENT of genuine quality will be executed with promptitude and the strictest regard to quality and economy.

TO BUILDERS, PLUMBERS, ENGINEERS, AND IRONMONGERS.

BEST PAN WATER-CLOSETS, with round Valve, complete, 30s. each.

Plumbers' Bib, Ball, and Stop Cocks, ¼ in., 20s.; ⅜ in., 28s.; 1 in., 56s. per doz.

Lifting Force Pumps on Planks, 2½ in., 4l.; 3 in., 4l. 15s.

Washing Coppers, 1s. 1d. per pound.

Water Balls, ½ in., 15s. per doz.

Gun Metal Steam Cocks, Safety Valves, &c., and every description of Brass and Copper Work equally low, at A. McGLASHAN and Co. Brassfounders and Coppersmiths, 16, Long-acre.—N.B. Every article warranted.

ROYAL ADELAIDE GALLERY, Lowther Arcade, Strand.—Professor Keller's New Groups and Tableaux; also a Grand Promenade Concert, under the direction of Mr. A. Sedgwick; principal vocalist, Miss Pearce. After the concert on Friday, a Lecture on Phrenology, by Mr. Logan; also the effects of the Laughing Gas. The Gas Microscope on Thursday and Saturday. Nickel's Compressed Air, and Pilbrow's Atmospheric Railway; the Dissolving Views and Chromatrope every evening. Poses Plastiques, by Professor Keller. Conductor, Mr. A. Sedgwick; Leader, Mr. Zerbini (leader of the balls at the Court and Almack's).

ROYAL POLYTECHNIC INSTITUTION.—The Lectures selected for this period of the year, by Dr. Ryan and Professor Bachhoffner, in Chemistry and Natural Philosophy will be illustrated by interesting and beautiful experiments. A Lecture on the Prevalent Disease in Potatoes will be delivered by Dr. Ryan, and also on the Atmospheric Railway, by Professor Bachhoffner, a working Model of which, carrying several persons, is exhibited daily. The additions to the Opaque Microscope, Dissolving Views, and Chromatrope are very effective. The Physioscope. Submarine Experiments by means of the Diver and Diving Bell. Among the various additions to the Working Models is Coleman's new American Locomotive Engine, for ascending and descending Inclined Planes. A magnificent Collection of Tropical Fruits. Mr. Downe, the celebrated Flute-player, will take part in the Music, conducted by Dr. Wallis. Open from Eleven to half-past Five, and from Seven to half-past Ten in the Evening.—Admission, One Shilling. Schools, Half-price.

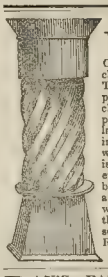
QUICK DISPOSAL OF HOUSE PROPERTY BY PRIVATE TREATY.

PROPRIETORS of HOUSE PROPERTY, of every description, desirous of effecting a sale with facility, and avoiding undue publicity, are invited to send Particulars to Messrs. BECKWITH and CO., Estate Agents, 25, Bucklersbury, who have a very extensive buying connection, so classified, that they can immediately submit whatever may be put into their hands, and, in most cases, effect a sale by Private Contracts quicker than the Particulars for a Sale by Auction could be printed.—No Charge made until Business is completed.

TO CARPENTERS, BUILDERS, &c.

WM. BANGHAM, FURNISHING UNDERTAKER, 7, Stockbridge-terrace, corner of Vauxhall and Pimlico roads, begs to inform the Trade they can be supplied with every article requisite for funerals at the lowest furnishing prices, and a liberal credit if required.

For the convenience of the trade every facility is studied. LEADEN COFFINS may be obtained full trimmed in an hour, and every other article on the shortest notice. Cambric and Satin Shrouds, Winding Sheets, &c. Horses, Coaches, Feathers, Velvets, Heraldry, &c. Country orders punctually attended. No extra charge for delivering large coffins within ten miles.



WILSON'S PATENT VENTILATING SPIRAL CHIMNEY POT, for the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success. This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance. The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory, Southwark-bridge Iron Roofing Works.

DAY'S PATENT WINDGUARD, for ventilating churches, hospitals, factories, theatres, breweries, malt-houses, club-houses, shops, bed-rooms, smoking-rooms, school-rooms, nurseries, stables, larders, kitchens, offices, ships, mines, vaults, tunnels, &c. Also for preventing down draft; and is guaranteed to cure all smoky chimneys caused by wind; and entirely supersedes the use of revolving cowls, or any thing moveable or unsightly on the tops of chimneys or ventilators.

The object of this invention is to create a draft where otherwise it would not exist, by the spontaneous action of the external air. The Windguard forms a pleasing octagonal pillar, and by its peculiar construction to carry out the principle on which it is based, which consists of the wind giving a disposition for a vacuum within, thereby causing a continual upward current about equal to the velocity of the wind at the time acting upon it, which averages about six feet per second thirty days out of thirty-one; therefore, will nearly at all times ensure a continual change of air, being no impediment to spontaneous ventilation, even on a perfectly calm day. One five feet square will ventilate a building containing upwards of 1,000 persons. The Windguard applied to ships and steam vessels, in the form of a sky-light, prevents rain or the sea entering within, however boisterous the weather may be, thereby affording excellent ventilation as well as light. The Windguard is simply applied for effectually ventilating bed-rooms, nurseries, smoking-rooms, offices, &c., causing the air of the apartment to be at all times as pleasant as can be desired. It is fixed at the top of the chimney, in addition to which a cast-iron frame and valve (about one foot area), made to open and shut at pleasure, is let into the flue, near the ceiling of the room, to allow the constant ascending vitiated air being immediately carried off. The opening is guarded by a neat venetian blind or grating; and so powerful is the effect on a windy day that if a handkerchief be thrown up to the grating, it will remain there—i. e. if the valve be open. In winter the valve would be only partially open, to allow the smoke to ascend, but if the room be found too cold can be entirely closed. The Windguard applied to the tops of chimneys prevents all annoyance from smoke (caused by wind); indeed, where it does not, nothing else applied at top will (of the same size); care, therefore should be taken to have the proper size applied. It is simple in its application, reasonable in price, ornamental in appearance; no machinery or anything moveable in it, therefore, cannot get out of order; free from noise or any unpleasantness whatever; not liable to choke up with soot; no obstacle to the machines used for sweeping chimneys. May be had of all respectable ironmongers in town and country; and may be seen daily in operation, where its powers and usefulness are exhibited by the severest tests, at THE PATENT VENTILATING WORKS, COMMERCIAL-ROAD, PIMLICO, LONDON; where also may be seen Mr. G. T. DAY'S plans (illustrating the different applications of his Patent Archimedian Ventilator and his Portable Water Apparatus) for effectually Ventilating, Warming, and Cooling the Air of Buildings, Ships, Mines, &c. &c. By the use of these inventions many thousand cubic feet, or any quantity of pure warm or cold air, can be guaranteed to be continually exchanged per minute, day and night, winter and summer; thereby insuring, at all times, free ventilation to the rooms and passages of buildings, &c. from the basement to the roof, at the same time in such a manner as shall not be inconveniently perceptible. The size of the apparatus depends on the nature and use of the building and its occupants. The Patentee has been honoured by his inventions being applied at the following places:—

Windsor Castle, Buckingham Palace, St. James's Palace, Claremont Palace, Walmer Castle, the Houses of Parliament, New Conservative Club, White's Club, Travellers' Club, Oxford and Cambridge, Parthenon, Wyndham, Army and Navy, Senior United Service, Junior United Service, Admiralty, British Museum, Somerset House, Custom House, Mint, Hon. Artillery Company, H. M. Salamander, Trinity House, Ordnance, Greenwich Hospital, Christ's Hospital, Westminster Hospital, Bethlehem Hospital, Surrey Lunatic Asylum, New Royal Exchange, Mansion House, Goldsmiths' Hall, Fishmongers' Hall, Haberdashers' Hall, Dyers' Hall, Grocers' Hall, Armourers' Hall, Weigh House Meeting-house, Hanover-square Rooms, Theatre of the Westminster Literary and Scientific Institution, Grand Cigar Divan, Strand, City Club, and many other Public Buildings in Town and Country, as well as to the Mansions of many Noblemen and Gentlemen. Licenses granted for Manufacturing the above. Drawings and Plans made for Ventilating and Warming Buildings of every description.

The Builder.

No. CLVI.

SATURDAY, JANUARY 31, 1846.

FULHAM, called in ancient writings Fulanham and Foulham, has been distinguished as the residence of the Bishops of London from the 7th century. Faulkner, in his "Historical Account of Fulham," which contains all the information on the subject that can be found, says the earliest mention of the place occurs in a grant of the manor to Bishop Erkenwald, in 691.

The rectory is in the patronage of the Bishop of London, and is now held by the Rev. R. G. Baker, who succeeded the Rev. William Wood, the last in the list of rectors given by Faulkner. The first rector recorded by Newcourt, John de Sancto Claro, was presented to it between 1304 and 1313; Henry Martin was vicar in 1329.

The parish church, dedicated to All Saints, is an ancient structure, and stands near the bank of the Thames, at the foot of Putney Bridge. Notwithstanding its early connection with the Bishop's Palace, and consequent notoriety, nothing is known of its foundation. "We were in hopes," says Bowack, in his 'Antiquities of Middlesex,' written in 1705, "whatever imperfect accounts have been left of the foundation of other churches, that here we should not have wanted light, since it is situated so near the Bishop of London's seat, which appears to be much ancienter; but after the most inquisitive search, we could discover nothing at all;" nor have succeeding inquirers been more successful. It consists of a nave, two aisles, and chancel, and has a massive square tower at the west end. It probably belongs to the 14th century, notwithstanding that the upper windows of the tower have rather a later character.

The writer last quoted says:—"We find in the Register Book of this parish, that Dr. Edwards, the Bishop of London's chancellor, a great benefactor to this church, gave by will, dated Jan. 9, 1618, 80*l.* towards its repairs, which was laid out in making a gallery, in new casting the lead of the steeple, and cieling the church; he likewise gave 16*l.* long before his death for building a new vestry, school-house, and lodgings for the master, clerk, and sexton, which, with other moneys raised in the parish for that purpose, were applied to the said use, which building was erected at the north door, joining to the church, about the year 1630. There happened no other general repair till the year 1686, when, by the industry of Mr. Robert Limpany, then churchwarden, the church was new roofed, beautified, enlightened, and the inside made more commodious, at about 600*l.* charge to the parish." In 1798 the structure was generally repaired, and its appearance further destroyed by miscalled 'beautifications.'

In 1839 a committee was appointed to inquire into the best means of improving the church accommodation for the inhabitants of Fulham, and directed their attention to two measures having that end in view, namely, the enlargement of the parish church, and the erection of a new chapel. They inclined, however, to the former, and directed Mr. Lapidge to submit plans for effecting it.

These plans being approved of, a contract for the works was entered into February, 1840, and was completed before the 18th of October, in the same year, when the church was opened for service. The alterations effected included an addition to the area of the building at the eastern end of the north aisle; the removal into the tower of a number of monuments and tablets by which the south-eastern extremity of the church was chiefly occupied; a re-arrangement of the galleries, the vestry, the pulpit, and the font. By these means 261 additional sittings were obtained (the number originally was 963), and in consequence of a grant from the Society for Promoting the Enlargement and Building of Churches, 172 of them are free. The total amount expended, after deducting the drawback on the duties on materials used (131*l.* 4*s.* 6*d.*), was 1906*l.* 5*s.*—of which, to the great credit of the parishioners be it said, above 1,600*l.* were raised by subscription.*

If we enter the church we shall find the nave divided from the aisles by clustered columns, terminated anomalously enough, by a horizontal entablature of wood and plaster, from which, on either side, springs an arched plaster ceiling, meeting in a point at the centre. The font, a specimen of the Gothic of 1622, stands in the middle of the church at the east end.

At the east end of the chancel, which is small—only eight feet in depth—there is a four-light window of perpendicular character, filled with painted glass, executed by Mr. Wailes. It presents figures of the four evangelists, one in each light, with four passages in the life of Christ. The traceried head contains the crucifixion, the ascension, and symbols of the four evangelists. An excess of yellow in the glass, which extends to the faces and hands of the figures, is injurious to the general effect. This window was presented to the church by the bishop.

The wall under the window is lined with panelling, carved in oak; and there are two carved canopies, one on either side, over the "commandments."†

Against the south wall of the chancel is a large monument to Lady Margaret Legh, who died July 3rd, 1603, represented in Faulkner's book, and over it is a marble tablet in memory of the Right Hon. Lady Sophia Margaret, wife of Sir Charles Eggleton Kent, who died Nov. 16th, 1834, and of Sir Charles, who died on the 5th of the following month. It bears these lines:—

> When Heaven recalled the spirit pure and kind,
> Whose sweet affection solaced life's decay,
> The manly breast, that ne'er till then repined,
> In grief's lone dwelling found it hard to stay;
> The tie was broken, but the widowed heart,
> To mercy's throne was lifted not in vain;
> Join Sacred ashes! never more to part,
> For death unites the severed nuptial chain.

On the opposite wall is a large monument in memory of "Thomæ Smitho," Nov. 27th, 1609, and over it a tablet with medallion head, to William Townsend, Esq., June 30th, 1823.

There are a few mural monuments remaining in the church, including a large one, admirably executed in oak and marble, placed against the east end of the north wall, in memory of Elizabeth Limpany, Oct. 10th, 1694.

The greater number, however, of the old monuments are to be found, as already mentioned, in the lower part of the tower, which, in consequence, takes the aspect of a sepulchral chapel. The most important amongst them, is a monument to Lord Viscount Mordaunt, with a statue the size of life,—the work of Bushnell and Bird. It is hardly necessary to remark, that many of the Bishops of London are buried in the churchyard.

The tower, it should be said, was not repaired with the rest of the building in 1840, although in a state of great dilapidation. But in 1845, a committee of the parishioners* were appointed by vestry, to examine into the state of the tower and advise as to the repairs necessary, and were afterwards empowered to obtain the assistance of an architect to carry out their recommendations. Mr. G. Godwin was accordingly called in, and, under his direction, the restoration and repairs were made.

The condition of the tower, and the aspect it presented, were most deplorable. The whole face of the stone work was much disintegrated by the action of the weather, and the mortar washed out of the joints, especially where the water from the roof had been thrown against it by the gargoyles, to the depth of several inches. The great west window had disappeared altogether, and the opening was filled up with a wooden framework of barbarous design, partly glazed and partly boarded up. The windows on three sides, in the third story, were covered by huge wooden dials, two of them eight, and one ten feet square; the stone work of all the other windows, strings, &c., was in ruins, the former being kept together by wooden supports: added to which, there was a serious fracture in the tower on the north side, from the top down to the string of the first story. The battlements and upper part of the tower and turret were of brick, coped with paving stone (the work of the *beautifiers* in 1798), and the whole was surmounted by an enormous wooden "extinguisher" (about thirty feet high), with a flag-staff and weathercock at the apex.

The accompanying engraving (p. 54), represents the tower, as now restored, seen from the south-west.

The upper part of the tower was taken down and rebuilt with Kentish rag-stone (the material of which the remainder is composed), the turret raised, the battlements, windows, (including a new west window), the strings, water-tables—in fact, the whole of the squared or moulded work replaced with Caen-stone, the flat laid with lead, and the whole face of the tower repaired with rag-stone and pointed with stained mortar, so as to make the old and new work appear alike, and preserve the ancient character of the structure. The louvres and dials are of slate. The entrance doors are of oak, and as it was found desirable to have the means of ventilating the church at this end of it, a pair of iron gates are introduced against the doors, having the hinges elaborated to fill the opening, and prevent the entrance of dogs.

The west window is filled with stained glass and patent quarries, including the arms of the Archbishop of Canterbury, his lordship the present Bishop of London, the Rev. W. Wood, late rector, and the present excellent rector, the Rev. R. G. Baker: this glass was formerly in the east window of the church.

The heads with which the outside label over this window terminates, represent the Queen and the Bishop—the latter is a remarkably good likeness.

The works were executed very satisfactorily by Mr. Samuel Cundy, of Pimlico, and cost in the whole about 1,000*l.*; of which in round

* His lordship, the present bishop, gave 200*l.*; Mr. Palmer, 200*l.*; the Rev. Mr. Baker, 105*l.*; Mr. Daniel, 100*l.*; Mr. Powell, 50*l.*; Mr. R. Wood, 50*l.*, &c.

† Faulkner gives an engraving of a sedile which was formerly in the south wall of the chancel.

* Mr. John Gunter, Mr. Henry Fitch, Mr. George Bagley, Mr. W. Chasemore, and Mr. W. Matvear.

numbers, 400*l.* were raised by a rate, and 600*l.* by subscription.

The tower contains a fine ring of ten bells, which were recast by Ruddle at the beginning of the last century. The inscription on one is, "Peace and good neighbourhood," and on another,

> "I to the church the living call,
> And to the grave I summon all."

The height of the tower is about 90 feet, the size at the bottom, exclusive of the buttresses, about 25 feet square. The walls are of great thickness. The proportions are exceedingly good.

The exterior of the body of the church, with the exception of the new part at the east end, presents a miserably unecclesiastical aspect, and is in a bad state of repair. It is to be hoped that a long time will not be suffered to elapse before the whole be restored in a fitting and substantial manner. His lordship, the bishop, who together with Mr. Baker and the committee, has evinced great interest in the progress of the works, has expressed his willingness, we understand, to aid in effecting this much called for alteration. The wooden porch and part of the south side of the building are seen in the engraving, and will give some idea of the general character, or rather *want* of character.

A correspondent addressed us some time ago on the present state of Fulham parish, and the necessity which exists for improving it. Much might be done if the inhabitants would look at the question broadly, and co-operate for their mutual interest. We hope soon to hear, that a committee is appointed to take the subject into earnest consideration.

PROFESSOR COCKERELL'S LECTURES ON ARCHITECTURE.

The third lecture of this course was delivered on Thursday, the 22nd inst., at the Royal Academy. Mr. Cockerell stated, that he should now continue his observations on the commentators of Vitruvius,—shewing further, that the Gothic architects adhered strictly to what they considered the rules of that author; also, on the results attainable in Gothic architecture, the originality of its treatment, and the importance of like originality in this day; the Vitruvian theory derived from the human form, the middle-age version of that theory, and the use of the peculiar form called the Vesica Piscis—the origin of which he considered was greatly misunderstood.—The manuscript books of Vitruvius had been preserved, but the plates which had accompanied them were lost. The medieval architects, therefore, had nothing to guide them but the text of the author; and their own interpretation of its meaning led to as grand and beautiful conceptions, as ever the classical architects had attained. This style was the expression of the wants and feelings of the time, and when the necessities of the age had no longer an influence, classical architecture revived; now by a change, doubtless as much required, the style of middle-age architecture was supplanting the classical. The various styles of Gothic architecture being expressive of the condition at each epoch, whoever undertook the pursuit of this branch of art, must be well versed in general history. Clio must be the especial Muse of such a student. The monkish chronicle was lost or perished; but the stone became an enduring record. Victor Hugo had said, and there was much propriety in the opinion, that as the fruits of the invention of printing ripened, sculpture and painting, which had previously been necessary for the fulfilment of man's most ardent desires, were superseded. For medieval architecture was the hieroglyphic writing of the past. And therefore, that the system of imitation, indulged in by the slavish copyists, who so abounded in these times, was discreditable. The mode of expression, formerly adopted in architecture, was as unfitted to the circumstances of our day, as would be the English of William of Malmesbury for a leading article in *The Times* newspaper. Remarking on the great prevalence of Gothic architecture at present, and the ardour in investigations, which had absorbed the whole of Europe, he said, that it was necessary for these lectures to subscribe to the spirit of the times; and that, therefore, he had determined this year to devote them to the present subject. He referred to his previous lecture,* saying, that the proofs he had then offered, as to the influence of the doctrines of Vitruvius upon the medieval architects, he considered to be ample; and that Vitruvius was in the highest esteem with the architects of that day. He had, also, given the explanation of some of the terms according to the middle-age version.—The professor then referred to a diagram from the work of Cæsarianus, and gave that author's explanation of the Vitruvian theory of the figure. Amongst others, which we are not able to illustrate here, there was a perpendicular line or axis bisecting the figure down the middle, and at the feet a horizontal line. For the purpose of erecting the latter line, as a perpendicular to the other, two arcs were struck from centres, according to the ordinary geometrical method. Thus, the figure which these arcs inclosed was bisected by a long and short axis. He then explained the system of the middle ages, and the proportion by aliquot parts, according to the principles of the human form, saying that the Gothic architects were better acquainted with the fundamental law of proportion of parts than the classical architects themselves. According to Cæsarianus, Vitruvius intended his theory of the figure to apply to the plan, as well as to the elevation;—and in a passage which the professor quoted, the author argued that it was just as important, that the plan should be regulated by the rules of symmetry, as any other part of the building, and instanced "Michael Angelo, the Florentine," as one who observed rules in this respect.

Mr. Cockerell then shewed, that the two arcs, before referred to, were in fact the mystical figure, called the *Vesica Piscis*, so much in use during the middle ages. He shewed its application, as surrounding a figure of the Trinity. He next directed attention to the long and short axis, and said, that the Vesica Piscis was adopted at the first, solely for the geometrical purpose of erecting a perpendicular upon a given straight line. All ideas, referring its origin to its connection with the fish, and the word ΙΧΘΥΣ, he considered to be erroneous. The Cambridge Camden Society had overlooked what he now suggested, and had only endeavoured to shew the connection between the fish, the emblem of Christ, and the monogram I H S, as originating from the Greek word for "fish," the letters of which they explained to mean Ιησοῦς Χριστὸς Θεοῦ Υἱὸς, Σωτὴρ; or, Jesus Christ, the Son of God, the Saviour. They had seen nothing of the practical purpose, which was evident to architects, but were always for shewing their knowledge of Greek. He then referred to the supposed application of the plan to the body of the Saviour, and said that so deeply had this supposition been implanted in Germany, that the early reformers even would never attack the eastern part of a town, because the east end was supposed to represent the head of the Saviour. In referring to the investigations of Mr. Kerrich, into the use of the Vesica Piscis ("Archæologia," vol. xix.—37), he allowed that great credit was due to that individual, but said that he had, in claiming the application as "a sort of discovery," usurped that to which he had no right, as it had been explained by Cæsarianus. He shewed, that the plan of Milan Cathedral was inclosed in the figure of the Vesica Piscis, and itself inclosed two equilateral triangles, and fourteen equal squares one way, and eight the other. He also shewed, that it was the general rule to inclose the plan in the Vesica Piscis, and that St. Paul's Cathedral, the north and south porch being included, was amongst the number.

As to the meaning of that part of Cæsarianus's diagram, in which he represents the equal squares, Mr. Cockerell had long felt in difficulty, and had only lately been enlightened upon it through the aid of William of Wykeham. Mr. Sidney Hawkins, who, in his volume on the "Origin of Gothic architecture," had given a long account of his acquisition of a copy of "Cæsarianus," had entirely misrepresented the diagram, and had said nothing to explain it. There was, indeed, great difficulty in understanding it; but he now felt satisfied as to its meaning. He then proceeded to explain the other element in the proportioning of a plan, which, in the words of Mr. Kerrich, he might venture to call "a sort of discovery" of his own. As was said by an old author, he had no doubt, that many would say, when they heard it, that they had known it long before; but he was not aware of any such explanation. The system was shewn by the professor from plans of several Gothic buildings, in all of which it was clearly observable, and in most of the cathedrals, the names, amongst others, including Westminster, Lichfield, and York. It may be thus explained. For example:—in what was called the *tetra-style* arrangement, or that having four buttresses in the west front, the whole area was divided into equal squares, and the piers were placed at certain of the intersections. The system where the arrangement was dipteral, or with six buttresses in the west front, and four rows of columns, was merely an extension of the same principle. The reader will better understand the description by following it with the pencil. Let a horizontal line be drawn first, and then bisected by a perpendicular. Then set off, on each side of each line, a succession of equidistant parallel lines; these will of course form equal squares. Consider the first perpendicular line as the longitudinal axis of the building, the first line on each side as the line of the columns, and the second line as the wall of the building. Continue by the same method, to obtain the length of the transepts and position of their columns. Taking then the extreme length of the transepts as a radius, with the centres on the intersections at the horizontal line, describe two equal arcs, that is to say, the figure of the Vesica Piscis. The points of the figure will be upon the longitudinal axis, and will give the east and west ends of the building. The short axis gives the west wall of the transepts, and formed the base to two equilateral triangles, inclosed in the figure, as shewn in the professor's plan. He referred to Romsey Church as an instance of perfect accordance with the system, so much so, that a pier at the east end was placed on the axis of the figure; and he had no doubt that a similar feature had existed in the west end, as originally built. It was probably not departed from during the early schools; and the plans exhibited shewed that it was observed in the latest. This system of aliquot parts was by no means so completely carried out in the Grecian and Roman styles, as in that of the middle ages. Even in the basilica, from which the plan of the Christian Church was supposed to have originated, we found a defect in this particular. In illustration, he referred to the plan of the basilica of Trajan, in which, as in that of St. Paul, the rows of columns were further apart in the transverse, than the distance between the columns in the longitudinal section. Therefore, this system of proportioning by equal squares was a high merit in the style of the middle ages, to which time the honour of the invention was undoubtedly due.

He then referred to the four squares, giving the position of the central tower, called by Cæsariano—"octagon hecuba tholata pyramidata," about which he should have to offer further remarks. He also exhibited plans of the church of S. Zaccaria, and that of SSmo. Salvatore, at Venice, which though in the style of the early revival, preserved the system of Gothic architecture in the plan, in which, also, a pleasing variation was made by coupling, or omitting, the arrangement at alternate intersections.

In reference to a system of proportion in the section of a building, Mr. Cockerell explained that the Gothic architects adopted a mode, in which equilateral triangles were employed. This he shewed from a section of Milan cathedral, which was given in Cæsariano's work. He also shewed, that the same rule of proportioning the height to the width, that is to say, making the height to the crown of the centre vaulting equal to the perpendicular height of an equilateral triangle, whose sides were each four squares, where the arrangement was "tetrastyle," and six squares, where it was "dipteral," and "hexastyle" was the universal

* Reported in the last number of The Builder, p. 38.

system. The plans of all our cathedrals were tetrastyle, and he mentioned the majority of them by name, as having their height exactly corresponding with this dimension. The same rule was found to exist at Bologna; and lastly, and the professor appeared to have some pleasure in drawing attention to the circumstance, in our own cathedral of St. Paul. He then said, that the only exception to this rule, which he was aware of, was Westminster Abbey. In that building, the actual height made the length of each side of the triangle greater than the four squares, by a dimension equal to two squares additional; thus it agreed not with its tetrastyle arrangement, but with the dipteral and hexastyle, the equilateral triangle, including the cloister on the south side, and an equal space of ground outside the building on the north.* * *

AWARDS OF OFFICIAL REFEREES.

BACK YARDS AND AREAS.

Messrs. Haward and Nixon desired to erect a water-closet over part of the yard at the back of a house in Suffolk-street, Pall Mall, and another above it on the one pair floor, or third story, to which the district surveyor objected, on the ground that "the erection of the said water-closets would reduce the size of the said yard or area to less than three-quarters of a square, such being the smallest size, exclusive of any building thereon, permitted by schedule K, of the said Act, for back-yards or open spaces attached to dwelling-houses hereafter to be built."

He concurred in an application to the referees, requesting them to take into consideration, that the said house was an already built house, and that no part thereof was to be rebuilt, and that the water-closets could not be conveniently built elsewhere; and also, that little or no sacrifice of light and air would be occasioned to the said house by reason of the said water-closets being built.

The referees determined "that it will be contrary to the said Act to occupy with Building any part of the existing back-yard or open space above the level of the floor of the third story" (or one pair) "of the house in question."

STREETS AND ALLEYS.

Mr. Furby proposed to erect dwelling-houses on each side of a plot of ground in Bethnal-green, to be approached by a paved court not less than 20 feet in width, but equivalent to the height of the buildings, and having one entrance only, where he proposed placing iron railing and gates. The Act requires that every alley shall have two entrances; applicant was advised that, by reason of his inclosing the place in question, and his right to exclude the public from it, that it was not to be deemed a public place within the meaning of the said Act. The referees decided that, notwithstanding the intention to place gates, the proposed court would be an alley within the meaning of the Act.

SHED BUILDINGS.

An open shed belonging to Messrs. Enderby, at East Greenwich, used as a rope-walk, was partially destroyed by fire in March, 1845. On reinstating the said buildings, objection having been made to the materials thereof by the surveyor of the district, the matter was referred to the said official referees, who determined "that if the shed in question be used as a rope-walk only, and be separated from any other building by one or more sufficient brick or stone walls, without any bond or other timbers therein next the said rope-walk, and without any more than one opening, or doorway in any such wall, and having no wood lintel, or other woodwork in or within one foot of the said openings or doorways, then such rope-walk will not be contrary to the provisions of the Metropolitan Buildings Act."

Since the date of the award, the repairs have been continued to the said building, and in execution thereof the flat or gutter on part of the shed has been formed of felt on deal boarding in continuation of the gutter on an existing part. And for the purposes of the trade of the said Messrs. Enderby, the shed has been extended in width; to which proceedings the district surveyor objected.

The referees awarded "that inasmuch as the works in question are proposed in continuation of an existing long range of shed buildings used for the purposes of a rope-walk only, and such buildings being also insulated except at one end, and being at that end severed from other buildings, and those other buildings in the same possession and occupation therewith, by brick walls having iron doors in them and by void spaces, we will forbear to make any award thereon, and that it is our opinion that the surveyor of the district will be justified in permitting the said works to be done, as described in the said requisition, and shewn in the (said) drawing."

A number of important questions in connection with the revision of the Act, the constitution of the office of metropolitan buildings, &c., have been urged upon us, and will receive early consideration.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE WILHELMA—RAILWAY TERMINI.

A meeting was held on Monday evening last, Mr. Papworth, vice-president, in the chair. Among the presents received was a valuable collection of Parliamentary reports, on matters connected with architecture and building, from Mr. Kendall, and an account of the abbey church of St. Peter and St. Paul, Dorchester, recently published by the Oxford Architectural Society.

Mr. G. Bailey, the hon. secretary, read a letter addressed by Mr. David Roberts, R. A., to Mr. Britton, relative to the east wall of Roslyn chapel. The aisle at the east end is wider than the side aisles, and the vaulting is terminated against the wall by large corbels of singular design. Mr. Roberts contended that the east wall had been pulled down, and set further back, to give three feet more room.

Mr. Roberts afterwards addressed the meeting at some length, in defence of Sir Walter Scott, against a remark casually made by Mr. Britton at the last meeting, to the effect that, in ten lines of "The Lay of the Last Minstrel" referring to Roslyn, there were ten mistakes. The principal point was, whether or not the "ten barons" in their mail, were buried in the chapel.

The conversation becoming rather too extended on this point, Mr. Tite humorously terminated it by quoting two lines from one of the notes to the poem:—

> "The knights are dead; their swords are rust,
> Their spirit 's with the Lord,—I trust."

Professor Donaldson read an extract from a letter addressed to him by Herr Zanth, on the subject of the building lately erected by Herr Zanth for the king of Wirtemburg, and called the *Wilhelma*, from the name of the royal owner. This building, which has been spoken of as a conservatory in the moresque style, may rather be called a royal pavilion in the midst of four conservatories, accompanied by porticos, steps, terraces, and flower gardens. The pavilion is constructed of squared stone, in courses, of varied colour—white, yellow, and violet. The covering is of copper, partly gilt: the conservatories and porticos are of cast-iron, of Arabian character, extremely slender and richly ornamented. The conservatories are divided into two aisles containing rare flowers, and abut against two pavilions surmounted by glazed octagonal cupolas for tropical plants. The length of the whole is 323 French feet. At the end of the conservatories commence the porticos, which form the inclosure of a flower garden for the private use of the king. The pavilion of habitation, which is also for the use of the king alone, consists of a vestibule, an oriental court with a fountain, picture gallery, divan, sleeping and dressing-room, the grand saloon, *salle à manger*, and offices, also a bath with stalactitic vaults enriched with colour, gilding, and lights. Throughout the building the most brilliant colours, painted glass, and other enrichments are profusely employed.

The interior is just now completed, and the whole will be ready to deliver to the king in the spring. "It is hardly necessary to say," remarks M. Zanth, "that the work has demanded the most intense study, every detail, however small, requiring delineation. For the interior of the saloon alone there were 120 drawings. The labour has exceeded my physical powers, and accounts for the present bad state of my health."

The king, being determined to prevent premature public criticism, rigorously prohibits the admission of any person to the building. M. Zanth has been appointed the king's architect, and made *Chevalier de l'ordre royal de la Couronne de Wurttemberg*.

Mr. Fowler read a paper on the proposed lines of railway which affected the metropolis, about to be submitted to Parliament. He stated, that he was indebted to Mr. Austin, the engineer, honorary secretary to the Metropolitan Improvement Society, for the facts that he was about to lay before the meeting, who, with a laudable zeal in the cause of improvement, had been at considerable pains to prepare a plan of the whole of those lines for which the deposits had been completed. He need scarcely say, that there had been a whole host of other schemes, which, fortunately, had not survived the fatal effects of the late panic. Of those that remained, it appeared from the plan, that there were twenty-one different lines, comprising 100 miles of proposed railway, within a circle of 5 miles from St. Paul's. The spaces scheduled for termini, within a circle of 1¼ miles of St. Paul's, together with that necessary for the construction of so much of the lines, constitute an area little short of 200 acres! To form a more vivid idea of the extent of this area, it may be stated, that it exceeds that portion of London extending from High-street, Whitechapel, to St. Paul's Cathedral, included between Leadenhall-street, Cornhill, the Poultry, and Cheapside, on the north, and the river Thames on the south. It constitutes an area equal to one-third of the city of London, and little less than one-half of that devastated by the conflagration of 1666. On a moderate calculation, it would involve the destruction of between 9,000 and 10,000 houses, and cause an expenditure, for the purchase of property alone, of about 15 millions sterling!!!

Mr. Fowler stated, that a memorial on the subject had been forwarded to Lord Lincoln, first Commissioner of Woods and Forests, by the Metropolitan Improvement Society, praying that the Metropolitan Improvement Commission would take the subject into their earliest consideration; and it behoved, not only professional men, but all who desired to see a right direction given to this extraordinary movement, to second the prayer of the society, that this branch of the general subject of railway communication should be considered as a separate and distinct whole, in order that a comprehensive and systematic plan might result from what was now a heap of confusion, arising from the fact, that each line had been separately laid down by its respective company, without reference to, or knowledge of what was being proposed by the other.

FOREIGN ARCHITECTURAL AND COLLATERAL INTELLIGENCE.

The Ancient Monuments of Spalato and Salona in Dalmatia.—On the present state of those splendid structures of the Diocletian age, of which Salona was called by the Greek writers (*Porphyrogenitus*) a little Constantinople—the following may be noticed:—As these palaces and temples have experienced, like most others, a subversion by many succeeding catastrophes, their complete elucidation cannot take place by mere study *above* ground—but has to be followed up to that depth, at which they are partly buried. Notwithstanding, however, the vast extent of the Palace of Diocletian at Spalato, and that gorgeous position of Salona, no plan has yet been traced of these splendid art-remains, and the so-called museum at Spalato does not contain but the most trivial rubbish. It was not but lately, that Government have prevented persons from using these ruins most shamefully. During the long reign of Venice, every Conte or Provetore used them as a quarry for his palaces in the metropolis, and columns and architraves were removed in that way. The French were not much better, and until the late appointment of a conservator, the Austrians committed the same Vandalism. In stepping into the area before the temple and the vestibule of Diocletian's palace in Spalato, the beholder is horrified by those large square holes,

* In report of second lecture, line 16 from conclusion, *for* "Roman" *read* "Norman."

which have been made into the arcades for building some new houses; and so late as September 1844, the architrave of the so-called *Ponta argentea* was demolished, for giving (as was asserted) more light to the passage underneath. If some small tenements contiguous to the ruins were to be demolished, and some changes made near the principal temple called *il Duomo*,—Spalato might become, what it really is, one of the finest and proudest monuments of Roman grandeur and art. [Extract from a letter addressed from Cattaro, by *Sir Gardner Wilkinson* to the German press. There is no English work extant on these mile-long ruins—although they lie only a few hours' steaming from Trieste, much visited by English art-travellers.]

Large Purchases of Timber in the Spessurd Forest.—For replacing the great quantity of oak and other timber, burnt last year at Toulon, the value of which was estimated at more than one million of francs, French commissaries have arrived in Germany for making purchases. It is, however, difficult to conceive how such immense logs will have to be conveyed from the mountains to the sea coast.—*Allg. Zeit.*

Another Incendiary Firing of a whole Town.—It is most probable, that the great fire, which lately destroyed part of Luckenwalde, in Prussia, is the work of an incendiary. The fire originated in one of the manufactories on a Sunday, when no work is done. The loss of machinery, &c., is estimated at 150,000 dollars

The Great German Iron Rail Manufactory Association.—It proposes to furnish the rails required for the German lines, and is, therefore, established at Hilburgshausen, whence an easy conveyance to the whole periphery of the country may be obtained. The capital is to be 2,000,000 of dollars (350,000*l.*), divided into 10,000 shares, of 200 dollars each. The machinery to be first-rate: four large furnaces, capable of producing 8,000 cwt. of iron weekly, are in the progress of erection.—*Allg. Zeit.*

Latest Increase of the Berlin Royal and Public Library.—During the last year this huge establishment has received the following increase (1): 7,377 printed volumes, exclusive of pamphlets; (2) 145 MSS.; (3) 511 volumes of music; (4) 143 atlases, charts, plans, &c.—The room of periodical works (from which all politics are excluded) subscribed, last year, for 423 different journals, amongst which 60 of theology, 40 jurisprudence, 20 educational, 9 different journals of philology and archæology, 5 of the fine arts, 7 of mathematics, astronomy, and architecture, 34 technology and political economy, &c.—Dividing these into languages—there are 299 German, 55 French, 41 English, &c. [It needs hardly to be observed, that *no* public establishment exists in London, where periodicals on *every* branch of science, of the latest date, are to be found—and that, if even *all* the single establishments, colleges, &c., were to be put together, no such number as that of 423 periodicals could be met with.]

Society for the Improvement of the Working Classes in Berlin.—This society—or rather embryo of such, which had enjoyed a lingering existence of about twelve months, and to which the king had not only given pecuniary aid, but promised further, and every other possible assistance; which had been, moreover, recommended by the Prince of Prussia (as Great Master of the Prussian Lodges) to the best services of the royal craft—this society, we say it sorrowfully, has been dissolved after many fruitless projects, committee meetings, &c. It implies another *great* (melancholy) *fact*—that the condition of the working classes all over Europe, *required*, in the first instance, such endeavours; and after this necessity has been acknowledged, that there is (it seems so) a want of *practical* men, to carry these plans into execution!—*Berlin Paper.*

Improvement of Public Thoroughfares, Paris.—The common council of the city of Paris have decided in their last meeting, that it was expedient "to declare the public utility of an enlargement by the way of expropriation of the following thoroughfares."—from the Quai St. Paul to the line of the Quai des Ormes, and the prolonging of the Rue des Jardins until the Quai St. Paul.—The préfet of the Seine (Paris) has just addressed to the home secretary, for the information of his majesty's government, three extensive projects. 1. A plan to lay down the lines (*alignements*) of the *Rue de la Cerisaie* and the *Place de l'Arsenal*. 2. A plan to lay down the lines of the *Place des Marché-aux-Chevaux*. 3. A plan to lay down the lines of the *Rue des Grands Degrés*, and the *Quai des Tournelles*.

Street Cleansing at Vienna and Munich.—The new system of granite paving in the former metropolis has been adverted to in a previous number.* It is on such substantial substratum, that (with even an immense traffic) a substantial cleanliness of public thoroughfares can be achieved. Several characteristic expedients are resorted to at both the above capitals.—The cleansing is not done during the hours of *most* traffic, but those of least, viz. at sunrise; and in cases of emergency, such as a heavy fall of snow, hundreds of men are seen on the *Kohlmarkt* and *Graben* in this occupation, assisted by the light of numerous torches. In dry weather the footpaths are, of course, *not* swept, but *constantly* so after protracted rains, which makes them prepared, as it were, for the next wet, and never permits of that obstinate accumulation of mud, which makes the Strand, Holborn, &c., so very dirty after the least fall of rain. Both these expedients, however, would be of little avail, if that which has been just removed from *one* place, would be allowed to *remain* at another, and thus, undoubtedly, to *return* again to the former. There is no experimentalizing and trying in those German capitals, but a long-established routine—every thing emanating from one common centre, the municipality-offices for the cleansing of thoroughfares. What is also characteristic in this respect at Vienna, is that whenever, after long drought, dust is swept and removed, waterpots are at hand, by which the very unpleasant and unhealthy clouding of dust is avoided. The waste of all large towns in Germany is sold to the highest bidder, and largely contributes to the item of civic *budgets* relating to the cleansing of thoroughfares.—*Reiseskitzen.*

Railway over the Lagunes of Venice.—In the beginning of the year, an experimental trip was made over the magnificent bridge across the Lagunes, and three others thrown over the rivers Tessina, Bochigliere, and Retrone, and the two tunnels not far from Vicenza, one of which is 174 feet, the other 285 feet long. The whole distance between Venice and Vicenza has been accomplished in two hours, and the passage over the great bridge of the Lagunes in only eight minutes, while it takes more than an hour to accomplish the way along the bridge in a gondola. In the whole, the Venice-Vicenza line promises to be a sterling and durable building.—*Gazetta di Venezia.*

Trieste and Bremen Line of Railroads.—The Bavarian Government is making great preparations for constructing a railway from Munich to Salzburg—which, when achieved, would complete the junction of Trieste and Bremen, for which most parts are either constructed or nearly so. In the case of completion, the Adriatic and the German Ocean would be united (to an extent of 334 French leagues), in the way, that the journey could be accomplished in about forty-three hours. As Bremen lies only three hours way from Hamburg, the latter line through Holstein would lead the traveller to Kiel, on the shores of the Baltic.—*Journal des Débats.*

Official Protests against Bad and Unsafe Railway Constructions in France.—The Municipal Council of Havre, and the Chamber of Commerce, of the same city, have sent energetic protests against such a faulty and unsafe way of construction, as had been lately exhibited in the fall of the Barentin viaduct—addressed to the Secretary of State for Public Works. They state, that an accident of such extent augurs badly for the safety of similar buildings.—*Le National.*

The Bridge Tolls of Paris.—The disputes between the Three-Bridges Company and Government have ended in the discomfiture of the former, who wanted to increase the tolls for vehicles of a certain kind. The answer contains the declaration, that it is the duty of Government not to allow any too high straining of speculation detrimental to the great mass of the public.

The "Fidget" after Knowledge.—In no other age, it seems, has there been more talk about knowledge, *i.e. sterlingness*, and the less of it in reality. It is easy to talk of geniality, the march of intellect, advancement of art, the little patronage bestowed on it—but more difficult to *be* a superior artisan, or still more an artist, viz. one to be appreciated by even after-ages. There can be no doubt, that many persons *flounce* about these matters, who—if properly put to the test, would be found deficient in the very A B C of their different trades and callings. This we call the *fidget* after knowledge—such, as never will produce any sterling or great men; who, all of them, were perfectly *grounded* in the rudiments of their trade or profession *first*, and *then* took a majestic flight to higher regions—which, as a matter of course, none *unfledged* can ever accomplish. What strikes us, for instance, in the designs of *Palladio*, is the extreme ease with which they have been executed. The same were Michael Angelo, Raphael, and all the really *great* galaxy of all ages and in every branch of human endeavour; every stroke and dot in the drawings of the former exhibiting an instinct-like ease of, not so much doing, as *projecting* work. Columbus, moreover, was a very expert and nice draughtsman in his particular line; Jean Jacques Rousseau lived by copying music; Benjamin Franklin was a *wonderful* compositor—and even the ambition of young Cobbett was first directed towards excelling his brothers in "ploughing." To such *sterlingness*, young men must have arrived "*first*," before they have any right—or far less occasion for speaking and panting after science, knowledge, patronage, and geniality. —*Isis of Oken.* J. L——y.

* Vide Vol. III., p. 600.

THE BRITTON TESTIMONIAL.

We stated some time ago that, at the suggestion of Mr. Britton, the amount subscribed was to be expended in obtaining (by competition) and printing, an essay on the study of archæological literature. This, however, being strongly objected to, was afterwards abandoned. In the course of a correspondence on the subject, Mr. Dawson Turner suggested, that instead of an archæological essay, it should be a full history of Mr. Britton's life, as exemplified by his works: in a letter to Mr. Britton, he remarked:—

"In such an essay you would speak of the events of your life; of your friends and patrons, now most of them dead; of the artists you employed; of the eminent persons you were brought in the way of, and of the difficulties, pleasures, and annoyances that attended, soothed, and embittered your career; and you would intersperse the narrative with a thousand anecdotes. You would thus make a charming book of materials that would otherwise perish with you, and would do invaluable good in your generation by the example you would hold out."

The committee concurring in this view, Mr. Britton undertook to devote his leisure to the preparation of such a work, and to expend the amount of the subscriptions in its printing and embellishment.

It will be accompanied by an engraved portrait of the author, by Mr. C. E. Wagstaff, from a beautiful picture expressly executed for the purpose, by Mr. John Wood, and a selection of the engravings which have illustrated Mr. Britton's works will be appended, in order to elucidate the general style of their embellishments. It will be printed in royal octavo; and a few copies in demy quarto will be prepared for the subscribers of 3*l.* and upwards. Copies in imperial quarto will be presented to distinguished individuals, and to the national libraries of England, France, Prussia, &c.

The Artists' Play.—The amateur performance in aid of the Artists' Benevolent Fund, already mentioned, took place on Tuesday last, and gave great pleasure to a large audience. Mr. F. W. Topham, Mr. John Wilson, jun., Mr. Holl (the engraver), Mr. George Cruikshank, Mr. Hamerton, and Mr. Matthew Wood, were among the performers.

Public Works in Ireland.—Sir T. Freemantle has obtained leave to bring in a Bill to amend the Act for the promotion of public works in Ireland, and proposes that a sum not exceeding 50,000*l.* be placed at the disposal of the Treasury for such purposes as circumstances might require.

ARTISTICAL COMPETITIONS.

Sir,—Mr. Frank Howard's communication on the Art-Union cartoons, in your publication of Saturday week, is too remarkable a document not to have excited a marked sensation; it evinces more boldness than we expect from artists, and the candour with which you have inserted his opinions, so opposed to your own, is a fine manly feature in your journal, which will, I trust, cause its sale and influence to extend far and wide.

Mr. Howard's observations apply to two distinct objects, viz., to competitions in general, and to the opinion previously expressed in The Builder on one of the cartoons in the present exhibition. He appears on the whole pleased with the report of the Institute of the Fine Arts on competitions, printed in your journal of the 3rd inst., but he fancies he can suggest a different and a preferable mode of arriving at the intended results. Instead of improving tribunals, almost without exception incompetent or vicious, he suggests as a remedy, that a book be opened in the exhibition rooms, wherein "all the competitors should be required to record his opinions of any or all of the works except his own, together with his reasons, if possible, for such opinions, attaching his name and address. This should be done within a limited time, say the first fortnight, or he should forfeit his right of competition." There is also to be another book for amateurs to do the same if they choose. "Guided but not governed by these opinions the parties who give the money should decide for themselves." To accustom artists to critical examination is certainly very desirable; to encourage a manly declaration of sentiment in a proper tone, is the way to multiply fine feeling, so essential to elevated pursuits. In short, the practice thus recommended would, if carried out unexceptionably, induce artists to consider their subjects and the right mode of treating them; they and the public might consequently learn what really constitutes a good picture, and how to get rid of meretricious incapability; but experience will discover many shoals and fearful dangers at the mouth of this safe harbour, which would be avoided by the more expanded and wider passage pointed out in the report of the Institute of the Fine Arts.

The good which Mr. Howard expects to result from his plan, through the information communicated to artists, amateurs, and the judges, will of course depend on the quality of that information given under the penalty of losing a competitor's rights. Under such regulations, timid men will give as little as possible, whilst their own works will be exposed to the violent attacks, perhaps the insidious undermining or the envenomed shafts of desperate and crafty rivals. Amateurs, the friends of busy competitors, may add the weight of their side batteries in support of those attacks on the humble and defenceless. These will retire and never again appear on the field, whereon the reckless and the fearless will be left to tear each other to pieces. Such an exhibition would add nothing to the respect felt by the public for the profession or the arts; nor would conventional notions, affectation of anatomical knowledge, the usual artistic inefficiency in history or antiquities, enlighten the judges in the proper direction. If, on the contrary, artists can be persuaded to write candid, considerate observations, devoid of jealousy or personality, then indeed the effects, as far as they went, would be advantageous; but to judge from Mr. Howard's own specimen, purity in this respect is very hard to attain; the opinions he expresses are always merciless, and calculated to irritate a fiery opponent and to terrify a timid one, and drive him off the field. This would affect most artists who have a reputation to lose, and many who have to gain one. In practice, the plan is not so simple as he supposes. First, every artist who does not write in the book his opinions, is to lose his right of competition: this would be unjust to competitors out of London—at Manchester or Liverpool, Dublin, Edinburgh, &c. Again, with the very moderate number (28) in the present exhibition, twenty-eight times twenty-seven make up 756 critiques, and if only ten amateurs, judged by one or other candidate, should throw their weight into the scale, then the number becomes 1,036 paragraphs. Mr. Howard's own sample criticism of one of the cartoons amounts to fifty-eight lines; taking this as an average, the whole would be 60,000 lines, or 2,000 ordinary pages of book printing;—a pretty large quantity for the jaded artists to pen, and the public to read, during the exhibition. Mr. H. will hardly deny that the representative plan suggested in the report of the Institute of the Fine Arts is rather more practical than his unripe proposal.

Really, Mr. Editor, the insertion of critiques and observations from both sides of the question in a periodical like yours, in the way you have so honourably done already, would seem to answer every rational purpose of Mr. Howard's proposition. If the artists choose to appoint committees or advocates of their cause, and their pleadings are printed, then may each judge in the competition, and every artist in the kingdom, quietly by his fire side read and reflect on that evidence, far better than *a few* could do in a public exhibition-room. How that gentleman's proposal can do away with the necessity of any part of the plans proposed by the Institute of the Fine Arts, in which the criticism is left to persons less excited, more impartial judges, I am at a loss to understand; it removes no vice in the appointment or management of our competitions; it leaves, partiality and prejudice unchecked; it does not fix and identify the responsibility, or provide for the equitable decision of courts; it gives indeed a voice, and *preterea nihil* to the artists; it removes no hardship, no unnecessary burthen; adds no comfort, no solace to the wounded feelings, no remedy to the pecuniary losses of the candidates. Still let artists derive one advantage from Mr. Howard's immatured attempt. Let them dare to express with force and with feeling, but with *moderation*, the effects of ill-advised measures for the promotion of art, and brighter days will shine on the exertions of native genius.

I remain, Sir, &c.,

An Old Competitor in Historical Art.

Art-Union Cartoons.—Mr. F. Howard has addressed a letter to us, complaining of what he terms the "villanous perversion of the text of the *Athenæum*" by our correspondent of last week, "An Old Writer on Fine Art," and calls on us as an act of justice to insert an inclosed reply in our present number. We must, however, decline doing so, having satisfied ourselves that "An old Writer" has in no degree perverted Mr. Howard's meaning.

The following is the close of Mr. Howard's letter:—"You are welcome to inform the public that my cartoon is Anne Askew refusing to sign the six articles, which in the words of my motto, I claim to be "a work of mind."

"'Tis not in mortals to command success,
But we'll do more, Sempronius, we'll deserve it."

A NEW PAINT.

At the last meeting of the Society of Arts, on Jan. 21st, a paper was read by Mr. H. Page, "On the New Patent Oil Integument; or Skin of Paint," by which facility is afforded for interior or exterior decorations. The author, after pointing out the various inconveniences which the public experience in having the painting, graining, and oil decorations done on the premises, proceeded to shew some of the advantages which he obtains by substituting a prepared skin of paint for the ordinary common painting. These advantages are apparent in the decoration of ceilings, or in the execution of any kind of flat ornamental work, whether it be imitation of woods, marbles, lettering in gold or colours, on walls or woodwork, as it is only necessary that the dimensions of the parts to be ornamented should be previously taken, and the work can be completed at the artist's shop or study. The author next proceeded to describe the process of manufacture, remarking that the skins at present made are 12 feet by 3 feet, that being found the most convenient size, but they can be made of any dimensions. The mode of fixing the skin is to rub down the surface on which it is to be fixed, and, when thoroughly cleaned, it is gone over with boiled oil and gold size (a smear is sufficient), the skin is then laid on with a soft cloth, as in the ordinary paper-hanging. Several specimens were exhibited.

ARCHITECT'S RESPONSIBILITIES.

Sir,—In reply to the letter of "An Architect," in your paper of the 17th of January, I have only to say, that I never justified an architect's "allowing" defective workmanship, nor of his permitting "such workmanship to remain."

I merely intended to intimate to the employer that, when no clerk of the works is engaged, and the visits of the architect can only be occasional, certain defects of workmanship (trifling in themselves, but annoying in their *temporary* results) may shew themselves, without impugning the architect's professional character. This, of course, presupposes that his drawings and specifications are in all respects complete.

As to your correspondent conceiving that I sought exemption from the duty of seeing that all defects be *remedied* before final payment, it only shews that I have not expressed myself clearly. I always reserve, for a certain period, at least one-fourth the value of the whole work, as a security against such defects; and, of course, feel it imperative on me to see them satisfactorily corrected before I give my closing certificate. The intention of the particular clause in my letter, to which your correspondent refers, as the only one requiring explanation, was to anticipate the unreasonableness of those employers who, declining a clerk of the works, refusing to pay the architect any thing for his travelling *time*, and even grudging his travelling *expenses*, have yet been astonished at finding that, during the early occupation of the new building, they have had to suffer the inconvenience of the contractor's re-entering to stop a leak, perfect a gutter, repair a ceiling, clear a drain, or cure a chimney! In short, my circular merely requires an additional paragraph at the end of the sentence beginning "Fourthly," &c; and another at the clo-e of that, commencing with "4th. Superintendence," &c.

"Fourthly, you engage him to supply all such *working drawings* and *occasional* superintendence, as shall insure the accurate and substantial execution of the works, so far as regards their *architectural truth* and permanent *strength*, and to see that all defects of workmanship shall be remedied before the builder or contractor receives his final payment.

4th. *Superintendence.*—The architect is *not* employed as an operative builder or clerk of the works. It must be clearly understood, that his *occasional* visits and *working drawings*, can only have reference to architectural accuracy and the liberal fulfilment of the leading articles of the specification, as affecting construction *generally*. If the builder, his foreman, or operatives be careless, and a competent clerk of the works be not engaged, roofs may leak, plumbing may partially fail, plastering may crack or become discoloured, drains may yield offensive odours, joinery may shrink, chimneys may return their smoke (indeed the latter nuisance may occur in spite of all precaution), and many other evils may shew themselves, without, necessarily, impugning the character of the architect, or in the least affecting the general stability of the structure. The most trying annoyances may originate in the most trifling defects of workmanship, and nothing short of a vigilant clerk of the works, exclusively employed without intermission, can insure perfection in matters of constructive detail." [The architect does not, however, claim exemption from seeing that all *remedial* measures be effected. See "Fourthly," &c., 1st page.]

I should say, that my letter has never yet been issued, and, furthermore, that I have never yet made any charge for time occupied in travelling. I wish that I had benefited by your correspondent's correction before the publication of my letter, since I am now likely to suffer under an imputation which is solely referable to a want of explicitness.

I am, Sir, &c., Geo. Wightwick.

Vacancies for Inspectors of Pavements.—The Commissioners of Sewers of the City of London will meet in the Guildhall on the 24th of February, for the purpose of electing two Inspectors of Pavements. Candidates must be between 25 and 35 years of age, and Freemen of London. The salary is fixed at 150*l.* per annum, and there are no gratuities or fees.

FULHAM CHURCH.



VIEW OF TOWER AS RESTORED.—MR. G. GODWIN, F.R.S., ARCHITECT.*

AN IMPORTANT CASE IN BUILDING AND CONSTRUCTIVE CARPENTRY.

THE walls of a brick building of which the plan is 16 feet by 34 feet, are respectively 12 and 15 feet in height, the front wall being 3 feet higher than the back one, and the thickness of each 15 inches. The rafters which rest upon the back wall are 13 feet long, while those that rest upon the front wall are of such a length as to give both sides of the roof the same inclination or slope; the rafters are sixteen in number on each side, with a scantling of 6 inches by 2½ inches of Mar forest fir, the laths being of the same material. The roof is covered with plain tiles five-eighths of an inch in thickness, and overlapping one another half their length, thereby giving a double thickness to the covering, and making together with the laths and rafters, a weight of not less than 15 lbs. on a square foot of surface. The rafters are tied together by joists or tie-beams on a level with the summit of the higher wall, but in consequence of there being no other ties, the feet of the longer rafters have been allowed to slip outwards, and force the back wall from the perpendicular through a space of 3 inches; and in order to prevent a farther deviation from the upright position, it is proposed to shore up the building with timber struts of 12¼ feet in length; *at what point of height in the wall must the struts be placed, so that they may offer the greatest possible resistance in a direction parallel to the horizon?*

Such are the particulars of the data as they have been received, and such is the question proposed to be resolved, and to this extent the solution is simple enough; but there are other circumstances of a more prolix and difficult character connected with it, to which we think proper to direct the reader's attention, as having reference to a case of very frequent occurrence in practice, but for which we are not aware that any general rule has been given to guide the mechanic in the proper adjustment of the system; we allude to the determination of the shorter rafter when the longer one is known, so that the slope or inclination of the roof may be the same on both sides, the angle made by the concourse of the rafters being then bisected by a plummet suspended from the ridge.

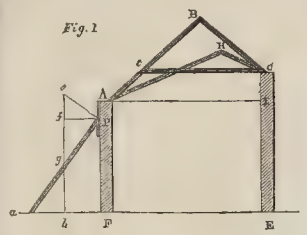
Let FE fig 1, represent the width of the building; AI equal FE the span of the roof;

* See p. 49 in present number.

FA, EC the heights of the back and front walls, and AB or AH the longer rafter which is given; then are BA, BC, or HA, HC, the positions of the rafters, the roof admitting of two pitches as we shall see anon; and since neither of them is given by the question, it becomes a matter of inquiry to determine the nature of the roof itself, and also the effect of its thrust upon the walls.

Let FABCE represent a vertical transverse section of the roof and walls, aP one of the struts, P the point in the wall at which it is applied, and g the position of its centre of gravity. At P, the upper extremity of the strut which presses on the wall, erect the perpendicular Pe, to meet the vertical line be, passing through the centre of gravity in e, and let fP be perpendicular to be.

Fig. 1



The triangles PaF and geP are similar, and by the principles of mechanics, the pressure of the strut aP in the direction eP, perpendicular to its surface, is as eP, and may, therefore, be represented by it; hence it follows, that the direct pressure is also as fP, and may consequently be represented thereby. Now, in estimating the force of the strut upon the wall in the direction of its length, we may assimilate that force to a weight applied at the centre of gravity, and acting in a direction perpendicular to the horizon; let eg denote this weight, then by the property of similar triangles, we have

$$a\text{P} : a\text{F} :: ge : e\text{P} = \frac{a\text{F} \times ge}{a\text{P}};$$

but the triangles PaF and Pef are also similar; hence it is

$$a\text{P} : \text{PF} :: e\text{P} : f\text{P} = \frac{\text{PF} \times e\text{P}}{a\text{P}}.$$

Now this is the force with which the strut aP resists the wall in the direction fP, and if the value of the force in the direction eP be substituted, we obtain

$$f\text{P} = \frac{a\text{F} \times \text{PF} \times ge}{\overline{a\text{P}}^2}.$$

The equation just obtained expresses the value of the force which resists the deflection of the wall in the direction fP, and the leverage by which it gains its power is PF; hence, the momentum or mechanical effect in resisting the wall, is

$$momentum = \frac{a\text{F} \times \overline{\text{PF}}^2 \times ge}{\overline{a\text{P}}^2}.$$

In this equation the unknown quantity is PF, and when that becomes known, the other quantities aF and ge are also known, but by the conditions of the question, the momentum or mechanical effect of the strut is to be a maximum; consequently, by equating the fluxion of the above expression with zero and transposing the terms, we get

$3\overline{\text{FP}}^2 = 2\overline{a\text{P}}^2$, and this by reduction, gives

$$\text{FP} = \tfrac{1}{3}a\text{P}\sqrt{6} = 0{\cdot}8165a\text{P}$$

Hence it appears, that if the length of the strut in any case be multiplied by the decimal 0·8165, it will give the height of the point in the wall, at which it is to be applied to produce the greatest effect.

In the present case, the length of the strut is 12½ feet; therefore, by multiplication, it is FP = 12·5 × 0·8165 = 10·21 feet nearly, and the distance from the bottom of the wall where the foot of the strut is placed, is Fa = 7·22 feet nearly. But if the point in the height of the wall be previously fixed on, and the length of the strut not known, this length may readily be found in all cases, by making with the wall at the point of application an angle equal to 35° 16′; for by Plane Trigonometry we have

aP : radius :: FP : cos·aPF; that is,

12·5 : 1 :: 10·21 : 0·81650 = nat. cos. 35° 16′;

and this angle is constant in the case of maximum resistance, for every length of strut that does not reach above the summit of the wall.

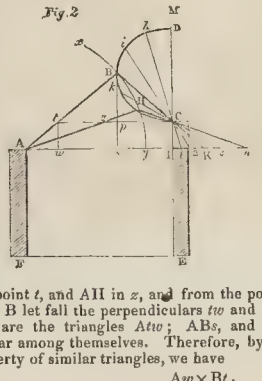
This is the method of resolving the problem, in so far as it respects the position of the strut, and in the next place, we have to determine the length of the shorter rafter, or the pitch of the roof, and from this to assign its effects in pushing out the wall from the perpendicular position.

In order to this, let AI, fig. 2, be the span of the roof; AF and CE the back and front walls, the one being higher than the other by a quantity equal to IC, and AB or AH the length of the longer rafter, which is supposed to be known. Produce IC directly upwards to M, and set off ID equal to AB or AH, the length of the given rafter; in AI produced beyond I, take any number of points whatever, such as at 1, 2, K, 3, 4, the more the better for an accurate construction. Then, through C, the point where the rafter meets the top of the higher wall, and the several assumed points, draw the straight lines 1h, 2i, KB, 3k, and 4H, and on these lines respectively set off the several distances equal to the given rafter AB, or vertical line ID; then are D, h, i, B, k, H, C, points in the curve described by the point D, while the lower end of DI is drawn along the horizontal line I 4, the line itself passing always through the point C. Through the several points just named let the curve DhiBkHC be traced, and we shall have a curve of the fourth order, in which the summit or ridge of the roof occurs. On the point A as a centre, with a radius equal to the length of the given rafter, describe the circular arc xBHy, intersecting the curve in the points B and H, and draw AB, AH, and CB, CH; then will ABC and AHC be the pitches of the roof required. If the circular arc xBHy does not intersect the curve, but merely touches it in a single point, the roof will only admit of one pitch, having its ridge in the point of contact; and if the circular arc does not touch the curve at all, the construction is impossible with the given length of rafter.

Such, therefore, is the method of delineation under the conditions specified, and if CB and CH be applied to the scale of construction, the length of the shorter rafter for both pitches will be approximately known, and this in most practical cases will be sufficient, and beyond this point mechanics in general will not attempt to go; but in order to render the solution of the problem more complete, we think proper to shew the mode of calculation also.

Through the point C, draw the straight line Ct parallel to the horizon, and meeting AB in

Fig. 2



the point t, and AII in z, and from the points t and B let fall the perpendiculars tw and Bs; then are the triangles Atw; ABs, and tBp similar among themselves. Therefore, by the property of similar triangles, we have

$$\text{A}t : \text{A}w :: \text{B}t : tp = \frac{\text{A}w \times \text{B}t}{\text{A}t};$$

$$\text{but } \text{I}w = 2tp = \frac{2\text{A}w \times \text{B}t}{\text{A}t},$$

and by addition, we get $\text{A}w + \text{I}w = \text{AI}$; that is

$$\overline{\text{A}t}^4 - 52\overline{\text{A}t}^3 + 411\overline{\text{A}t}^2 + 468\text{A}t = 6084.*$$

Here we have an equation of the fourth degree with all its terms present, consisting of three positive roots and one negative. In this equation, At is the unknown quantity, and its two values will be expressed by two of the positive roots of the equation; which roots by approximation are found to be

At = 4·4 feet, and Az = 9·1 feet very nearly.

By repeating the steps of the approximation the values of At and Az may be found to a higher degree of accuracy; but it is unnecessary in the present instance, as the numbers found are sufficiently accurate for every practical purpose. Therefore, by subtracting each of these values from 13, the length of the given rafter, we get

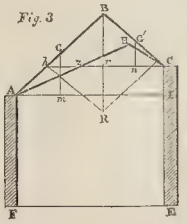
$$\text{BC} = \text{B}t = 13 - 4{\cdot}4 = 8{\cdot}6 \text{ feet};$$
$$\text{and HC} = \text{H}_2 = 13 - 9{\cdot}1 = 3{\cdot}9 \text{ feet};$$

so that for the higher pitch ABC, the rafters are 13 and 8·6 feet; and for the lower pitch AHC, they are 13 and 3·9 feet.

Having in the previous part of our solution determined the position of the strut, so that it shall present the greatest possible horizontal resistance to the inclination of the wall; and having, moreover, shewn the method of finding the length of the shorter rafter when that of the longer one is given, so that both sides of the roof may have the same inclination, or that a plummet suspended from the ridge may bisect the angle of concourse; it now remains for us to inquire, if the walls were of the proper dimensions for resisting the thrust of the roof, on the supposition that the rafters are free, and totally unrestrained by ties of any kind.

For this purpose, let ABC and AHC, fig. 3, be the two positions or pitches that we have

Fig. 3



shewn the roof susceptible of assuming, and let G and G′ be the positions of the centres of gravity of the sides of the roof respectively; through the centres just named let the vertical lines Gm and G′n be drawn, and they will represent the directions in which each side of the roof acts, considering the whole weight of each side to be concentrated in these points. Now it is very obvious, from the principles of mechanics, that the weight of each side acting in the directions Gm and G′n, will produce the same effect upon the walls as if the whole weight of the roof were applied at the point B, and acting in the direction of gravity BR. Let BR denote the whole weight of the roof, and upon BR, as a diagonal, construct the parallelogram BCRh; then is BR resolved into its composant forces BC and Bh, acting in the directions of the rafters BC and Bh; but BC is equal to Bh, as can easily be shewn by the principles of geometry and the nature of the figure; hence it follows, that the thrust on the walls is precisely the same in the direction of each rafter; it is, however, the horizontal thrust that enters into the consideration of the case in question, and to obtain the magnitude of that thrust, we must resolve the oblique force Bh or BC, which is equal to it, into the co-ordinate or composant forces Br and hr, the one perpendicular, and the other parallel to the horizon. Now Br, the force which acts in the direction of gravity, has no effect whatever in thrusting out the wall from its vertical position; it is only rh, or that which acts in a direction parallel to the horizon that becomes effective, and we straightway proceed to determine its magnitude.

According to the data of the question, the length of the building is 34 feet, and the length of the longer rafter is 13 feet, and by a calculation deduced from the principles of construction, we have found the length of the shorter rafter BC, to be 13 − 4·4 = 8·6 feet; but it is moreover stated, that the weight of the tiles and the timber give an average weight of fifteen pounds upon a square foot of surface. Now the whole surface for the upper pitch ABC, is (13 + 8·6) × 34 = 21·6 × 34 = 734·6 square feet, and this being multiplied by fifteen

* It may be proper to remark, that the several coefficients in this equation, as well as the absolute number 6084, are found by introducing the dimensions of the building as specified in the question.

pounds, gives $734{\cdot}6 \times 15 = 11016$ lbs. or 5 tons very nearly.

By trigonometry, the angle hBr is equal to 47° 1′, and consequently, Bhr is 42° 59′; but Br is equal to rR, because the triangle BhR is isosceles, and hr is perpendicular to BR; therefore Br is equal to half the whole weight acting in the direction of BR, or 2½ tons; hence we have $hr = 2\frac{1}{2} \times$ cot. 42° 59′; but the natural cotangent of 42° 59′, is 1·0729, and $1{\cdot}0729 \times 2\frac{1}{2} = 2{\cdot}6822$ tons, for the effective thrust of the roof upon the wall in the direction of the horizon. This force, however, acts with the leverage AF = 12 feet, and this gives a momentum or mechanical effect of $2{\cdot}6822 \times 12 = 32{\cdot}1864$ tons.

Now the wall is 1½ feet thick, 12 feet high, and 34 feet long; the solidity is, therefore, equal to $34 \times 12 \times 1\frac{1}{2} = 510$ cubic feet, and a cubic foot of brickwork is about 95 lbs.; but $510 \times 95 = 48450$ lbs., or 21·63 tons the whole weight of the wall, and this resists the thrust of the roof with a leverage of 7½ inches, or 0·625 of a foot; the momentum of resistance is, therefore, equal to $21{\cdot}63 \times 0{\cdot}625 = 13{\cdot}51875$ tons; but we have shewn above, that the momentum of the roof is 32·1864 tons, consequently, the momentum of thrust exceeds the momentum of resistance by 18·668 tons nearly, thereby indicating that very substantial ties were necessary to give the building sufficient stability. But even ties placed where they are said to exist, would have a very powerful effect in diminishing the force of strain over that of the resistance, and, consequently, the calculation made out on the supposition that there are no ties, places the subject in rather an unfavourable light, and quite at variance with the actual state of the case; but our object being more with a view of shewing the mode of calculation in inquiries of this nature, than to shew the efficiency or deficiency of the building in question, we consider the subject as being worthy of some attention. We are not sure that practical men will agree with us in the mode of examination that we have chosen; but we insist upon it, that a calculation should in every instance be resorted to; and to insure complete safety, such calculation should always have reference to the most unfavourable state of the question.

A similar process may be applied to the lower pitch represented by AHC; but we prefer omitting it, as a repetition of the process may become tedious to the general reader, who may, or may not, perform the operations according as he feels inclined. T.

TUNNEL UNDER LONDON,

FOR THE LONDON AND BIRMINGHAM RAILWAY.

The proposal made by the London and Birmingham Railway Company, under the direction of their engineer, Mr. Robert Stephenson, to reach their intended central station in Farringdon-street (the site of the late Fleet Prison) by means of a tunnel under London, has excited great attention.

The works of this undertaking, according to the *Railway Telegraph*, are proposed to commence at the Camden Town station of the Birmingham Railway, crossing the Hampstead-road by means of two arches of 70 feet span and 16 feet in height, the junction with the London and Birmingham requiring no alteration of level. From the Hampstead-road the line is proposed to pass (by means of a viaduct varying from 18 to 21 feet in height, and at an inclination of 1 in 97) over Grange-street, Leybourne-road, to the Kentish-town road, and from thence over the Camden-road, Brecknock-place, Great College-street, and the Camden-road villas, at an inclination of 1 in 134, and at a height varying between 20 and 16½ feet. After passing the King's-road the viaduct is to be succeeded by an embankment at an inclination of 1 in 60, and then by a cutting to the western side of Maiden-lane, and to the north of Randall's tile-kilns. At this point the proposed tunnel commences, being at a distance of 1 mile 165 feet from the Camden station, at a depth of 37 and a width of 30 feet. The tunnel takes its course under Carlton-gardens and William-street, Caledonian-road, at a depth varying from 38 to 45 feet, and thence under the Caledonian-road at a depth of 54 feet. From this point the tunnel is proposed to proceed, at a gradually increasing depth, under the tunnel of the Regent's-canal, near Half Moon-crescent, where the depth is 90 feet.

The direction of the tunnel is then under Penton-street, Chapel street, and White Lion-street, Pentonville, the depth being no less than 101 feet, and the inclination being 1 in 1062. From hence the tunnel passes under the New-road, at Claremont-terrace, in the rear of St. Mark's Church, Myddelton-square, at a depth of 87 feet, gradually decreasing until the tunnel arrives at the New River Head, under which it is proposed to be carried at a depth of 68 feet. A gradual decrease in depth then takes place; under Myddelton-street, Clerkenwell, it is 51 feet; Gloucester-street, 48 feet; Skinner-street, Clerkenwell, 43 feet; Corporation-row, Sekforde-street, and Suffolk-street, each at a depth of 42 feet; Aylesbury-street (leading to the Sessions House), 41 feet; and St. John's-square, 38 feet. From this point the tunnel passes under the closely-populated districts of St. Sepulchre Without, at depths gradually decreasing until it reaches Cow-cross, where it will be only 25 feet below the surface. Here it is proposed to carry the tunnel, at a depth varying from 28 to 33 feet, from Greenhill's-rents to West Smithfield, at an inclination of 1 in 1,062. Passing under Greyhound Inn-yard at a depth of 31 feet, the tunnel is proposed to reach Hosier-lane at 28 feet, Cock-lane at 29 feet, and the Saracen's Head Inn-yard at a similar depth. Under Skinner-street, Snow-hill, the depth will be 28 feet, and the tunnel will terminate at Angel-court, on the southern side of Skinner-street, at a depth of 24 feet. A small cutting will here commence, passing through Green Arbour-court, at a depth of 19 feet; Bishop's-court, 14 feet; Seacoal-lane, 11 feet; Fleet-lane, 5 feet; and thence into the city terminus, Fleet Prison yard, where the line will emerge on a level.

The entire length of the intended extension will be 3 miles 4½ chains, of which the tunnel will occupy two miles. It is a singular fact that the tunnel will pass under only one main sewer.

ACCIDENTS TO BUILDINGS.

Last week, during a storm of wind, say the daily papers, part of the steeple of the church, lately erected at Red-hill, near Reigate, under the superintendence of Mr. Knowles, architect, fell with violence into the body of the church, penetrating the roof, ceiling, and timbers. "The seats are very much damaged, some of them shivered into splinters, and others actually torn from the flooring—such was the force of the concussion." Circumstantial as this account appears, the architect says it is wholly untrue. One stone from the upper part of a pinnacle was all that fell, and the damage was trifling. The same week in Bristol, at some new buildings which had been in progress of construction, to increase the accommodation for transfer of goods, a vast pile of scaffolding came with a loud crash to the ground. Five of the workmen were more or less injured, and one or two very dangerously so. In the vicinity of Ewer-street, Gravel-lane, Southwark, much alarm was caused by a stack of chimneys falling on the roof of a small cottage occupied by a family of poor Irish persons, one of whom was seriously injured by a large portion of brickwork, which fell upon the head of the eldest child, causing a fracture of the skull, and lacerating the scalp to a considerable extent. A portion of a house situated in White's-place, Newington-causeway, was blown down, but fortunately no one was injured.

DANGER OF IMPROPERLY FIXING STOVES.

The residence of the Duke of Cambridge was nearly burnt last week, in consequence of improperly setting a stove of low construction in the duke's bedroom. The grate was set on a hearth-stone, with fire bricks and Welsh lumps, but sufficient care had not been taken to secure the timber beneath. On the grate and hearth-stone being removed, it was found that the latter had been placed directly over a beam about a foot square, which, owing to the great heat occasioned by the fires kept to warm the room, had ignited, and set fire to the girders and other portions of the flooring.

ADVICE TO ARCHITECTS.

BIRKENHEAD.

I observe in your publication of Saturday, that a hospital is to be competed for at Birkenhead, and as your journal is to be found on the desk of almost every architect, I would beg most respectfully to recommend that the competitors submit that a competent tribunal be formed for deciding upon the best plan,—a tribunal composed of gentlemen of known integrity and taste.

I have had an excellent opportunity for these several years, of judging of the general character of the Birkenhead proprietors, four to six of whom entirely rule the commissioners of the township, are themselves in the commission of the peace, very extensive land speculators, and four of whom keep each an architect almost constantly engaged. Indeed five of them are building each a church, to form a sort of nucleus in their neighbourhood, and they are all well disposed towards any and every scheme that is likely to be the means of giving a "local habitation and a name" to their projects. Besides, it is not improbable that a *ci-devant* architect now elevated to a land-seller, may be on the committee, who (if the gentlemen alluded to do not support their respective protéges), may probably cause the whole of the designs to be thrown aside, and propose to make a more suitable plan than any of them, after the variety of information he will have acquired.

An able article, or report, of the Institute of the Fine Arts on public competitions appeared in a former number, which might be usefully read by every architect as well as every *honest* committee for a true mode of rewarding sterling merit.

But in the present case, competitors ought respectively to demand a published list of the judges of this matter, otherwise they may find the result unsatisfactory.

I remain, Sir, &c.

Liverpool. Veritas.

*** Knowing what we do of some of the leading men in Birkenhead,—men who have effected extraordinary things, and are remarkable for ability and energy,—we have no reason to expect that the competition will be worse managed than, unfortunately, these things usually are. We insert our correspondent's letter (which represents two or three received by us), to shew the committee that parties are looking on, and to induce them to set a good example in this respect as they have in some others. We shall ourselves feel bound to watch the proceedings, by the fact, that we have given the address for particulars, &c., to more than a score of applicants. We conjure each member of the committee to deal as he would if all the responsibility rested on himself.

EFFECTS OF RAILWAY ENTERPRISE.

The mass of railway enterprise, domestic and foreign, is the strong and distinct evidence of a mighty stride in the progress of nations, one of those great eras which mark the world's history. It may be fraught with the ruin of hundreds, it professes to be big with the happiness of millions. It is looked upon as the precursor of great good, because it comprises, as essential ingredients to its accomplishment, whatever is calculated to elevate, improve, and extend the interests of all classes—the circulation of money—the extension of commerce—the employment of the people—the improvement of the facilities of intercourse at home and abroad. It is impossible to say what important results may spring from these facilities—what discoveries may be effected in science—what increased resources may be acquired at home—what new relations may be formed abroad. With countries into which we have scarcely yet penetrated it may be our privilege to enter into the most advantageous alliance; to open out an intercourse that may provide food and employment for millions unborn. It may be ours to bring into the closest intimacy of family relation the inhabitants of new and comparatively unknown regions, to form settlements, raise cities, and extend all the advantages of trade, and the blessings of religion, where the sound of the hammer has not yet rung, the rush of steam never yet been heard, nor the tidings of salvation yet been proclaimed. Holding such sentiments as these, we should

be the last to throw a damp upon any legitimate enterprise, or to cloud with prejudice and doubt the unknown, the unseen future. This generation has witnessed the mighty revolutions effected by steam in a few years. Where is the infidel who would venture to define the limit of improvement, the boundary of science? Is not the universe one vast storehouse of knowledge, in which we are one day after another making new and important discoveries. The greatest philosoper, in the midst of his brightest acquirements, can only adopt the sentiment of the immortal Newton, and say that he feels as a child upon the sea-shore throwing pebbles into the mighty ocean of truth that lies extended before him.—*Quarterly Review.*

RAILWAY JOTTINGS.

There are at present 5,997 men employed on the various works connected with the Lancaster and Carlisle line, which will be completed by the 1st of July next. The engineer says:—"Of the 6,000,000 cubic yards of earthwork, nearly 5,000,000 are completed, and the remaining quantity is divided into such numerous portions, that at no one point is there any difficulty with average weather. With regard to the masonry, it is equally forward. Of the ordinary bridges, five-sixths are nearly completed.——From the annual returns of railway statistics, drawn up by Mr. G. Greaves, of Liverpool, we learn that during the past five years 12,936,927 persons (equal to half the population of England) travelled on twenty-two lines of railways, and that the total of 1845 exceeded that of 1844 by nearly half a million of persons.——The *Leeds Mercury* gives the following particulars of the parliamentary costs already incurred in promoting unsuccessful projects in the district of the West Riding Union:

1844.—Leeds and Bradford Short Line	£10,500
Ledger Bridge and Cooper Bridge Line—promoted by the Manchester and Leeds Railway Company.....	20,000
1845.—West Riding Junction	65,000
West Yorkshire.....	45,000
Huddersfield, Halifax, and Bradford	2,500
	£143,000
1845-6.—West Riding Union (up to this time)	20,000
	£163,000

——One of the most voluminous parliamentary returns connected with railways has recently made its appearance, in the form of a catalogue of upwards of 540 folio pages, consisting of an alphabetical list of the names of all persons in Great Britain and Ireland who subscribed towards the railways of last session less than 1,000*l.*——Strange as it may appear, it is not the less strange than true, that a cargo of railway iron has lately been sent from France to Newport, Monmouthshire.——Railways have operated in many ways that the keenest foresight little anticipated; it is said that they are now causing a difficulty in obtaining recruits for the army, from the great demand for labour in the country districts, and the high wages given.——The tenders sent in for a temporary station, to be erected on the Eastern Union line, in a field near Stoke Green meeting-house, were as follows;—

Mr. Oglevie	£1,740
— Whight (best Baltic) £1,738, (best red pine)	1,650
— Hearsum	1,618
— F. Mason	1,487
— Pettit.....	1,400
— Ribbans.....	1,390
— Baldiston	1,340

The lowest was accepted. The work is to be completed in six weeks.——The total gross receipts of the railways for the United Kingdom, for the year 1845, have been almost 5,650,000*l.*, shewing an increase of 1,100,000*l.*, or 20 per cent., over those of the year 1844; 3,800,000*l.*, or 37 per cent., over those of 1843; and 2,300,000*l.*, or 54 per cent., over those of 1842!——Surveyors, during the past week, have been at work in the neighbourhood of the Rolls' estate, in Chancery-lane, with reference to the proposed terminus in Farringdon-street.——The ordnance department, acting upon the suggestion of the British Association, have commenced a series of geological maps of all the existing railways, on a scale of 6 inches to a mile.——The first turf of the Taff Vale, a branch of the North Devon line, was cut on Pentole-marsh, by Mr. William Thorn, one of the directors, on the 5th inst.——An officer of the Bengal native infantry, at present in this country, has, during the past week, addressed the editor of *The Times*, on the subject of Indian railways, and the tedious and expensive mode of transit now in existence between Calcutta and Delhi. He says: "The most expeditious mode of travelling in India is by "dak," which means post in palanquin, the average rate being about four miles per hour. The distance from Calcutta to Delhi is rather more than 900 miles, and consequently, even by incessant day and night travelling, could not be completed under 10 or 11 days; and that, too, at an expense of certainly not less than 100*l.* But what most probably will startle even you, Sir, accustomed as you must be to the marvellous, and will appear ridiculously incredible—this journey could not possibly be accomplished by one solitary traveller without employing a less number than 2,400 palanquin-bearers!" With such facts before us, we can easily comprehend the intense interest, apart from pecuniary gain, that our Indian brethren take in the all-engrossing subject of railway transit.——On the 19th inst. the section of the Whitehaven Junction, from Workington to Maryport, six miles in extent, was opened for general traffic, thus furnishing a continuous route between Workington and Carlisle. ——Considerable alarm has been felt within the last few days for the safety of other parts of the Rouen and Havre line besides that to which we referred last week. The *Courrier Français* states, that several cracks have been perceived in the arch of the tunnel near Harfleur, that all traffic has been stopped, and substantial repairs commenced. It is also said, that some large fissures are visible in the Harfleur viaduct.——On Wednesday last the English shareholders of the Orleans and Vierzon line presented Mr. Mathew Uzielli with a testimonial of their sense of his zeal and ability, in bringing to a successful issue the difficult negotiations he had to conduct in Paris, relative to the concession of this railway. It consists of a massive silver candelabrum and plateau, weighing about 1,000 ounces. Round the pedestal of the candelabrum stand three figures, modelled from the design of Baily, R.A., and representing France and England united by commerce, as emblematical of the union of the two countries in the formation of companies for the construction of French railways.

GAS.

Sir,—I am glad to see that my letters have drawn some attention to the subject of gas and gas-meters.

With reference to your correspondent J. A. E. I stated in a former letter, that the supplying of gas only by meter would compel the companies to manufacture gas of a higher illuminating power than they do at present, and I am justified in making this assertion from the fact, that wherever gas is so sold, the companies do manufacture good gas as they find it to their interest to do so, to make up for the lessening of their rental, by the introduction of gas into private houses, and which cannot be done to any extent under the present system. The smallness of the illuminating power requires a greater quantity of gas and in consequence a larger flame to give the requisite light, and thus the products of combustion are increased, and all gilt-work, paintings, or decorations are sure to be destroyed thereby, and once open the eyes of the consumers to the fact, that their meter will travel faster with bad or weak gas, and they will compel the companies to supply gas of a proper quality. The specific gravity of gas made from Cannel coal, is ·735 of that from Newcastle or Coking coal, only ·397, and the illuminating power is in the same proportion, and it clearly shews, that where the meter only is used, *the one is only half the cost of the other though the price charged per* 1,000 *cubic feet may be the same.* The meter acts, in fact, as an indicator of the quality of the gas passing through it.

The London gas contains a very small proportion of carbon, and which accounts for its want of specific gravity; and this is solely owing to the excessive baking of the coal, which makes good coke and a large quantity of carburetted hydrogen gas. In London, the coal is allowed to remain in the retorts from six to eight hours, whilst in Liverpool, the time never exceeds four hours; as it is found that after that time all the gas that is made, merely serves to deteriorate its quality to a great extent; and it is to the shortness of the charge, combined with the nature of the coal, that the coke in Liverpool is inferior, and not as stated by "J. A. E.," from its having been exhausted in the retorts—*the reverse is the case.* The London companies state, that the coke pays them for the coal used in carbonizing; *if this is true*, they have no right to use the argument that the high price of gas in London arises from the greater cost of coal. How can that be, when, according to their shewing, the coal costs them nothing. I would suggest, that they should adopt the title of "Light Gas, and Coke Companies," as a mark of distinction from those who are only what they profess, "gas companies."

I would not wish to reduce the fair profits of any company, but I do think that the consumer should not be made to pay for the excessive expenditure, ignorance, and carelessness of the existing companies. The expenses of carrying on the business of gas lighting, is very little less in Liverpool than what it is in London, the difference being in the management, and for which they only ought to suffer. The remedy is simple, and would be effectual. Let the consumers demand to be supplied with gas of a certain illuminating power, and by meter only, and the result will be, as I have before stated, of the greatest advantage to all parties.—I am, Sir, &c., Carbon.

Jan. 24, 1846.

FORGED TRADE MARKS.

A well-known manufacturer has drawn our attention to the practice of unprincipled makers affixing to inferior goods, the names or marks of other makers who have reputation for articles of a superior quality, and whose marks are considered by purchasers as guarantees for the superiority of all goods bearing such distinctions. The known manufacturer, often after a large outlay of capital and many years of labour, is thus robbed both of his profit and good name, and the purchaser is defrauded by having a bad, and, in many cases, a worthless thing foisted upon him. It is notorious that this fraudulent system prevails extensively in the manufacturing districts; and, unfortunately, there is no law which adequately meets the case, and by which the public as well as the manufacturer is protected.

He suggests that manufacturers generally are entitled to the same protection and remedy, which have been provided by the legislature on behalf of the staple trade of Sheffield. Some years since a practice prevailed in the town of Sheffield of making knives and other articles of cutlery of common cast-iron, and by a chemical process in finishing, they were made so as strictly to resemble the genuine articles formed of forged steel. Large quantities of these spurious things were exported to foreign markets, and the consequence was that, the evil resulting to the honest cutlers being very great, the matter was taken up by the legislature, and an Act of Parliament to remedy the evil received the royal assent in the year 1819. Our correspondent asks that, the principle recognised here, and the easy remedy granted, may be applied in securing both manufacturers and purchasers of other goods from being cheated. A simple, speedy, and inexpensive process, administered with strict justice, would stop the evil, preserve to honest men their just profit and their good name, protect the public from imposition, and establish confidence in the quality of British manufactures abroad.

We fully agree with him in the importance of the matter, and reiterate a hope that this remedy will be attempted.

Sudden Death of Mr. Winsland.—Mr. Nicholas Winsland, of the firm of Winsland and Holland, builders, Duke-street, Bloomsbury, died suddenly at his counting-house, on Wednesday week. The deceased was 56 years of age.

THE LATE MR. RHODES, ARCHITECT.

Died, January 27th, at his residence in Margaret-street, Cavendish-square, Henry Rhodes, Esq., architect. The following brief memoir of this gentleman is by one who had the advantage of his friendship for many years. Mr. Rhodes was articled at a very early age to the late Mr. Porden, architect to the Prince of Wales, and was the fellow pupil of Mr. P. F. Robinson, author of numerous professional publications. He was for many years joint architect to the Commissioners of her Majesty's Woods, Forests, &c., from which office he retired in 1839 upon a pension. He executed several public and private buildings which evince considerable ability and taste; amongst the former may be named Egham church, Surrey, and Halton church, Bucks (pointed style). Of the latter, the house of Messrs. Hancock and Rixon, in Cockspur-street, may be cited as a happy specimen, the principal façade of which is a very elegant architectural composition.*

Mr. Rhodes was one of the earliest fellows of the Royal Institute of British Architects, and was elected a member of the first council. He took a warm interest in the formation and progress of the society, and was a liberal contributor to its funds and collections. Mr. Rhodes held the appointment of honorary architect and surveyor to the corporation of the royal literary fund, and was for many years a commissioner of the Court of Sewers for Westminster.

He took great interest in antiquarian researches, and was a member of the Archæological Institute. He possessed a fine collection of paintings, a large number of antiquities, and a most extensive and valuable professional library.

It only remains to add that in private life Mr. Rhodes was esteemed as an honourable and amiable man, and that his loss will be deeply regretted by all who had the pleasure of his acquaintance. M. I. B. A.

THE SOUTH STAFFORDSHIRE GENERAL HOSPITAL.

Thirty-one plans for this building have been submitted from various parts of the kingdom. The committee selected that marked "M, No. 10," which was announced to have been sent in by Mr. Edward Banks, of Wolverhampton, and awarded to it the premium of 100*l.*

The design selected is in the Italian style, and is intended to be executed with pressed red bricks and stone dressings. The principal front is 210 feet long, and comprises a central building three stories high, connected by two-story portions to the two wings, which are also two stories high. The main entrance is in the centre of the front, and is protected by a stone portico of four square columns, surmounting a large flight of steps. The whole of the building has pilasters, resting on a basement, and surmounted by stone entablatures and blockings. All the windows and doors have stone dressings. In the centre of the building rises an ornamental lofty stone ventilating shaft. The arms of the county, executed in stone, are intended to be placed in the tympanum of the pediment.

New Churches.—At the usual monthly meeting of the Church Building Society, held last Monday week, grants of money were made for the erection of new churches for the districts of St. Thomas, Woolwich; and Widcombe, near Bath; for rebuilding the churches of St. Cuthbert, Bedford; St. Dennis, York, and Llanlechid, in Bangor; and for enlarging the churches at Trevethan, in Pontypool; and Billericay, in Essex.

The Horsburgh Testimonial.—It is in contemplation to erect a lighthouse in the neighbourhood of Singapore to the memory of the late eminent hydrographer, James Horsburgh. It will most probably be based on a martello tower, and any chance of surprise from pirates will be obviated by clear scarping to low water mark. The estimated cost is from one to one and a half lacs of rupees (10,000*l.* to 15,000*l.* English).

* This elevation is engraved in "Metropolitan Improvements" by Mr. Elmes, who highly commends the design.

GENERAL PASLEY AND MESSRS. STEPHENSON AND BIDDER.

The late fatal accident on the Norfolk Railway has led to several contradictory statements as to its cause, and that, too, among those who are or ought to be the best able to give a correct opinion. The public will not fail to draw an unfavourable, but, at the same time, a somewhat correct inference from this want of unity; they have been taught that the knowledge of a disease is half its cure, and that where this knowledge is wanting, the prescribed remedies savour strongly of ignorance and empiricism. It is very easy to carry this chain of reflections a link further, and apply it to cases such as the one under consideration, when it is clear, that while so much difference of opinion prevails respecting the cause of certain railway accidents, there exists no certain means to prevent them, but the continued probability of their recurrence.

Mr. Bidder, the engineer of the Norfolk line, stated at the coroner's inquest, that, in his opinion, the accident was caused by the sudden shutting off of the steam of the engine, by which means the carriages were no longer drawn by the engine, but the engine was propelled by the carriages, and that this, in combination with other circumstances, had the effect of forcing the engine off the line. General Pasley considers Mr. Bidder's opinion to be quite erroneous, and contrary to the "first principles of mechanics." He attributes the accident to the engine-driver proceeding at an imprudent and excessive speed on a descending gradient. Mr. Robert Stephenson concurs generally with the engineering evidence given by Mr. Bidder, and asserts that General Pasley "has ventured to give opinions on a difficult subject, and one with which neither his education nor his experience can have made him thoroughly acquainted." Who shall decide where doctors disagree?

LIST OF NEW PATENTS

RELATING TO ARCHITECTURE, ENGINEERING, &c. GRANTED FOR ENGLAND.

Furnished by Mr. A. Prince, of the Office for Patents of Inventions, Lincoln's-inn Fields, London.

[SIX MONTHS FOR ENROLMENT.]

Moses Poole, of Serle-street, Middlesex, gent., for improvements in locks. Dec. 4.

Henry Bessemer, of Baxter House, Old Saint Pancras-road, Middlesex, engineer, for certain improvements in atmospheric propulsion, and in apparatus connected therewith, part, or parts of which improvements are applicable to the manufacture of columns, pipes, and tubes, and other parts are applicable to the exhausting and impelling of air and other fluids generally. Dec. 5.

John Robert Johnson, Alfred-place, Blackfriars, chemist, for improvements in the materials employed in constructing and working atmospheric railways. Dec. 6.

Henry Heathcote Russell, of Millbank-street, Westminster, civil engineer, for improvements in constructing suspension-bridges and viaducts. Dec. 6.

Henry Augustus Box, of Great Tichfield-street, St. Marylebone, decorator, for a new method of polishing, dyeing, and colouring marble, stone, and certain other materials used in the construction or decoration of houses and other buildings. Dec. 10.

William Dines, of Oldston, near Dartmouth, Devon, esq., for improvements in making and fixing window glass. Dec. 10.

George Leach Ashworth, of Rochdale, Lancaster, cotton-spinner, and Wilson Crossley, of the same place, manager, for certain improvements in machinery or apparatus for preparing and spinning cotton and other fibrous substances. Dec. 10.

William Mushet and Robert Mushet, iron-founders, of Dalkeith, Scotland, for improvements in moulding iron. Dec. 10.

Moses Poole, of Serle-street, Middlesex, gentleman, for improvements in apparatus to be used for drawing and marking. Dec. 10.

Isaac Hawker Bedford, of Birmingham, for improvements in the manufacture of window and other glass. Dec. 12.

John Robert Johnson, of Nelson-square, chemist, for improvements in gas. Dec. 20.

Philip Smith, of High-street, Lambeth, locksmith, for improvements in locks, latches, and other similar fastenings. Dec. 22.

John Russell, of the city of Edinburgh, accountant, for a manufacture of glass tiles. Dec. 30.

IRELAND.

Furnished by Rich. Telford, Office of Patents, 5, Harcourt-street, Dublin.

George Myers, of Laurie-terrace, Westminster-road, Lambeth, London, builder, for improvements in cutting or carving wood, stone, and other materials. Dec. 6.

William Joseph Conrad Marie, Baron de Liebhaber, of Paris, France, in consequence of a communication from a certain foreigner residing abroad, for improvements in blasting rocks and other mineral substances, for mining and other purposes, and an apparatus to be used in such works. Dec. 10.

Edward Patrick Emerson, of the city of Dublin, doctor of medicine, for improvements in the manufacture of paints, pigments, cements, and other plastic compositions, and in the machinery or apparatus to be used in such manufactures, parts of which improvements are also applicable to the manufacture of artificial stone and marble. Dec. 10.

ARCHITECTURAL AND COLLATERAL FOREIGN WORKS, LATELY PUBLISHED.

GERMAN WORKS.

Hülsse, Prof., Encyclopedie.—Cyclopedia, general, of Engines. Leipzig. 2 vols. 8vo. atlas fol. each part 3s. and 5s.

Mauch, J. M., Architect and Prof., Stuttgard, vergleichende.—Comparative Exposition of Greek Architectural Orders. Potsdam. Fol.

Mittheilungen.—Transactions, recent, historical, and antiquarian. By the Thuriogian Association or National Antiquities. Halle. 7 vols. 8vo. each part 3s. 6d.

———, Transactions of the Antiquarian Association of Zuric. Ibid. 3 vols. gr. 4to. each part 2s. 6d.

Mohl, M., Ergebnisse.—Results of a Manufactorial Journey through France. Stuttgard. Gr. 8vo. with 148 woodcuts, 7s. 6d.

Moseley-Scheffler.—The Mechanical Principles of Engineering and Architecture. Translated, with additions, by — Braunschweig. Gr. 8vo. each part 2s.

Müller, C. F., Nydebrücke.—The Nyde-Bridge over the Aar at Bern. Zuric. Fol. 11 plates, 18s.

Mundt, Th. Aesthetik.—Æsthetic, or the Idea of the Beautiful, and the Art-work in the light of our age. Berlin. 8vo. 5s.

——— and *Mühlbach.*—Berlin and her Arts, results of industrial exhibition, 1844. Ibid. gr. 8vo. 2s.

Nagler, Dr. G. K., Künstler Lexicon.—Cyclopedia of Arts, new general; or Memoirs of the Lives and Works of Painters, Sculptors, Architects, Engravers, &c. Munich. Gr. 8vo. 14th vol. each part 2s. [One of the most sterling works of the kind in existence, and highly appreciated on the Continent.]

Oekel, C. G., Alphabete.—Normal Alphabets of all Known Tongues, with appropriate ornaments. Berlin. Plates, 4to. 4s. 6d.

Organ.—Organ for the technical Progress of Railways. Wiesbaden. Gr. 8vo. each part 2s.

Lange, Architect, Ansichten.—Original views of Historical Cities in Germany. Nos. 106—113. Darmstadt. Gr. 4to. plates, each part 2s.

Ornamente.—Ornament Book, small, or collection of most varied ornaments. Lissa. Gr. 4to. each part 1s. 6d.

Pielte, L., Arbeiter.—The Artisans, and practical means for ameliorating their position. Berlin. 12mo. 1s. 6d.

Pola, G., Zeichnen.—Linear Drawing and Construction of the Plane. Augsburg. 4to. 5s.

Programm.—Programme of the Polytechnic School of Baden. Karlsruhe. 8vo. 1s. 6d.

Quandt, F., Basilika.—The Basilicæ of the Ancients, especially those that were Patterns for Christian Churches. Berlin. Gr. 8vo. 2s.

Raphael's, Darstellungen.—Raphael's Amor and Psyche in the Farnesina at Rome, drawn on the spot and edited by F. *Schubert*. Munich. Gr. fol. each part 7s.

Pauly, A., Encyclopedie.—Cyclopedia of Classic Antiquarianism. Stuttgard. Gr. 8vo., parts 53—56, each 2s.

Reden, Baron F. W., Eisenbahnbuch.—Book of German Railroads. Berlin. 8vo. with map, 5s. 6d.

———, Eisenbahnen.—The Railroads of Europe and America. Vols. I. II. III. The Railroads of Germany. Berlin. Lex. 8vo., each part 2s.

Riehmann, A., Verzierungen.—Ornaments for all branches of Industry. Stuttgard. Fol. each part 3s.

Rohus, P., Ideen.—Ideas for Sepulchral Monuments. Gottinguen. Gr. Lex. 8vo. 12 plates, 3s.

Romberg, J. A., Rathgeber.—Advice for Erecting or Repairing Buildings. Leipsig. Lex. 8vo. 4s.

Kwowsseg, J., Ansichten.—Views of the State Railway through Stiria. Gratz. Gr. 8vo. plates.

Sammlung.—Collection of Baden Building Acts, with law cases. Carlsruhe. Gr. 8vo. 4s.

Quaglio, Sammlung.—Collection of Picturesque Castles and other Historical Monuments of Bavarian Antiquity. Drawn from nature. Munich. Fol., each part 8s.

Sammlung.— Collection of executed Dwellings—with Details on Construction, Beauty, &c. Leipsig. Fol. each part 3s. 6d. Second edition.

Schaubach, A., Bahn.—The Railway to the German Ocean and the Elbe Canal. Leipzig. 16mo. with a map, 2s. 6d.

Schultz, J. A., Treppenbau. — Construction of Staircases. Weimar. 8vo. atlas in fol. 7s.

Mathei, C., Architect at Dresden, Handbuch.—Hanbook, Theoretico-Practical of the Building Carpenter. Weimar, 3 vols., 8vo. atlas fol. 1*l.* 1s.

Schimmer, C. A., Oestreich.—Austria in her remarkable Cities, Domes, Churches, &c. Darmstadt. Lex. 8vo. plates, each part 3s.

Schlegel, C. T., Mill-builder, Mühlenbau. — Complete Manual of Mill-building, with the latest American and Swiss Improvements. Leipzig. 8vo. with plates, each part 2s.

Schmidt, Prof., Zukunft. — The Futurity of the Working Classes, and the Associations for their Improvement. Berlin. 8vo. 2s.

Schömann, G. F.—Winkelmann and Archæology. Greifswalde. 8vo. 1s.

Schröder, J., Musterblätter.—Patterns for Building-Carpenters, with the description of Tools and Instruments. Darmstadt. 4to. plates, Gr. fol. each part 3s.

Schuck, A., Säulenordnungen.—The Five Architectural Orders, with the Doctrine of their Construction. Aschaffenburg. 4to. plates, 3s. Third edition.

Schulte, A., Messkunst.—The Art of Surveying accessible to every Capacity. Siegen. 8vo. plates, 3s.

Schumann, Dr. J., Juvavia—Or, Description of the Celtic, Roman, and other Antiquities of Salzburg. Ibid. 8vo. plates, 3s. 6d.

Steinhaüser, W., Verzierungen. — Ornaments for Architecture, Carpenterage, &c. Berlin. 4to. plates, each part 3s. 6d.

Stuckenberg, J. Ch., Hydrographie.—Hydrography of the Russian Empire, its Harbours and Havens, Crowned by the Imper. Roy. Academy of Sciences. St. Petersburg. 8vo. plates in 4to. 2 vols. 1*l.* 5s.

Thorwaldsenok, Album.— Thorwaldsen's Album, collected and edited by F. *Bofrad*. Copenhagen. Gr. 8vo. each part 2s.

Thyssen, J. J., Darstellung.— Regulations of the Aachen Association for Promoting Industrious Habits. Ibid. Gr. 8vo. 2s.

Zeitung.—Journal for Cabinet-makers and Turners. Weimar. Gr. 4to. each year 7s.

Miscellanea.

Builders' Fire Insurance Society.—It has often appeared to us remarkable, that the building classes, so influential a body of men, whether we regard the interests they represent, or the vast property under their control, should have not hitherto been adequately represented by institutions which, founded expressly for their mutual benefit and protection, should bring them forward more prominently before the public and the commercial world. We understand that several architects of high character, and builders of eminence, have upon these public grounds made considerable progress in the formation of an insurance society, which, at the same time that it shall guarantee a profitable return to the shareholders, will reduce the excessive premium on risk, now required by the recently adopted tariff of the offices already established, the oppressiveness of which bears very heavily on premises of large extent, or where there is a steam-engine erected for the purposes of business. We see no reason why the building class should not have such a society, as well as the clerical, medical, and legal bodies, who have similar institutions, expressly founded by them, and which are prosperous to a remarkable degree.

A New Ventilator.—Dr. Aldis, physician to the London and to the Surrey Dispensary, deploring the usually vitiated state of the air in the habitations of the lower classes, has contrived a new ventilator for windows, cheap and simple, which promises to be serviceable. At this time of the year the poor cannot be led to open the windows, and the object is to bring in fresh air without producing perceptible currents. The ventilator in question consists of a small pane of glass in a hollow tin frame, in the outer face of which frame are openings; these communicate with a wide flat tube on either side, attached to the two upright sides of the frame, curved inwards, and perforated with small holes on the under side.

Church at Little Drayton.—A district church to accommodate 600 on the ground floor, in the lancet style of Gothic architecture, consisting of nave, side aisles, deeply recessed chancel, and a tower, is in the course of erection at Little Drayton, Shropshire, from the design and under the superintendence of Messrs. S. P. and J. Smith, architects, Shrewsbury.

Lunatic Asylum for the Middle Classes.—A benevolent institution has lately been set on foot for the reception of the insane belonging to a large class of persons neither wealthy enough to resort to an expensive private asylum, nor so destitute as to require parochial aid. The proposed asylum is to be situate in the immediate neighbourhood of London; to supply from 200 to 400 beds; the site to contain 25 acres; the cost, including contingencies, 30,000*l.*; to be commenced as soon as 10,000*l.* are raised. Terms for patients to be from 25s. to 30s. per head per week. Earl Spencer, Lord Ashley, Samuel Gurney, Esq., and B. Bond Cabbell, Esq., are the patrons and trustees, and Edward Conolly, Esq., is the hon. secretary.

County Surveyors. — Mr. E. Leahy, county surveyor of Cork, recently solicited permission to allow his duties to be performed by deputy, during his absence in London, while attending Parliamentary railway committees. The Lord Lieutenant of Ireland declined to comply with the request, "considering it undesirable that county surveyors should be engaged on railroads in their own counties." His Excellency further gave it as his opinion, "that the interests of the counties cannot be properly guarded, having reference to the injury which their public works may receive from the construction of railways passing over or near them, if the county surveyors are not in their own counties unconnected with the management of the latter."

Spanish Ambassador's Chapel. — This chapel, situate in Spanish-place, Manchester-square, and which is attended by the principal members of the aristocracy and gentry professing the Romish faith, is about to be very considerably enlarged, its present accommodation being much below the numbers who regularly attend it.

MEETINGS OF SCIENTIFIC BODIES.

During the ensuing week.

Monday, Feb. 2.—Chemical (Society of Arts), Adelphi, 8 P.M.

Tuesday, 3. — Civil Engineers, 25, Great George-street, 8 P.M.; Syro-Egyptian, 71, Mortimer-street, Cavendish-square, 8 P.M.

Wednesday, 4.—Geological, Somerset House, 8½ P.M.; British Archæological Association (Western Literary Institution), Leicester-square, 8½ P.M.

Thursday, 5. — Royal, Somerset House, 8½ P.M.; Antiquaries, Somerset House, 8 P.M.

Friday, 6. — Royal Institution, Albemarle-street, 8½ P.M.; Botanical, 20, Bedford-street, Covent-garden, 8 P.M.

Saturday, 7.—Asiatic, 14, Grafton-street, 2 P.M.; Royal Botanic, Regent's-park, 4 P.M.

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For the masons' and paviers' works, and supply of stone, for one year, to the parish of St. George, Hanover-square,

For the supply of workmen's tools and hammers for stone-breaking, &c., also of iron lamp-posts and gas-fittings, to the parish of St. George, Hanover-square.

For the execution of works on the Newry and Enniskillen Railway, being a distance of about 5½ miles, including excavations, embankments, bridges, culverts, gates, &c.

For making a number of pontoons, or iron-boats, for the support of the landing-stage, at the Liverpool Docks.

For the construction of about 2,550 lineal yards of collateral brick sewers, and about 2,340 lineal yards of branch drains, in the town of Southampton.

For the repair and newly paving (where required) of the foot-pavements within the town of Southampton.

For the performance of the whole of the masons' and paviers' works in Tothill Fields, from Feb. 11, 1846, to Lady-day, 1847.

For the execution of works on the Erewash Valley Railway, being a length of about 16 miles, for the Midland Railway Company.

For the execution of works on the Lynn and Ely Railway, being a length of about 13 miles.

For the execution of works on the Lynn and Dereham Railway, being a length of about 9 miles.

For the masons' and paviers' work of the west division of Southwark, for three years.

For excavating ground, and the erection of a cast-iron tank and gasometer, for the Ratcliffe Gaslight Company.

For the execution of works on the South Wales Railway, being a length of about 14 miles, comprising tunnels, a large amount of earth-work, &c.

For the execution of works on the Dublin and Belfast Junction Railway, viz., the Navan branch.

For the finishing of twenty fourth-rate houses in London.

For the erection of a house at Ryde, Isle of Wight, for the Royal Victoria Yatch Club.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At the New Inn, Halse, near Taunton: about 100 Maiden Elm trees and 20 Maiden Ash do., all being of long lengths and large girths.

At the Black Boy Inn, Weeley, Essex; the Underwood of 16 years' growth in the Weeley Hall Wood.

At Herringswell, near Mildenhall: a large quantity of valuable Larch and Spruce timber trees, &c.

At Madingly, Cambridge: a fall of capital Oak, Ash, and Elm timber trees, &c.

At the Hassells, Sandy: a large fall of excellent Larch and Scotch spires.

At the Swan Inn, Rickmansworth: 252 capital Oak, Ash, and Elm timber trees, now growing in the neighbourhood.

At Great Barton, near Bury: about 1,000 capital Larch and other Firs, Beech and Oak timber trees, some of 30 years' growth, chiefly long and straight.

At the Half Moon Inn, Taunton: 200 prime Oak and Elm timber trees,

At the Elm Tree Inn, Devizes, Wilts: 387 Elm and 83 Oak timber trees. They are of very large dimensions, and arranged in 48 lots.

TO CORRESPONDENTS.

"E. S."—*Can our correspondent inform us where the chest was found, and in what church it now is.*

"Beginner."—*An architect's clerk is expected to bring his own instruments.*

"J. C. W." *shall appear.*

"A Subscriber."—*Weale (Holborn) has published a work on measuring, &c.*

"V. B."—*We shall gladly avail ourselves of the drawing kindly sent.*

"Constant Reader."—*Dissenters are not allowed to use bells in their chapels, we believe; but we are not aware that the prohibition extends to the introduction of a bell-turret.*

"Subscriber" (Whitecross-street).—*The width of street required by Buildings Act is measured from front to front of house.*

"Dilapidations.—Charge for occupancy."—*In letter signed "Landlord" (p. 47), in last paragraph, line 4, for "lessee" read "lessor."*

"J. M." (Sewage).—*We will look to the papers sent.*

"C. D."—*It will be correct to let the mouldings run completely round.*

"A Subscriber" (Isle of Wight).—*The letters referred to are not published in a separate form.*

"J. Lean."—*Address the Secretary, at No. 4, St. Martin's-place, Charing Cross.*

"A.B."—*Dr. Arnott's "Elements of Physics" is published by Messrs. Longman and Co., Paternoster-row.*

Next week.—"J. H." (Liverpool), "An Architect" (Bradford).

Received.—"T. A. H.," "S. F.," "J. W." (Jewin-street).

*** Correspondents are requested to address all communications to the Editor, York-street.

NOTICE.

Full price and thanks will be given by our publisher for copies of "The Builder," for any week in October.

ADVERTISEMENTS.

REMOVAL.

THOMAS JOHN CROGGON

Begs to inform the Trade that he has removed to 8, LAWRENCE POUNTNEY-HILL and THREE CRANES WHARF, 69, Upper Thames-street. Orders addressed to either place for ROMAN CEMENT of genuine quality will be executed with promptitude and the strictest regard to quality and economy.

CAEN STONE.

LUARD nd BEEDHAM have a quantity of the abo e stone, of the best quality, direct from their Quarries at Allemange, which may be inspected at the Norway Sufferance Wharf, Greenwich.—Further particulars at Mr. G. GATRS', 18, SOUTHWARK-SQUARE, SOUTHWARK.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

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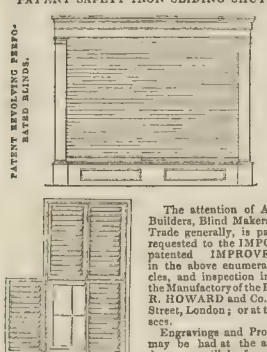
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THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

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BUNNETT and CORPE also manufacture

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with their patent raising machinery, or with counterbalance weights, and with proper metallic hinges, without which no shutters can be safe or durable.

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ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, and Old-Barge-Wharf, Upper Ground-street, Blackfriars, a very large stock of well-seasoned Floor Boards of every variety.

A. R., in calling the attention of builders and consumers, confidently presumes on his being able to supply them on such advantageous terms, as will ensure and merit their favours and approbation.

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TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

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SIR WILLIAM BURNETT'S PATENT for the Preservation of Timber, Canvas, Cordage, Cotton, Woollen, &c., from Decay.

TESTIMONIALS.

From THOMAS GRAHAM, Esq., M.A., F.R.S., L. and E., Professor of Chemistry, University College, London.

"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.

"The wood appears to be fully and deeply penetrated by the metallic salt; I have found it in the centre of a large prepared paving block.

"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the crystallizable salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.

"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Toplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotised principles it contains, by entering into chemical combination with them.

(Signed) "THOMAS GRAHAM."

"University College, 25th October, 1845.

From Professors BRANDE and COOPER.

"London, 4th November, 1845.

"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.

"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.

"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.

"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.—(Signed) "WILLIAM THOMAS BRANDE,
"JOHN THOMAS COOPER."

"To Sir William Burnett, K.C.H., F.R.S., &c. &c."

Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 53, King William-street, London-bridge.

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TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above.

N.B.—A weighbridge on the premises.

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PAYNE and LODER beg to invite the attention of Engineers, Railway Companies, Architects, and others to the above process, and to state that they are prepared to erect the necessary apparatus in any part of the United Kingdom where the quantity is sufficiently large to cover the outlay of its removal.

Further particulars can be obtained at Whitehall-Wharf Cannon-row, Westminster, or at their other stations, Fleetwood-on-Wyre, Lancashire; Wisbeach, Cambridgeshire; Union-Wharf, Southampton; and Guildford, Surrey.

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THOS. MILLINGTON begs to inform his friends, that he continues to receive weekly large consignments of FOREIGN GLASS, which he is determined to offer upon the very lowest terms. Address, 87, Bishopsgate-street Without.

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THOS. MILLINGTON begs to inform the Trade, Builders, Painters, and others, that this article can be had at his Manufactory, of the best quality and at the very lowest price. T. M. has long been a manufacturer, and has devoted much time and attention to it, using only the best of gums, and sparing no expense in the manufacture. Fine Pale Oak or Wainscoat Varnish, per imperial gallon, 10s.; Fine Carriage Varnish, 12s.; Copal, 18s.; Body Copal, 24s.; Gold Size, 10s; White Hard, 18s.; Brown Hard, 18s.; French Polish, 18s. per gallon. Paint, Dryers, Colours, ready ard ground, and every article in the trade. If quality is taken into consideration, this will be found the cheapest house in London. Address, 87, Bishopsgate-street Without.

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The Builder.

No. CLVII.

SATURDAY, FEBRUARY 7, 1846.

IN December last, as our readers will remember, Mr. Mair obtained a verdict against Mr. Ward (a gentleman residing in the Isle of Wight), in an action brought to recover money due to Mr. Mair for professional services.* The charge consisted of a commission of five per cent. upon the amount expended on the premises, and a certain sum for travelling expenses, time occupied in journeys, and money paid for the defendant. Architects who were called on the part of the plaintiff, deposed that the payment of five per cent. was invariably made to all architects in similar circumstances. They all stated, moreover, that without reference to such a custom, the services of the defendant were worth the money which he claimed over and above what he had received. Lord Denman denied the right to charge a commission, notwithstanding the positive evidence of the architects as to the existence of the custom to that effect. His lordship, however, told the jury that they were at liberty to give the sum in question to the plaintiff, or any other lesser sum that they might think proper, as money which he deserved to receive for the services he had rendered.

The jury returned a verdict for the whole sum claimed, with the special statement, as it seems (although we doubted it at the time), that they did not give that amount of damages upon the ground of commission, but because they considered it only an adequate reward for the services rendered. And fortunate it was for Mr. Mair, in the sequel, that this reservation was made.

On the 12th of last month, the Attorney-General applied to the court for a rule calling upon the plaintiff to shew cause why there should not be a new trial, upon the ground that as the "particular" claimed the money entirely in the character of a per centage, and as, according to the opinion of Lord Denman, the claim could not be allowed upon this ground, the jury not having power to go beyond the particular, ought to have found a verdict for the defendant. That they had not done so, the learned gentleman contended to be the result of his lordship having stated, that they were at liberty to fall back from the "particular" upon the declaration. This, according to the Attorney-General, amounted to a misdirection, and upon that ground the present motion was made.

Mr. Justice Patteson intimated, that although the jury found for the sum demanded as a per centage, yet, as it appeared that in returning the verdict they stated expressly that they did not give that sum upon that ground, it was possible that they only assumed the principle of the per centage as a convenient principle of calculation, or perhaps as a means of avoiding the necessity of making any particular calculation at all. Lord Denman desired that the affidavits should be handed up; and the Court took time to consider the application.

Last week the Court gave judgment, through Lord Denman, to the effect that although the jury rejected the claim as grounded upon the commission, they were justified in awarding the money as a compensation for labour. The rule for the new trial was therefore discharged.

We cannot allow this opportunity to pass, without again calling the attention of the architectural profession to the unsettled state in which the question of remuneration rests. It seems tolerably clear now, that a commission cannot be recovered by an action-at-law, and that architects must henceforth keep accurate accounts of the time occupied in the service of their different employers, in order that they may substantiate their claim on other grounds than that of commission.

The present custom, which is universally understood, is a convenient one both for the public and the profession, notwithstanding the objection there may be to it, and the opportunity it affords members of the bar to impute degrading motives to architects, which they seldom overlook. Even the Attorney-General, in the case in question, is reported to have said, that the evidence adduced at the trial established the important fact, that the plaintiff might, by abstaining from so large an outlay upon this building, have materially diminished his claim for commission!!

This of course, either meant nothing, or that architects were such a set of confounded rogues (devoid alike of honesty and gentlemanly feeling), that they would waste their employers' money by hundreds, in order to put trumpery fives into their own pockets. Fie, fie, Sir Frederick, you know better.

In consequence of our previous remarks, already alluded to, we received several communications relative to the ordinary charges of architects for different services, shewing (as we believed was the case) that some difference of opinion exists in this respect.

A report from the surveyor-general to the Secretary of the Treasury, dated 16th Sept., 1826, and a report of a select committee of the House of Commons in 1828 (quoted in Mr. Noble's "Professional Practice of Architects,") afford some useful information.

According to the latter, Sir Jeffrey Wyattville stated, "That he always received 5 per cent. on the outlay, and was also paid *for measuring the works*, wages for clerk of works, and for *his journeys*;" but he did not explain whether "*journeys*" meant travelling expenses only or included a sum for lost time. Sir Jeffrey's charging for measuring, in addition to his per centage, is, perhaps, a sufficient ground for forming an opinion, that such was not the case. Philip Wyatt, his brother, charged 5 per cent. on the expenditure, and wages for clerk of works and his travelling expenses, *if to any considerable distance*, but made no claim for *measuring or loss of time*. Mr. Nash and Sir Robert Smirke in the report before alluded to, confirmed the evidence of Sir Jeffrey as to *per centage only*, but neither made any remark in respect of measuring or journeys. Messrs. Cockerell, Hardwick, Soane, Wilkins, Seward, and Pilkington, all included measuring in their commission of 5 per cent.

At the late trial, all the architects who were examined, agreed in charging travelling expenses in addition to the 5 per cent.; but on the question of charging for the *time* occupied in travelling, there was a difference of opinion. Strictly speaking, however, there cannot be any doubt about it. If an architect is not overpaid by 5 per cent. for designing and superintending a building within a moderate distance from his habitation, it is quite certain that he will be much *under*paid, if every visit cost him a day, for example, instead of an hour. An architect's time is his stock in trade, and for that he must be paid.

For executing very large works, a less commission may reasonably be taken; and for works of trifling amount, say under 500*l.*, if drawings be made, a small additional charge ought to be allowed, as 5 per cent in such cases cannot remunerate the architect.

The same may be said in respect of additions and alterations, which occupy time, and require much thought, without so much apparent result as in new erections. In works by contract, should some ruinously low tender be accepted, often requiring increased watchfulness on the part of the architect, it is hardly fair that his commission should be taken on that amount: the honest value of the works done should be the guide. So when employers cut their own timber, make their own bricks, or buy their own slates, &c., the value of these should of course be added to the general amount of the works, and the commission be taken on the whole.

We shall return to the subject hereafter.

* See p. 605, vol. iii.

SUGGESTIONS FOR THE REVISION OF THE BUILDINGS ACT.

MR. EDITOR,—A reference to the pages of your journal and of the public press generally, will fully justify the conclusion at which all parties interested in building operations, in London and its neighbourhood, have now arrived, viz., that the Metropolitan Buildings Act has failed to effect those objects which the legislature had in view in framing it, and that an immediate and searching amendment of its provisions is imperatively required. It would be useless to recapitulate the causes of this failure, and of the general dissatisfaction which prevails with respect to many of its enactments, or to remark upon the mode in which they have been administered, without at the same time suggesting some remedy for the evils complained of; but it is absolutely necessary that the causes of failure, and of the prevailing dissatisfaction should be stated broadly and plainly, or no proper remedy can be applied; and as my professional experience of its operations has been considerable, not only in the capacity of a district surveyor, but through an extensive private practice, I venture to solicit a place in your columns for the following observations, which are made with a strong desire to improve the Act, and render it as far as possible what it was intended to be—a great public good.

The failure and dissatisfaction referred to, appear to me to have arisen as well from defects in the Act itself, as from the mode in which it has been administered.

In dealing with the first proposition, it will be impossible (if for no other cause than an undue occupation of your pages) to enumerate all the existing defects; there is, however, one pervading the whole measure, which appears to me a primary cause of the failure, viz., an unnecessary interference with private rights beyond what is really necessary to protect the public; protection to the public being in my mind a sufficient, but the only reason upon which such an act can be justified, and the only basis upon which its provisions should be founded—an act which compels me, because my property is within a certain limit, to deal with it by a multitude of restrictions, affecting its value in a totally different manner from that of my neighbour, who happening to be just without this limit, is left to dispose of and build on his property, in any manner that he considers most conducive to his interest.

The two great objects necessary in any Building Act for the protection of the public, appear to be, first, such sanatory regulations as will secure good ventilation, by wide streets, sufficient back areas, and effectual drainage; and secondly, the formation of such incombustible party constructions as will prevent the communication of fire from one building to another. Beyond the provisions necessary for effecting these objects, it is undesirable for the legislature to interfere, and such interference has, I contend, been one great and just cause of public dissatisfaction with the present Building Act, compelling the district surveyor

to exercise an inquisitorial power over the owner and builder, and raising questions between them of the most vexatious and irritating character. Under this category would fall all the provisions as to the distinctions drawn between the different classes of buildings; those referring to the fire-proof accesses and stairs to buildings of the first class; those referring to the introduction of timber, such as bond and plates in external walls (a fertile source of dispute and difference); those, again, referring to the placing timber and other woodwork within a certain distance of any walls having flues in them; many of the provisions in reference to chimnies, particularly those relating to pots and tubes, as well as to pipes for conveying heated air, the provisions regulating sign-boards, &c., &c.; and last, though not least, those which compel application to the official referees, often on the most trifling occasions. Many of these provisions may be good as between the owner and the builder, where the contract is voluntary, and the subject of treaty and arrangement between the parties, and where the modifications required by circumstances may at any time be made; but they are all more or less provisions in which the public have little interest, and they become most oppressive when forming the subject of a legislative enactment to be applied in all the variety of buildings executed in this great city and its suburbs, and from which there is no appeal, but at a considerable expense attended with much loss of time, delay to the builder being in many cases the more fatal evil of the two. In any amendment of the Act, the whole of these provisions require careful revision, some it would be desirable to strike out altogether, and to modify to a considerable extent those that are allowed to remain.

I have already mentioned, as an important feature in any building act, the proper provision for the erection of fire-proof party constructions; yet, strange to say, in this respect the Metropolitan Buildings Act is most defective; and the number and special nature of the notices render it even more difficult to condemn a defective party-wall now, than it was under the old act, while the expenses are increased in about an equal degree with the difficulty. The two united have induced many builders rather to erect external walls to their premises—permanently giving up valuable ground—than involve themselves in the delay and expense of proceeding to condemn the old and defective party-wall, with the risk, at last, of being defeated upon some slight irregularity or informality in the numerous notices he would be compelled to serve.

The provisions, therefore, connected with this subject require considerable alteration, if not entirely recasting, on the basis of the provisions of the 14th Geo. III., which were in every respect more simple and efficient. Well, indeed, would it be if this last-named Act was taken generally as the foundation of a new measure, retaining what has been found by experience to be effectual in its provisions, striking out and correcting such as are obsolete or defective, and adding other regulations required to carry out the sanatory regulations, which in that measure had been overlooked; for in spite of all that was urged against the old Act (and in much it certainly was defective) it still did more good, and answered more completely its main object—the prevention of the spread of fire, than any local Act that was ever passed: and unquestionably one of its best features was the effecting of this object, without interfering needlessly with the private rights of property.

It must be admitted, however, that the failure of the 7 & 8 Vict. is not solely owing to the defects I have pointed out in the measure itself, but is partly attributable to the mode in which its provisions have been administered.

It will be remembered, that under the old Act, when a difference arose between the district surveyor and any other interested party, the question was referred to, and decided by, the police magistrate, at the expense of a few shillings, and generally without delay; but if, from any difficulty in the matter, the magistrate required time for consideration, this delay was seldom extended beyond a few days. Many of these questions, however, were of a technical character, all more or less requiring a knowledge of the practice of building, which it was scarcely to be expected the police magistrate would possess. The provision, therefore, in the 7 & 8 Vict., by which matters in dispute were in future to be settled by reference to the official referees, who, it is declared, are to be architects of a certain standing, was expected to prove one of the best features of the measure. That it has failed to do so is quite notorious, for not only is the cost of a hearing much greater than it would have been under the old Act, but what is even of more importance in building operations, so much time is consumed before all the forms and proceedings can be gone through, and an award obtained, that the usefulness of the office is in a great measure defeated, and a growing disinclination to apply to the official referees is prevalent amongst the builders, who, in many instances, defer to the judgment of the district surveyor, although believing him to be wrong, rather than incur the risk of being involved in the payment of costs, and the certain loss of time which must elapse before his error can be corrected.

I believe the most effectual remedy for the evil here complained of, and it is a very serious one, would be to make the duties and practice of the official referees correspond, as nearly as possible, with those of the police magistrate, who, dispensing with the more regular proceedings and forms of the superior courts, proceeds to hear, and generally to decide the case without delay, and at a trifling cost. Once, however, admit into these courts the necessity for the litigating parties to sign cases, or for the magistrate to be compelled to make a formal award under his hand and seal, and the evils of expense and delay spring up in them to such an extent as would soon defeat the object for which they were founded, of cheap and speedy justice. And if it is contended that many of the questions decided in these courts are comparatively trifling in their character, the same observation will apply, and in a greater degree, to the questions on which the official referees have to adjudicate.

Again, it is most important in any amendment of the Act, that these officers should have the power of proceeding in the same independent manner that an architect, appointed as arbitrator, would do in any ordinary reference. That course of proceeding is to examine the parties, and elicit the facts of the case in the manner his experience may lead him to think most effectual,—unfettered by those legal forms and rules which obtain, and I presume are necessary in the courts of law, but which, nevertheless, sometimes stand signally in the way of obtaining justice, if only from the expense involved in their observance; and never more so than in questions connected with building operations. Having elicited the facts and formed his judgment on them, the architect (up to that time acting independently of his solicitor or counsel), if the case is of sufficient importance, then places it in their hands to draw the award. I submit this is precisely the course that should be pursued by the official referees, in all cases under the Metropolitan Buildings Act, and that it was the intention of the legislature they should do so. Thinking differently, I presume, they have followed a different course; it appears therefore indispensable that in any amendment of the Act, this mode of proceeding should be emphatically and clearly marked out for them to pursue. If such an alteration is made in their practice, I believe it will do more than any thing else to render their office both popular and useful, not only to the district surveyors, but to all who are interested in building operations within the limits of the Act.

It appears to me that a further improvement would be effected in the provisions connected with this part of the Act, by the appointment of three official referees instead of two, as at present; it will be unnecessary that they should all constantly sit, on the hearing of cases, nor would the funds provided for their payment (2,000*l.* a year) admit of such a course being pursued. I think, therefore, it will be a desirable arrangement that one should be appointed at a salary, say of 1,400*l.* a year; that he should be required to give up all practice both as an architect and surveyor, and devote the whole of his time to the duties of the office; that it should be his business to dispose of all cases in the first instance alone, unless at the special request from any of the litigating parties for a hearing by the three; that the duties of the two other official referees should be to act as a court of appeal, sitting, probably once a fortnight, or when required by the special application of parties, as before mentioned, on the first hearing; that these officers should be paid by a salary of 300*l.* a year each, and that their acceptance of the appointment should not oblige them to give up any portion of their private practice.

The prominent advantages of this course would be the devotion of the whole time and attention of the first-named referee to the duties of his office, uninterrupted by other interests and engagements, and what is extremely important, it would produce also a greater uniformity of practice in the cases decided under the Act, than can be expected where two architects are sitting either together or alternately, with minds differently constituted, and whose opposite decisions must in the course of time create much uncertainty and confusion. With these advantages in favour of this appointment, would be connected the formation of a court of appeal, which would protect the suitor alike against any wrong-doing or erroneous judgment on the first hearing. I believe the salary named (1,400*l.* a year), would always enable the Government to procure an architect of talent and character to fill the office of first referee, and his being compelled to give up private practice altogether would remove much disagreeable feeling that has prevailed, and many objections that have been urged against those provisions of the present Act, which give the official referees the power of examining and controlling the designs of their professional brethren, a duty that must have been amongst the most disagreeable to which those gentlemen now filling the office have been exposed, as it would be to any right-minded men hereafter appointed. I believe also, considering that the duties of the two other referees proposed to be appointed would be comparatively light, particularly when the practice under the Act becomes settled, that the salary proposed (300*l.* a year each), added to the distinction of a Government appointment, would induce architects of standing and character to seek for them, or if the salary was not thought sufficient, some fee might be added, to be paid by those parties who may on a first hearing desire to have the assistance of their judgment. I know that some of my professional brethren think it better that the court should always consist of three architects, but independently of other and grave objections, I know not how the expense of such a court is to be met, and considering how frequently the subject-matter of reference is of a very slight character, it would almost be a burlesque to require the judgment of three architects upon it. Cheap and speedy justice is what the public desire, and I am convinced, that any continued violation of the principles of the Act on the part of the first referee, even if the court of appeal should fail to correct him, would soon be set right by the public press.

I am afraid it will be urged, in addition to the causes before mentioned, that the unpopularity of the Act is partly owing to the administration of its provisions by the district surveyors; nor do I wish to shrink from the consideration of this part of the subject, but I believe, while admitting to a certain extent the truth of this assertion, that the best way of correcting the evil complained of, would be by making the appeal to the official referees both simple and economical; and although it might involve us in more frequent attendances before them, I can assert most truly, that so far from being interested in a continuance of the present expensive and tedious mode of application to those officers, I should rejoice to see the practice simplified to the greatest possible extent. I trust you will not suppose by this admission of our share in the general unpopularity connected with the Act, that I assent to the propriety or truth of all the charges made against the district surveyors. It must never be forgotten, that while the leading journal of the day has freely opened its pages to anonymous communications containing charges against them, it has steadily refused, with one exception, to allow the admission of any answer or explanation on their part, although authenticated by the name and address of the surveyor in each case. If these officers have exceeded the bounds of their duty in some instances, they have not escaped punishment, and while

n the one hand these errors have been fully
et forth, their tale of difficulties and endurance
emains untold; difficulties not caused alone
y the ambiguous and doubtful readings of
hich the Act was capable, though these were
lentiful, but in many instances by the hostile
nd perverse spirit of those with whom they
ere compelled to deal.

I will not, however, extend my observations
n this debateable ground, but conclude by
alling on you, Mr. Editor, to continue your
fforts; and on the district surveyors and every
erson interested in property or buildings
ithin the limits of the Act, to come forward,
ow that an opportunity is offered, and give
eir best assistance to Lord Lincoln and to
ie legislature, who will shortly have to re-
onsider its provisions in making them at once
lain, simple, and effectual.

I am, Mr. Editor, yours, &c.,

A District Surveyor.

PROFESSOR COCKERELL'S LECTURES ON ARCHITECTURE.

The fourth lecture of this course was deli-
ered on Thursday, the 29th ult., at the Royal
.cademy. Mr. Cockerell said, that he should
nter upon the subject of geometrical beauty,
nowing that it was permanent, not fluctuating,
ke form and colour; that it depended upon
ie great doctrine of co-mensuration, which
as derived from nature, and how this prin-
iple was peculiarly conducive to beauty of
lan. He should also point out certain defects
n the application of the principle,—further,
hat the doctrine had been agreed to by all
ie great architects, as Alberti and others, and
hat the English school especially was founded
n the principles of arrangement by the equal
quares. He should then shew the derivation
f terms from the Arabic, and speak of the
octrine of numbers as treated by Vitruvius,
nd others.—Nature was the foundation of all
ruths, and the architect noticed the geome-
rical arrangement in every description of na-
ural beauty. It was also to be observed, that
ature shewed an attachment to definite
umbers and forms, as in flowers and crystals.
le had exhibited the diagrams of Cæsarianus,
hich agreed with the general system:—the
quare and the circle were the elements, from
hich the figure and all the forms of architec-
ure were derived. The forms of nature were
overned by order and regularity. Pope had
aid,

"All nature is but art, unknown to thee;
All chance, direction which thou canst not see."

Indeed there was nothing in nature which
ould not give suggestions to the architect;
n the vault over the honeycomb, he had the
orm best adapted for similar vaults in masonry,
s had been clearly demonstrated. In the
arly days of railway engineering, we had
ommenced by laying the iron rails on blocks
f stone, placed apart;—the engineer did not
eflect upon the construction of the human
rame, in which the cartilage was placed to
upport and protect the bones; had he done
o, he would have then adopted a continuous
earing. Sir Christopher Wren, in the steeple
f St. Bride's, had shewn the advantages, which
ight be derived from the works of nature.
eflecting, that the hollow spire, which he had
een, or built in so many varieties, was but an
nfirm structure, he sought some model, which
hould enable him to give it the utmost solidity
nd duration. Finding, that the delicate shell
alled turretella, though long and liable to
racture from the action of the water amongst
he rocks, remained unbroken, in consequence
f the central column, or newel round which
he spiral turned, he adopted the idea. There-
ore, in the centre of the spire, he placed the
olumella surrounded by a spiral staircase, and
ad thus constructed if not the most beautiful,
t least the most remarkable and enduring of
ny spire yet erected. Also, when Brunel-
eschi designed the dome of Sta. Maria, at
Florence, the diameter of which was nearly
qual to that of the Pantheon, but which stood
t more than twice the height from the pave-
ent, upon a base raised on piers, it was
vident, that in giving it the same solidity as
s original model, the weight could not be
upported on such a foundation. But Brunel-
eschi was an observer of nature; he reflected
hat the bones of animals, especially of birds,
nd solidity without weight, through the
double crust and hollow within. But above all he remarked, that the dome which crowned the human form divine was constructed with a double plate, connected together at intervals, and that thus the utmost strength and lightness were combined. Therefore he followed this model in the dome of Sta. Maria, as shewn in a diagram, and the traveller now ascended to the summit between the two crusts or plates, forming the inner and outer domes. The same contrivance was adoped by Michael Angelo in the dome of St. Peter's, and in almost every dome, that had been constructed since that time. Thus it was evident, that the architect could derive most valuable suggestions from the works of nature. Their resources had been described in the Bridgewater Treatises, and no one could read these books without becoming the better architect.—The professor then proceeded to shew, how careful us to form and beauty nature had been, in whatever met the eye, and how careless in what lay concealed, how she had provided the "entasis" in the contour of the limbs, whilst the lungs and the bones were unsightly, every consideration but that of utility having been excluded. How attentive the Gothic architects had been to those teachings of Nature, he had previously shewn. That he who would really become an architect, must leave the special discussion of styles, and steadily look to the true end and aim of the art.

He next reviewed the points explained in his third lecture,* and made some further observations on the method of proportion adopted by the medieval architects. He exhibited a copy of the work of Cæsarianus, and shewed, that the author had himself led his readers into error, by his want of perspicuity, and his own errors in the diagrams. In the plan of Milan Cathedral, the Vesica Piscis was omitted; and further, Cæsarianus had drawn a number of diagonal lines between the columns, instead of the squares, which he had taken so much pains in describing. Alluding to the practical convenience of drawing the plan by equal squares, and the section by equilateral triangles, Mr. Cockerell said, that this convenience alone should not lead us to adopt those methods, the point to consider being, whether the eye derived satisfaction from the result. To be sensible of the advantages of a system, we ought to be well acquainted with many examples of its application.—He then spoke of the several systems of proportion, distinguished as the geometrical, arithmetical, and harmonic, all of them agreeing in the result; and proceeded to shew the influence of this doctrine of co-mensuration in the architecture of William of Wykeham. The plan of New College, Oxford, was similar to that of a cross church, the nave being omitted. The chancel or chapel was without aisles. The entrance was in the south end of the transept, or ante-chapel, the roof of which was supported by two columns. Now, nothing could exceed the delight, which the position of these columns, and the whole arrangement gave, on entering at the door; whereas in All Souls' Chapel, and in another, which he mentioned, both built in imitation of New College Chapel, the feeling was entirely different; it was an uncomfortable feeling, as if one could not breathe; it was like being in a straight waistcoat. If they examined the plan of the first-mentioned building, they would see, that the extent of its dimensions each way would be inclosed in the figure of the Vesica Piscis. Also, that longitudinally, it inclosed seven equal squares, two of these being in the ante-chapel. Transversely, the chapel contained two squares, and the ante-chapel four squares. The beautiful effect of the latter was caused mainly by the position of the columns precisely upon the intersection of the squares, an effect which we found to be deficient where, as in another example, the columns were slightly removed from that position. The internal proportions of the chancel, three diameters in length, were the best that could be adopted for a chapel; and in the total length we found the sacred number seven—the number of perfection. The beautiful arrangement first mentioned, was gained by including the walls in the width of two squares. In All Souls' Chapel, the two squares were exclusive of the walls; the internal length was two and a half diameters, and the effect, as before said, very inferior. In Winchester College Chapel, also by William of Wykeham, the squares were exclusive of, that is to say, fell inside the walls, and the effect was still beautiful. The reason was, that the whole length being seven squares, but that of the chancel six squares instead of five, a greater width was necessary to obtain the desired proportion. Nature had denied to the eye that perception of harmony, which she had given to the ear; but, when by culture the eye had been accustomed to correct proportions, the perfect arrangement would strike upon us at once, like a great mathematical truth. Proportion was the glory of the architect.

Though this theory of proportion was applicable to the plan, it did not apply to the elevation; here, inequalities were necessary. Daniel Barbaro, a translator of Vitruvius, and a delightful writer, from whom the professor made several quotations, had defined the two cases as "proportion" and "proportionality."

Mr. Cockerell then said, in reference to the supposed superstitious origin of the proportions of Gothic buildings, that it was of no importance in what language the system was revealed to us, so long as we were able to derive from it beautiful results.—Besides the system, which had been explained, there was another system, adopted in Germany and France, though but seldom in this country, and he had no doubt, that we should some day discover the explanation of it. Ratisbon, Munich, and Vienna, were examples of the arrangement on the Continent, and Lincoln, Bath, and Bristol, in England. He exhibited a plan of Ratisbon Cathedral, to which the system of equal squares did not apply. He then gave some explanation of an idea, which had occurred to him, by which he had supposed the plan might be regulated, and he had found, that in Bristol Cathedral, the result of the suggested system nearly corresponded with the building. The three equal heights of roof was an arrangement of great beauty, and might have been intended to symbolize the coequal nature of the three persons of the Trinity. Bishop King, who built Bath Abbey Church, was a great traveller, and had probably acquired the principle on the Continent. One thing, at least, we might feel assured of, that the old architects never worked at random; but it must not be supposed that they never varied from their rules; when the circumstances of the case seemed to demand it, they could not be subjected to such rigour.—In reference to the principle of the equal squares, Mr. Billings had lately shewn, that the same system applied to ornament. No person would have supposed, that the beautiful flamboyant tracery, specimens of which he exhibited,* were arranged upon squares,—and he could not but consider it as a confirmation of the theory. He then gave various methods of arranging the height from the plan, from Cæsarianus, and suggested that one or other of these systems might be found to apply to Beauvais, and other cathedrals in which the height was so enormous, that it could not be developed from the plan according to the system already described.—He then noticed the respect paid to particular numbers, as shewn in the pillars, and the frequent use of the number seven. Amongst other examples, he mentioned St. George's Chapel, at Windsor, and Exeter Cathedral, the last having seven columns in the nave, and seven in the choir. Alberti had said, that for this number the Almighty himself had manifested his peculiar delight, and there was constant use of it in the Bible. In other situations the number eleven was sometimes used to represent the apostles, Judas being omitted.

He next said, that the height of a spire was got by extending the squares on each side of the building, the height at present being 320 feet in the case of Milan Cathedral, where this mode was found to apply. The word "hecuba" was derived from the Arabic, and meant a spherical dome rising from a square; thus we must confess that we had derived this piece of skill, as well as that in turning arches from the Saracens; these circumstances supporting the opinion of Sir Christopher Wren, as to the Saracenic origin of Gothic architecture.—He said that in the mosques of Cairo, the system of equal squares was clearly discoverable, as might be seen from the plans in the work of M. Coste. The importance of Cordova as a seat of learning was great during the middle

* Reported in The Builder, page 50.

* From Billings's Geometric Tracery of Carlisle Cathedral, a specimen of which was given in The Builder, vol. iii. p. 166.

ages, and Cæsarianus referred in the same sentence to the learning of Cordova, and the writings of Aristotle. It was to be noticed, that Cæsarianus was an advocate for competition, for he had said, if a competition had been decided upon, "our hecuba" would have been sooner completed.—Mr. Cockerell concluded the lecture with some curious information on the use of the name architect, which was never general till the sixteenth century. Previous to that period that officer was merely "the master," though he had been clearly pointed to in certain passages in the Bible. Shakspeare said:—"Consult surveyors, know our own estate;" but in Titus Andronicus he said, "Chief architect, and plotter of these woes." The concealment of the names of most of the medieval architects was accounted for by the fact, that individual fame was never an object, every exertion was directed to the one end of erecting a noble fabric to the glory of the Almighty.

* *

ROSLIN COLLEGIATE CHURCH.

Sir,—By your last number, I learn that Mr. Roberts brought before the members of the Architects' Institute some remarks on the paper I read there on the 12th of last month. As I was not present at that meeting, and my statement or judgment is impeached, I beg you will do me the justice to give insertion to the following brief remarks in self-justification. On quoting the following lines from Sir Walter Scott's "Lay of the Last Minstrel," I said there were almost as many errors, or mis-statements, as lines; at the same time passed a high eulogium on the commanding talents of that accomplished author. Before reading the stanzas I observed, "This building, as well as most of the old edifices of the country, has some marvellous story, or silly romance, or incredible legend connected with it. Such matters may serve as themes to embellish or diversify the stanzas of a poem, the pages of a novel, or the annals of a fabulous chronicle, but are unworthy of notice by the architectural antiquary, or philosophical historian. The following lines by that most imaginative novelist, Sir Walter Scott, are quoted not to afford any architectural or historical information, but to shew the general 'fictions and fallacies of poetry:'—

"—— Seemed all on fire, that *chapel* proud,
Where Roslin's chiefs *uncoffin'd* lie;
Each baron for a sable shroud,
Sheathed in his *iron* panoply.
Seem'd all on fire within, around,
Deep *sacristy* and altar's *pale*;
Shone *every pillar foliage* bound,
And *glimmered* all the dead men's *mail*;
Blazed *battlement*, and *pinnet* high,
Blazed every rose-carved buttress fair;
So still they blaze, when fate is nigh
The lordly line of high St. Clair."

Although there are not quite so many errors or mis-statements as lines, the number of words in italics shew that they are very nearly so. The building is not a *chapel;* it was erected and founded for a collegiate *church*, and had it been completed, would have been a large and splendid edifice. The best authorities that I have consulted do not say any thing of *uncoffin'd* chiefs in *iron* panoply; nor is it likely that such ever could be allowed. Putrified dead bodies would have excluded living ones from the church. There is no appearance of *sacristy*. Instead of *every pillar foliage bound*, there is only one thus adorned; and this has given origin to a puerile story, which the old female cicerone of the building may repeat and believe, though none but an old woman will give two moments' credence to. I believe there are not any *battlements* to the building, and I do not know that the word *pinnet* is either architectural or archæological.

Let it not be imagined by the reader that I make these remarks with any ungenerous or unkind feelings towards the author of the inimitable "Waverley Novels," whom I had the pleasure and honour of knowing and corresponding with in life, and whose memory and merits I revere, in death. His works have been read and admired by millions of people, and have afforded me, with other readers, indescribable gratification and delight. The youthful reader should, however, be warned against errors, mis-statements, and misrepresentations even of popular authors.

In the paper I read at the Architects' Institute, it appears from Mr. Roberts's remarks, that I was not sufficiently explanatory about the *extraordinary construction* of the eastern wall, and the alterations effected by rebuilding it after it had been once raised. I certainly did not make any comments or criticisms on Mr. Roberts's ingenious and original theory; but intimated that I agreed with him in believing the wall does not occupy the site as at first planned and intended by the architect. It occurred to me on a cursory consideration of the subject, that the whole plan had been marked out on the ground, from the "*draughts drawn on eastland boards*," which were "*carved by the carpenters*" as described in Father Hay's MSS., and that when the masons had carried up the walls and pillars of the whole building to a certain height, and had also *prepared* much of the superstructure, particularly those remarkable stone beams, or lintels which extend over the aisles, and their connecting vaultings, the architect discovered that the space at the east end, between the easternmost pillars and the wall, was not wide enough for the religious services at the four altars, placed under so many windows in that wall. This I believe is Mr. Roberts's opinion, and I do not feel inclined to doubt, much less to dispute it. But as the subject is very curious, and perhaps unparalleled in architectural construction, I would recommend a careful examination of the eastern wall in conjunction with those on the north and south sides, and particularly the positions and formation of the angular buttresses. Further, let the ground be excavated and explored, to ascertain if there be any remains of foundation between the present eastern wall and the three pillars.

For good illustrations of the fragment of the singular Collegiate church at Roslin, I refer the inquisitive antiquary to the third volume of "*The Architectural Antiquities of Great Britain*," in which there is a ground-plan and several other engravings of views, elevations, sections, and details; to "*The Provincial Antiquities of Scotland*," in which there are two beautiful prints from drawings by Mr. Blore, with a short account of the building by that architect. Mr. Edward Cresy, architect, has given two very interesting sectional engravings of the same edifice, in his fragment of a work on Bridges, &c.

I am, Sir, yours, &c., John Britton.

FALL OF A VIADUCT ON THE ROUEN AND HAVRE RAILWAY.

In our impression of the 24th ultimo we noticed this accident, and promised to revert to it. The cause of the catastrophe is still enveloped in mystery. The contractors, Messrs. Mackenzie and Brassey "are disposed to attribute it to the substitution (with Mr. Locke's approbation) of stone-work in the bases of the piers for the brick-work prepared in the original plan." This alteration was made at their request with a view to accelerate the progress of the works. It appears that the whole work was of brick excepting the bases of the piers, which were of stone, the arches were semicircular, and of ample strength; on the day before the accident not the slightest flaw had been discovered in any part of the brick-work, but vertical cracks near the corners had been observed in the stone-work. This stone-work was ashlar facing, hearted with rubble. Uniting these facts with the additional ones of some haste being made in the erection, and a great deal of rain having fallen, both during the progress of the works and since, a very reasonable inference may be drawn as to the origin of the disaster. The *Railway Chronicle*, of last week, has the following remarks on the subject:—

"We must here notice a sort of professional controversy which exists in France between the English engineers and the French. We English like brick-work—we unde stand it, and we make it good; so good, that from one end to the other of the railway not a single flaw could be detected by the inspector-general in any part of the brick-work of the line. The French engineers do not like brick-work. They are, perhaps, better acquainted with stone, and certainly like it better. Be this as it may, the consequence, as regards this work, has been as follows:—This bridge was originally designed by the engineer and contracted for as *all in brick*. The contractors, partly to expedite the work and partly to please the French engineers, asked leave to make the bases of the piers up to a certain point in stone-work; they obtained the permission of the engineers to do so; and thus, in a desire to expedite the work and to please the French engineers, they have brought on themselves a loss in which we must all sympathize with them, and which we can attribute to nothing but the best intentions. This casualty, while it entails pecuniary loss, will raise the character of the contractors for honesty and responsibility, both here and abroad.

Well, to return to the accident. This stone base was of 10 feet greater diameter than the brick pier resting on it. The chief pressure of the weight of pier and bridge was thus brought to bear on the rubble hearting. The tendency of this to crush the hearting and burst the facing is manifest. The vertical cracks visible that morning in the stone casing were evident symptoms of it; and as the upper work was perfectly sound, and had been some time completed, and as the pile foundations are still perfectly sound as far as can be discerned, the cause is manifest.

The lessons it teaches are also obvious: we are all wise *after* the fact—we can all *now* see that it was weak to yield to an idle prejudice and not use brick throughout as intended—we can all see that it would have been better to wait until the bricks were got than to build work to tumble down! But who would have ventured to say beforehand, to this point you may go, both in haste and in materials, and no further? No! Contractors and engineers must often make sacrifices of mere opinion to accomplish what they conceive their duty to the companies they serve: and if, in doing so, they commit errors, they are but men gaining experience, and they have to pay for it. But in this country, at least, when they bravely set their faces to do their work honestly and well—and when taken as a *whole*, the work is honestly and creditably done, as every thing is that English engineers and English contractors have done in French railroads—they will meet with that sympathy and support from their countrymen which they have a right to expect, and they will be entitled to that respect and esteem abroad which their achievements must command from all right-minded and judicious men."

Cause of Accident on the South Eastern Railway.—We referred to this accident on the 24th ult. (see page 44). Since then a coroner's inquest has taken place, and Mr. Barlow, the resident engineer, gave evidence as to the cause. He attributed the accident to the rush of water from the north (or river) side of the railway, through the occupation-bridge into a ballast-pit on the south side. He was of opinion, however, that the disaster would not have happened had the ballast-pit been full of water at the time. He considered the bridge to have been strong enough to withstand the force of any flood, had it not been for the fall of water which followed on the ballast-pit being nearly empty. This had had the effect of first carrying away a portion of the embankment, and then undermining the foundation of the abutments on which the bridge rested.

The Aust Bridge.—The Admiralty have consented to the intentions of the Bristol and Liverpool Junction Railway Company to erect a suspension bridge across the river Severn. The design submitted is by Mr. Thomas Fulljames. It will reach from a point south of Austhead to an opposite point south of Heachley. There will be three principal openings of 1,100 feet each, three main piers, 60 feet each, and six openings in connection with these piers of 100 feet each. The entire water way will be 4,740 feet. The first principal span will be from Austcliff to the Ulverston Rock, thence to the Lower Bench Rock will be the second principal span, and from this latter position to the Dod Rock will be the third principal span. The *Monmouthshire Merlin*, for the 17th ultimo, gives an engraving of plan and elevation of the proposed structure.

New Houses of Parliament.—The reappointment of the former committee of the House of Lords to inquire into the progress of the building of the new Houses of Parliament has been agreed to on the motion of the Marquis of Clanricarde.

NOTES IN THE PROVINCES.

Some very extensive alterations and restorations in Cranfield Church, Bedfordshire, are in contemplation. The plans that have been agreed upon comprise works that will occasion an outlay of 2,000*l.*——The late high tides have destroyed upwards of half a mile of the upper esplanade at Weston-super-Mare, also the wall erected near the library. These works were repaired in the early part of last summer, at a heavy expense. At Kingston-Seymour, a few miles from the above locality, the sea wall for the length of half a mile was washed down.——A meeting took place a few days since at York of the donors and subscribers to the York Yeoman School. Lord Morpeth occupied the chair. It appears that a sum, 3,400*l.*, is required for the purchase of a site and the erection of a building capable of containing fifty boarders. The sum in hand already amounts to 2,600*l.*——It is expected that the Hull Glass Company will commence manufacturing in six months' time, and they have announced that they will proceed first with German sheet or patent plate glass. ——Considerable improvements at the Ferry-boat Dock, at Hull, are in contemplation. The plans of Mr. J. B. Hartley are spoken highly of; the cost of carrying them into effect is estimated at 8,000*l.* The improvements consist in the projection of an open piled jetty, two hundred feet in length, from the very centre of Nelson-street. This will have two arms at the extremity, running east and west, extending nearly from the east pier to within a few yards of the short jetty opposite to the Victoria Hotel. Commodious landing-places will be formed both on the southern and northern sides of this transverse jetty, where passengers can land at any state of the tide, and, without further impediment, walk ashore. ——The inhabitants of Aberdeen are taking active steps towards the establishment of public baths. An extensive and convenient site has been selected, and the committee of management apparently enter upon their task with energy and judgment.

RAILWAY JOTTINGS.

The following are the members proposed by Sir R. Peel to be appointed the Select Committee on Railways:—Lord G. Somerset, Sir H. Grey, Mr. Strutt, Mr. Labouchere, Mr. Estcourt, Mr. Greene, Mr. Ewart, Mr. Colquhoun, Mr. Hodgson Hinde, Mr. Pakington, Sir G. Clerk, Mr. F. Baring, the O'Connor Don, Lord H. Vane, and Mr. Shaw.——The engineer of the Ipswich and Bury St. Edmund's line reports that "The earthwork removed to embankment up to this time is 350,000 cubic yards; single fencing set up, 30,000 lineal yards; and permanent road laid, 10,000 lineal yards. The requisite culverts, and bridges in masonry and timber are in hand, and many of them completed." The total force employed at the present time on this line is 947 workmen and 155 horses.——It is the intention of the South-Western Company to make a branch to Hampton Court. When it is considered that the number of annual visitors to the palace exceed 150,000, surprise must he felt that such an undertaking remains to be carried out.—— The three-arched bridge across the Ayr, about half a mile below Hawford-bridge, on the Glasgow, Kilmarnock, and Ayr line has been commenced. The principal arch of the viaduct when completed will be 190 feet high—higher, it is said, than any similar structure in the kingdom.——A memorial has been addressed by the Liverpool merchants to the directors of the London and Birmingham and Grand Junction lines requesting them to run a express line daily between Liverpool and London, at six A.M., each way, so that an inhabitant of either place may visit the other and return the same day.——It is intended shortly to convey passengers from Edmonton to the adjoining station, in omnibuses without additional fares. Should the plan succeed, it will doubtless be adopted throughout the whole of the Eastern Counties line as well as to other lines, and also in the metropolis.—— The Central Railway station at Leeds will be confined within the limits of the Coloured Cloth Hall and the Infirmary, with their grounds extending into King-street and Yorkstreet with the gardens in front of the latter. The estimate for the purchases and erection is 250,000*l.* —— Messrs. Craven and Sons, the contractors for the Lincoln, Newark, and Nottingham line, are making rapid progress and speak with confidence of their being able to complete their contract by the 1st of July.—— The Atmospheric Railway of St. Germain will be opened in May next. The double bridge over the Seine and the great viaduct of 20 arches raised to the height of 60 feet are entirely finished. The company was compelled to obtain the necessary tubes from England.

IMPORTANCE OF CONSTRUCTIVE SCIENCE.

DEFECTIVE ROOF.

Sir,—In a late number of your valuable journal, allusion is justly made to the decline in the constructive arts, apparent amongst our operatives, and the consequent inconvenience experienced by architects in procuring men able to execute their designs. This is a fact much to be lamented, and calls for the adoption of some means whereby our artizans may be instructed in the principles of construction, and have that stimulus given to their energies by which alone the object sought is ever to be attained.

Whilst decline amongst our operatives is an evil to be regretted, and, as has been observed, demands a cure, there is another, and if possible, an evil of still greater moment, which cannot altogether have escaped your notice. I refer now, to the ignorance of constructive science which unhappily appears in the works of too many of the architects of the present day. If it be important that the workmen should understand the principles of construction, how much more essential is this knowledge to the architect, whose business it is to design and direct?

How many instances might be referred to where costly edifices have been erected, otherwise expressive of skill in design, but which, from defective construction in some important part, may essentially be said to be supplied with the means of their own destruction!

One instance, amongst the many, I cannot forbear to notice, evidencing the correctness of the preceding remarks. Passing lately through a town not 100 miles from Hull, my attention was arrested by the sounds of workmen engaged in a recently erected chapel.

Externally, the edifice presents a somewhat imposing appearance, having a Corinthian colonnade in front, surmounted by a pediment. Passing within, I observed an extensive scaffold erected, and an attempt making to repair a roof of defective construction.

It is almost incredible that a roof 64 feet span, with queen posts and straining beam, should have been constructed without discharging braces,—and yet here we have an example. The annexed sketch of this roof shews in its details, I must say, almost a total ignorance of the principles of construction. The trusses are placed 16 feet apart.



The construction of this roof, as will be seen, brings a great weight upon the tie-beam, and, consequently, a considerable degree of deflexion therein, amounting to 14 inches. This deflexion has necessarily broken the ceiling to pieces.

The deficiency of the roof clearly manifested itself on the laying on of the covering, and the means resorted to as a remedy were equally inadequate with the roof itself. Wrought-iron straps were applied, as shewn on the sketch, to the feet of the rafters (X), and these were connected by bolts to other straps, which extended to some length on the beam, and towards the lower edge. By this means it was intended to raise the tie-beam, and to keep it in its proper position.

It is to be regretted, that the repairs now going on, though entrusted to other hands, seem likely to reflect no greater credit on the skill of the architect employed than belongs to his predecessor. The proposed remedy consists of the application of timber beams, placed transversely beneath the tie-beams, supported by iron columns 12 inches diameter, rising from the floor of the gallery.

At as small a cost the roof might have been taken down and reconstructed, or I have no doubt that the required additions to it might have been made without recourse to this; and how much preferable would the result have been to the perpetual inconvenience and deformity now introduced!

Should these remarks be deemed worthy a place in your journal, and be the means of calling the attention of any of your readers to the necessity of a sounder and more practical education being given to architects, the object of the writer will be attained.

I am, Sir, yours, &c., An Architect.
Bradford, Yorkshire.

GAS.

Sir,—I am glad to see by various letters, that an attempt at improvement in the manufacture of an illuminating gas, is at last beginning to attract public attention. That there is room for improvement is, I believe, generally acknowledged. I have, however, in vain looked for some information relative to the *direct* manufacture of a *pure* illuminating gas. "J. A. E.'s" letter, in a former number, slightly points out the advantages of oil-gas. "J. A. E." may rest assured, that a proposition to manufacture gas from any other material than coal, would meet with the strongest opposition from existing coke and gas companies. There is, I believe, scarcely a consumer of gas but who complains of the high price, inefficiency of light, and impurity of the present gas. He complains, but no remedy is applied; and he cannot do without gas, for the use of it has become a necessity. Gas companies have certainly expended large capitals, and are obliged to keep up an expensive establishment; but why should the public pay for it, if a better gas from other materials than coal can be manufactured at a cheaper rate? Why manufacture an impure material, and afterwards, at an enormous expense, purify it? It is like a chemist mixing poison in his medicines, and then, by an expensive process, which the public must pay for, extracting it to render them consumable.

The gas companies state, that they cannot reduce their prices without loss: it therefore becomes necessary to adopt some means for manufacturing a cheaper gas.

There is one subject connected with gas which I think ought to be brought prominently before the public, viz. that every parish should establish their own gas works, and, instead of annually paying large sums into the pockets of gas companies, expend it either in the improvement of the parish, the extension of charity, or reduction of poor-rates.

Paddington, Jan. 8th. Observer.

In London, where the consumption of gas is very great, and the coke is sold at a good price, the charge for gas is 7*s.* per 1,000 cubic feet; and the engineers profess they cannot sell it with a profit at less.

In Plymouth, where the consumption of gas is small, the price of the same quantity of gas is only 4*s.* 6*d.*; and I find upon inquiry, that this has been caused by the formation of a new company, under the direction and management of Mr. Huchison, engineer of the London Gas Company.

May I ask how it is that this gentleman can consistently recommend the sale of gas, where the consumption is small, at 4*s.* 6*d.* per 1,000 cubic feet, and charge 7*s.* 6*d.* per 1,000 cubic feet where the consumption is so much larger?

T. A. H.

Extensive Sale of Bricks.—At a sale of bricks by Mr. Mumford, at Wanstead Park, Essex, on the 22nd ult., the property of the Earl of Mornington, one lot of 105,000 sold at 33*s.* per thousand; 240,000 at 31*s.*; 170,000 at 23*s.*; 150,000 at 31*s.* Smaller lots of 10,000 each, from 17*s.* to 31*s.* The purchasers to clear at their own expense.

ANCIENT ARCHITECTURE OF IRELAND.



Fig. 1.



Fig. 2.

THE ECCLESIASTICAL ARCHITECTURE OF IRELAND.

MR. PETRIE'S BOOK.

In a notice of Mr. Petrie's elaborate work on the origin and uses of the round towers of Ireland, already given,* we briefly extracted the writer's conclusions on this much debated question, and promised to refer again, more particularly to that part of the book which treates of ancient architecture in Ireland, generally. Before proceeding to redeem this promise, we lay before the reader a view of the perfect tower on Devenish Island, in Lough Erne, as an example (fig. 4.), with part of Mr. Petrie's general description of the towers:—

"They are rotund, cylindrical structures, usually tapering upwards, and varying in height from fifty to perhaps one hundred and fifty feet; and in external circumference, at the base, from forty to sixty feet, or somewhat more. They have usually a circular, projecting base, consisting of one, two, or three steps, or plinths, and are finished at the top with a conical roof of stone, which frequently, as their is every reason to believe, terminated with a cross formed of a single stone. The wall, towards the base, is never less than three feet in thickness, but is usually more, and occasionally five feet, being always in accordance with the general proportions of the building. In the interior they are divided into stories, varying in number from four to eight, as the height of the tower permitted, and usually about twelve feet in height. These stories are marked either by projecting belts of stone, set-offs or ledges, or holes in the wall to receive joists, on which rested the floors, which were almost always of wood. In the uppermost of these stories the wall is perforated by two, four, five, six, or eight apertures, but most usually four, which sometimes face the cardinal points, and sometimes not. The lowest story, or rather its place, is sometimes composed of solid masonry, and when not so, it has never any aperture to light it. In the second story, the wall is usually perforated by the entrance doorway, which is generally from eight to thirty feet from the ground, and only large enough to admit a single person at a time. The intermediate stories are each lighted by a single aperture, placed variously, and usually of very small size, though in several instances, that directly over the doorway is of a size little less than that of the doorway, and would appear to be intended as a second entrance.

In their masonic construction they present a considerable variety: but the generality of them are built in that kind of careful masonry called spawled rubble, in which small stones, shaped by the hammer, in default of suitable stones at hand, are placed in every interstice of the larger stones, so that very little mortar

* See page 576, vol. iii. This work forms vol. xx. of the Transactions of the Royal Irish Academy, and is published by Messrs. Hodges and Smith, of Dublin, to whom we owe thanks.

appears to be intermixed in the body of the wall; and thus the outside of spawled masonry, especially, presents an almost uninterrupted surface of stone, supplementary splinters being carefully inserted in the joints of the undried wall."

Mr. Petrie believes that stone buildings were erected in Ireland earlier than is usually admitted, and gives views of some of the round barrow-like houses, built by the earlier saints. Oratories were the first stone buildings erected there for Christian uses. He gives evidence, that the churches at Armagh were built of stone and lime cement as soon as the middle of the ninth century. The openings of these early structures are covered sometimes by one large stone as a lintel, and at others by the triangular arch, if it may be so called, formed by two stones inclined towards each other at the top, which is found in the early works of so many people.

Fig. 5 (on p. 68) represents the east window of the oratory at Gallerus, built without cement.

What Rickman called "long and short" work, is very generally found in the ancient churches of Ireland. Some of the buildings are Cyclopean in style; mostly simple and unadorned. As early as the ninth century, however, the writer maintains that they exhibited ornaments and mouldings similar in some cases to those we call Anglo-Norman.

Coming on a little later, he describes some architectural remains at Glendalough, represented by fig. 3. They are part of the chancel of the church of the monastery. The chancel was originally stone-roofed, and measured internally 15 feet 6 inches by 11 feet 5 inches.

"At its east end it has a stone bench or seat, one foot eight inches in breadth, and extending the length of the wall, like that in the little chapel called the Priest's House, and at a distance of two feet from that seat stood an isolated stone altar,—since destroyed,—five feet in length, two feet eleven inches in breadth, and about four feet in height. In its south wall are three niches, one foot six inches in depth, one of which appears to have been a fenestella for a piscina, and the two others were probably ambrys, or lockers. Of these niches the first is one foot six inches in breadth, the second two feet eight inches, and the third two feet four inches. At the upper end of the north wall there is a similar niche, but of smaller size, being only one foot four inches in breadth, and one foot two inches in depth. This chancel was lighted by a single window, placed in its east end; but this was destroyed previously to the year 1770.

The nave connected with this chancel, and which appears to have been without ornament, was about forty-two feet in length, and about twenty-six feet in breadth, and seems to have been entered by a doorway placed at the eastern extremity of the south wall, near the chancel arch. On its north side there appears to have been a range of apartments for the use of the officiating clergy of the place, but their divisional walls cannot now be traced."

"This archway is a compound one, consisting of three receding piers with semi-columns, the arrangement of which will be sufficiently understood from the prefixed illustration, recently drawn. Its breadth, at its innermost arch, is ten feet, and its height to the vertex was eleven feet: the height of the semi-columns is six feet one inch and a half, of which the capitals measure nine inches and a half, the shafts four feet, the bases eight inches, and the plinths eight inches."

We regret that we have not space to follow Mr. Petrie through his interesting inquiry; the utmost we can do is to point out its scope. We cannot refrain, however, from giving views of the well-known stone-roofed church on the rock of Cashel, called Cormac's Chapel, figs. 1 and 2.

"The erection of this church is popularly but erroneously ascribed to the celebrated king-bishop Cormac Mac Cullenan, who was killed in the battle of Bealach Mughna, in the year 908; and it is remarkable that this tradition has been received as true by several antiquaries, whose acquaintance with Anglo-Norman architecture should have led them to a different conclusion. Dr. Ledwich, indeed, who sees nothing Danish in the architecture of this church, supposes it to have been erected in the tenth or beginning of the eleventh century, by some of Cormac's successors in Cashel; but he adds, that it was 'prior to the introduction of the Norman and Gothic styles, for in every respect it is purely Saxon.' Dr. Milner, from whose reputation as a writer on architectural antiquities, we might expect a sounder opinion, declares that 'the present cathedral bears intrinsic marks of the age assigned to its erection, namely, the twelfth; as does Cormac's church, now called Cormac's hall, of the tenth.'—*Milner's Letters*, p. 131. And lastly, Mr. Brewer, somewhat more cautiously indeed, expresses a similar opinion of the age of this building: 'This edifice is said to have been erected in the tenth century; and from its architectural character few will be inclined to call in question its pretentions to so high a date of antiquity.'—*Beauties of Ireland*, vol. i., Introduction, p. cxiii.

A reference, however, to the authentic Irish Annals would have shewn those gentlemen that such opinions were wholly erroneous, and that this church did not owe its erection to the celebrated Cormac Mac Cullenan, who flourished in the tenth century, but to a later Cormac, in the twelfth, namely, Cormac Mac Carthy, who was also king of Munster, and of the same tribe with the former."

"In the ornamental details of the building a peculiarity will be found to distinguish

ANCIENT ARCHITECTURE OF IRELAND.



Fig. 3.



Fig. 4.

them from those in churches of earlier date. Externally the walls are decorated with blank arcades of semicircular arches, arranged in two stories,—resembling very much the churches sculptured on the marble fonts in Winchester Cathedral, and in the neighbouring one of East Meon, as figured by Dr. Milner and others,—and the lower of these arcades is carried round the southern tower. Internally the side walls are decorated with similar arcades, except that, in the nave, the arches do not spring from columns, but from square pilasters. These pilasters have impost mouldings resting on billets, and are ornamented

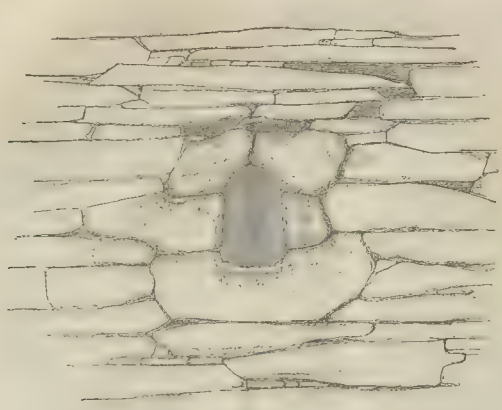


Fig. 5.

with the lozenge, hatched, checked, star, and other mouldings, characteristic of the Norman style; and the arches exhibit the zig-zag moulding both on their faces and soffits. Above these arcades the north and south walls of the nave are ornamented with a series of stunted semicolumns, resting on a projecting string-course chamfered underneath; and from the capitals of these spring square ribs, which support and decorate the semicircular roof.

The entrance doorways are also richly ornamented, both on their shafts, capitals, and arches, and they present, moreover, very curious grotesque sculptures on their lintels."

The book is profusely illustrated, and forms a very valuable contribution towards the history of architecture in Ireland.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

This body held its periodical meeting on the 28th ult. Several new associates were elected.

The secretary read the following admirable letter from Mons. Victor Hugo on his election as an associate:—

"Je suis heureux, monsieur, d'applaudir au mouvement archéologique de l'Angleterre. L'Angleterre est une grande nation, qui a eu une grande architecture. L'architecture, c'est l'histoire d'un peuple qui s'écrit dans ses monuments. Conserver les monuments, c'est sauver la grandeur du passé. La France commence á comprendre cette vérité; l'Europe entière la comprendra un jour. Fasse Dieu seulement que ce ne soit pas trop tard!

"Tout ce qui se fait en Angleterre dans ce grand but, national pour vous, historique pour nous, a d'avance ma sympathie. C'est donc de tout mon cœur que je vous envoie l'adhésion que vous avez bien voulu me faire l'honneur de me demander.

"Agréez, monsieur, l'assurance cordiale de mes sentimens les plus distingués.

"Victor Hugo."

The Rev. Beale Post communicated some discoveries in the neighbourhood of East Farley, Kent, consisting of some Romano-British urns (similar to those discovered at Caistor) containing burnt human bones; fibulæ, &c. Mr. M. A. Lower furnished a report of further discoveries at Lewes Priory, also a *fac-simile* of the inscription on the tomb of Gundreda, in Southover church. Mr. Lower stated, that in digging to the east of the foundations of the church, the railway excavators cut through an immense pit more than 18 feet in depth, completely full of human bones, the stench from which was so great that the workmen were obliged to desist; upwards of twenty tons of bones were removed from this charnel-house; he supposes they had probably been interred there after the battle of Lewes in the thirteenth century. The paper was accompanied by a plan of the conventual buildings hitherto discovered, and drawings of the various remains which have come to light.

A very interesting and amusing paper by Mr. John Barrow, of the Admiralty, was then read, "On the uniform of the admirals in the reign of George II.;" illustrated by some dresses of the period, lately found in the stores at Plymouth, and some notes from Sir Henry Ellis on the subject.

The president forwarded, for exhibition, a curious sword and boss of a shield, discovered in Ireland.

ARCHÆOLOGICAL INSTITUTE OF GREAT BRITAIN AND IRELAND.

NORMAN GATE-TOWER—AND CHURCHES.

At the 2nd meeting of the committee for the exhibition of antiquities, and for archæological discussion, held on Friday, the 30th ult., a letter was read from Mr. Edward Richardson, the sculptor, giving an account of further excavations on the site of the priory at Lewes, to which we have referred elsewhere, It stated that as all the Caen stone foundations are taken up by the workmen for the sake of the material, a most perfect outline of the ground plan is left for the moment, and he suggested that some artist should be employed to make a plan of the whole building, before the further railway operations efface these traces.

A letter was read from Mr. Tymms, local secretary, at Bury St. Edmunds, calling the attention of the committee to the present ruinous state of the interesting Norman gate-tower there, built by Abbot Baldwin, A.D. 1095, which was subsequently used as the campanile of the parish church of St. James. There are several remarkable features about the architecture of this tower. On the west side is a stone porch with a penthouse roof projecting from it about five feet, within is a rich archway springing from sculptured capitals, the tower is surmounted by battlements, believed to be part of the original design, and among the earliest known specimens of embrasure work in England. The whole of the masonry of this tower is in a very crippled state, particularly on the east side, in several instances the disruption has been so complete, that a person in the interior can see through the core of the building into the churchyard.

A report having been made by Mr. Cottingham, stating the dangerous state of this tower, a committee of nobleman and gentlemen was appointed to raise the funds necessary for its proper repair and for the purchase of the two houses which disfigure and conceal part of the porch, and for the convenience of which the tower has been cut away and endangered. By this means a sum has been collected not however adequate to meet the necessary expenses, Mr. Tymms therefore expressed the hope that by the liberal exertion of those generally interested in archæology, the further subscription requisite might be collected, so that the repair, which daily becomes more urgently necessary, might be commenced.

Mr. J. W. Burgon exhibited a Roman brick, discovered in making the foundations of the Post-office, St. Martin's-le-Grand, inscribed with the letters L O N. The word L O N occurs on the coins of Constantine the Great and other late emperors, and has been considered by numismatists to indicate *Londinium* as the place of mintage. This brick is, therefore, probably, in like manner, stamped with the place of manufacture—London. Several bricks of this kind are known to have been discovered.

Mr. Proctor communicated a drawing of an inscribed cross at Bishop Barton, in the high road from York to Beverley, which is supposed to have been one of four crosses marking the limits of the sanctuary at Beverley.

Mr. Alexander Nesbit communicated a report on four churches in Norfolk, which he conceived to contain portions of Saxon architecture, Roughton, Bassingham, Gresham, and Thwaite. The two first of these churches have each a round tower at the west end. In the upper part of the tower are four windows facing the cardinal points, divided by a single pier and terminating in a triangular head, formed of two lintel stones placed at an angle to each other. At Roughton the central pier as well as the jambs are built of courses of stones rudely shaped with a hammer. At Bassingham the central pier on each side is formed of a single stone; a capital is slightly indicated in the pier of the west window. Each window at Bassingham has a projecting course of small stones roughly squared surrounding it. The lower part of this tower is formed of large stones scarcely dressed. Both these structures are built of the coarse red sandstone of the neighbourhood, which is not used in the Norman or later styles when flint and oolite were substituted. Norman remains, Mr. Nesbit stated, are very rare in this neighbourhood. Only one of these churches is mentioned in Domesday-book, but we cannot infer from this that they were not then erected.

A letter was read from the Rev. H. Longueville Jones, local sec., relative to the excavations now actively in progress on the site of Segontium, stating that great stimulus had been given to the subscription in aid of this object, by the recent donation of 5*l.* from the committee of the Institute. The letter also called attention to the state of the ancient walls of Caernarvon, and Mr. Jones expressed the hope that these interesting specimens of military architecture might not be suffered to fall into decay, but that the example of Government might be followed who had repaired Caernarvon Castle with the most praiseworthy care (?)

A number of antiquities were exhibited by various members, but we have not space to particularize them.

INSTITUTE OF THE FINE ARTS.

DECORATIVE ART.

On Saturday evening last, this society held a meeting in the great room at the Society of Arts, Mr. T. L. Donaldson in the chair.

Mr. Buss read an interesting paper on the union of historical and decorative art. He alluded to the new and extraordinary stimulus given to the pursuit of high art during the last three years, under the auspices of the Royal Commission of Fine Arts, and expressed a conviction that the artists had answered the call made upon their talents in a manner more gratifying than could have been anticipated by those who were aware of the little encouragement previously held out for the cultivation of the highest department of art. The possession of a great school of historical painting by any country was not the work of a moment, and those who dwelt so much upon the superiority of the French and German schools ought to recollect the immense sums of money constantly expended during a long series of years, and the rewards of rank and honour so liberally distributed by royalty, to the eminent

professors of art in both of those countries, and contrast this with the sort of patronage afforded by Great Britain to her artists, before they entered on the comparison. Even at the present day the demand for historical art is limited to the moderate views of the royal commission, and an occasional picture for an altar-piece, while the walls, the ceilings, and the corridors of palaces, mansions, halls, public buildings, and churches, remain still unadorned with works of historical art. It is true that decorative painting is in some few instances made use of, but then the question which formed the subject of Mr. Buss's paper arises, may not the blandishments of colour and effect be united with art having a higher aim than would appear to have been thought of in Britain for the last two centuries? The paintings of the Campo Santo at Pisa, and of the Capella Sistina, and the Loggie of the Vatican at Rome, are familiar in name to every ear, and in several modern instances in Germany and France historical and decorative art have also been united. It is most desirable that some attempts of the same kind should be made in England. The ceiling of the Louvre has been painted by French artists of the very highest grade; and the walls, ceilings, and other available spaces of public buildings generally in Paris are adorned in a similar manner, while in England this style of decoration would appear to be unknown. But there is also another important application of historical painting, namely, the external decoration of edifices. For this purpose mosaic, sgrafito, or scratched work, fresco, and oil painting, are all applicable. After exhibiting some views of the decorated front of a house in the market-place of Verona, and describing the great works of art to be seen on the exterior of St. Mark's, at Venice, and in other Italian cities, Mr. Buss proceeded to argue on the absurdity of English artists considering it derogatory to the dignity of their art to engage in what might be termed "sign painting." But three instances of external ornament have come under his notice. One was the office of the *Pictorial Times;* another was a house in Oxford-street, decorated in the Moorish style, after a design by Mr. Owen Jones; and the third was a house in Great Marlborough-street, painted externally with arabesques in fresco, by no less an artist than Francis Rigaud, the Royal Academician. Mr. Wyse mentions in flattering terms the external painting on some houses in Frankfort, and at Munich some similar decorations have been exposed to the effects of the weather for a considerable period without sustaining any injury. Another mode of encouraging historical painting, which is unfortunately generally lost sight of, is to bring art to bear on the general arrangements, both internal and external, of buildings—to unite, in fact, the skill of the painter with that of the architect in the original design.

Mr. Franklin said, in a few well chosen words, that there could be but one opinion as to the applicability of art to all purposes. He regretted that the artists of England should think it derogatory to them to engage in designing for manufactures. According to his view there was nothing too high for art to reach, or too low for art to adorn. The wider the basis of art was made, the higher could the structure be carried.

The chairman said he regarded the paper which they had heard read that evening as highly interesting, not only to English artists, but to the whole sphere of society in general, for the more the fine arts were promoted the greater would be the sources of enjoyment within the reach of all classes of the public. He thought that all the high attempts of art should have some special purpose in view. Such was the case with all the great works of Michael Angelo, Domenichino, and Leonardo da Vinci on the walls and ceilings of the churches and palaces of Italy; and such it was also that constituted the great value of the sculptures of the Parthenon and the other magnificent temples of ancient Greece. He would wish to see English artists influenced more by the love of art than they appeared to be. He concurred fully with what Mr. Buss had stated as to the propriety of the architect and painter being consulted simultaneously about the design of a building, and he could assure that gentleman that members of his (the architect's) profession were most anxious for the painters' aid in their labours. It was, he believed, now the practice at Munich to build some of the large churches devoid of mouldings and all architectural ornaments, and to leave them entirely in the hands of the painter for their decoration. How far such a practice was commendable he would not say, but he mentioned it as a proof that throughout Europe, the feeling in favour of the employment of painting for the purpose of architectural decoration, was on the increase.

A statement of the losses sustained by the institution in the number of its members by death since the last session having been read, Mr. Foggo expressed his gratification at this new feature in their proceedings. He hoped the plan would be followed out, and that in the transactions of the institute which would before long be published, some notice of all deceased artists, whether members of their body or not, would be recorded in a manner calculated to raise the character of artists and the society. He then alluded very eloquently and, better still, very feelingly, to the death of Mr. Henry Shenton, son of the well known engraver, who, although too young to have earned a great reputation, lived long enough to have encountered disappointments. The group which he exhibited at the first exhibition in Westminster Hall possessed a character which but few sculptors could put forth.

The chairman paid a similar tribute to the memory of poor Müller, the landscape painter; and afterwards took occasion to remark on the low state of criticism on the arts in this country. It was most important that artists of eminence should condescend to criticise works of art in all their details. There could be no more wholesome school for young artists than would be afforded by such criticisms, and it was highly desirable that the heads of the profession should endeavour to advance art, not only by their pencil but by their pen.

Mr. Cull read an interesting communication from Mr. H. J. Stanley, dated from Munich, and giving a general review of the present state of art in Germany, with a criticism of the respective styles of all the more distinguished of the German artists; after which a well deserved vote of thanks to the chairman was passed (Mr. Donaldson was more than usually happy), and the meeting adjourned.

THE TIMBER TRADE.

The annual circulars of Churchill and Sim, Warrington, and other firms, afford much useful information on the subject, and suggest various inquiries. It appears, in the first place, that prices have varied considerably throughout the season, and that, while Canadian deals have been upon the advance, Baltic have receded in as great a ratio; "timber," properly so designated, from all quarters, except St. John's, having risen to a high point towards the close of the importation. The stocks on hand of foreign deals and battens are large. There were of deals, in 1845, 852,936 pieces, whereas in 1846, there are 1,024,577 pieces, and of battens there were in 1845, 368,246 pieces, against 499,464 pieces in 1846.

It seems a great question whether the Swedish timber which has taken the place of Quebec red pine is so good as that which it has displaced. Much of it is said to have been used for railway sleepers,—we think unwisely. A large quantity of yellow pine remains on hand.

REDUCTION OF THE DUTIES.

On Tuesday night, Sir Robert Peel announced the promised modification of the duties on foreign timber. He said, "We propose to make ultimately a reduction in the differential duty on foreign timber, so that the duty shall remain after the reduction at 15s. instead of the present amount. I think on hewn timber the duty is now 25s.; we propose to reduce it to 15s. But with the view of insuring to the consumer as great a benefit as possible, the Baltic timber trade partaking now very much of the nature of a monopoly, in consequence of the very great demand for it (the supply being hardly sufficient to meet the demand), we do not propose that the reduction shall be immediate. We propose that from the 5th of April, 1847, the period of the year we think most suitable for making a reduction of duty—we propose that from the 5th of April, 1847, the duty on hewn timber shall be reduced by 5s.; and on the 5th of April, 1848, by another 5s. With respect to sawn timber maintaining the same proportions, the reduction of duty ought to be 6s. on the 5th of April, 1847, and another 6s. on the 5th of April, 1848. With respect to other descriptions of timber, such as masts, spars, &c., he proposed to make a proportionate reduction, but whether or not that reduction might not, with benefit to the consumer, be made immediately—viz., from April 5, 1847, without any more gradual reduction, he did not wish to risk an opinion, not being quite certain whether to ensure the benefit to the consumer, the reduction should be made to extend over two years or not."

The formal resolution stands, "that from and after the 5th of April, 1847, the duties of customs now payable upon the foreign goods undermentioned shall cease and determine, and that in lieu thereof there shall be charged the following duties on such foreign goods on their importation into the United Kingdom, viz.—

	From and after April 5, 1847.	From and after April 5, 1848.
Upon timber and wood goods, not otherwise charged—viz., timber or wood, not being deals, battens, boards, staves, handspikes, oars, lathwood, or other timber or wood sawn, split, or otherwise dressed, except hewn, and not being timber or wood otherwise charged with duty—the load of 50 cubic feet ..	£. s. d. 1 0 0	£. s. d. 0 15 0
Deals, battens, boards, or other timber, or wood sawn or split, and not otherwise charged with duty—the load of 50 cubic feet	1 6 0	1 0 0
Wood—Planed, or otherwise dressed or prepared for use, and not particularly enumerated or otherwise charged with duty, &c. &c.	0 0 6*	0 0 4*

We are disposed to think the proposition a good one, as it will give opportunity for proper arrangements on the part of both buyers and sellers.

The *Times* says:—"Of the necessity for this reduction it is by this time almost superfluous to speak. The experience of the last three years, which has taught so many lessons, and added so much to the traditions of legislative wisdom, has spoken on this point with remarkable emphasis. The colonial trade has almost doubled under half its former protection, shewing the inverse ratio in which this much vaunted blessing benefits commerce. The price of all kinds of timber is now so high, that we should imagine no writer would be so hardy or so ignorant as to consider it the special duty of the nation to keep up the colonial prices. However it may fare with other interests, there is a greater interest than all at stake—the interest of those many undertakings on which the domestic industry and capital of this country are employed, and on the cheap and successful execution of which our prosperity partly depends. Expanding towns, streets rebuilding, new suburbs for the artisan, new cottages for our labourers, public edifices, railroads, tunnels, bridges, viaducts, stations, shipyards, warehouses, pits, and mines, are all on the increase, and bid fair to increase still more; they all demand every fiscal assistance compatible with the necessities of the state. The infinite branches of one vast speculation stretch over the land, and bind all its inhabitants in one vast community of interests. The least paralysis or check will be felt not by one, but by all. While it is the stern duty of legislative prudence to restrain an ardour or a cupidity which compromises itself and entangles itself beyond its real powers, it is not less the duty of legislative kindness to afford every possible facility for useful, legitimate, and *moderate* enterprise."

Railway Committees.—Mr. Charles Buller, and some other members, advocated in the House of Commons a few nights since the appointment of a standing commission or board to relieve the Commons' committees of the judicial part of the railway business.

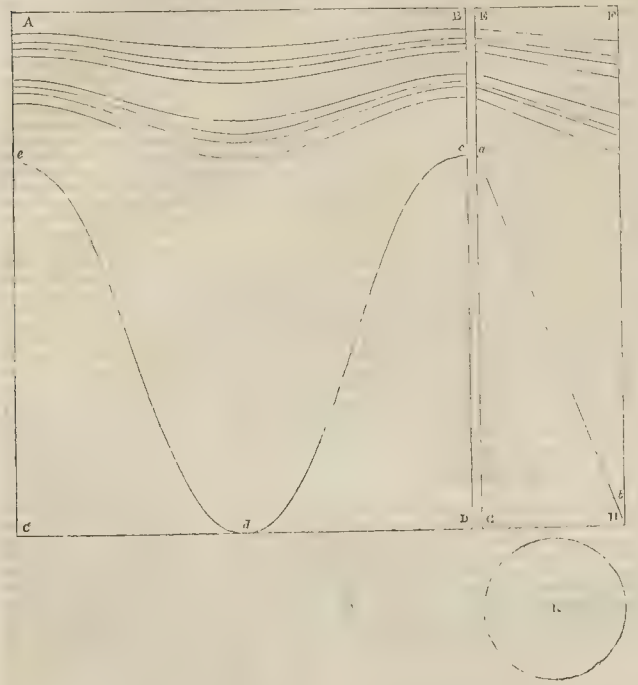
New Gas Works are being constructed at Scarborough on an improved plan by Mr. G. Malam, who is both the contractor and inventor.

* Per foot of cubic contents, and further for every 100*l.* value, 10*l.*

DEVELOPMENT OF THE PLANE SECTIONS OF CYLINDERS.

In the accompanying diagram, ABCD is the development on a plane of the surface of the cylinder EFGH, whose end or circular section is K.

If a cylinder is thus cut square at the ends, the sections will be circles, and if the cylinder is rolled on a plane, the circumferences of the circles of the ends will roll along right lines parallel to each other. But if a cylinder is cut obliquely by a plane, say *a b*, the circumference of the plane section will be an ellipse, and while the cylinder is rolled on a plane the circumference of the ellipse will roll along a waved line *c d e*. The greater the obliquity of the plane section, the more the wave line will deviate from the right lines described or rolled by the square ends or circular sections.



Here is then a power of obtaining from a cylinder any gradation of this character of wave at will. The waves of development of the elliptic edges of oblique plane sections of cylinders, are all in four parts respectively symmetrical—that is, one quarter of any such wave contains all the variation of curvature in that wave. The curvature changing from some finite radius to infinite radius, in some finite distance.

In the accompanying example is shewn, how a cylinder may be cut by a series of oblique planes, so that the development of them would give a series of waves which had the ancient Greeks known, they might have applied to the Ionic Capital. This would be proceeding on principle—principle which will admit of the strictest investigation, and in execution of the utmost degree of perfection or accuracy.

It may be here observed that there is a beautiful simplicity in the way that tangents to this class of waves, at the points of contrary flexure, may be determined with very great accuracy, so as to make portions of them applicable to many purposes, when a fair continuous line is required from a right line to a curve, and from a curve to a right line.

To determine the centre of curvature for the quickest parts of any wave of this class, say at the points *c*, *d*, and *e*, is submitted as a question (and many others might be submitted) to your mathematical readers.

JOSEPH JOPLING.

29, Wimpole-street, 31st Dec. 1845.

RAILWAY DEPOSITS.—It is said Glyn and Co.'s bank, the largest railway bank in England, has paid into the Bank of England deposits to the amount of 1,500,000*l.*; Jones, Lloyd, and Co., 950,000*l.*; and Masterman and Co., 600,000*l.*

SOCIETY OF ARTS.

THIS society met on Wednesday evening, 28th inst., W. F. Cooke, Esq., in the chair. The first paper read was by Mr. Claudet, on some principles and practical facts in the art of photography, and contained a series of scientific researches, and communicated several important discoveries in this curious field of research. This paper was a sequel to a communication read by Mr. Nott on a previous evening, in which he had endeavoured to establish that the rays which make the photographic picture are different from those which produce light, and this he thought he had proved by means of pictures formed with a polarized ray reflected from parallel plates. Mr. Claudet contended that the rays of light are the agent. He had made many experiments on forming pictures by reflection, but had not been able to discover any essential difference betwixt them and such as are formed by the direct ray.

His next series of experiments regarded the photographic qualities of light of different colours, blue proved to be the most powerful photographic agent, yellow the weakest. One of the most beautiful experiments by which this was proved consisted in throwing the prismatic spectrum on paper, and on the silver plate, the colours being marked on the paper and the effect remaining on the photographic plate. He thus shewed that the photographic prism presents effects very different from the apparent intensity of the prismatic spectra. A remarkable specimen was shewn of a silver plate on which the rays of light had brought out a powerful picture, without the action of mercury.

Another series of experiments made, was on the photographic action of the rays of the moon, which had formed a powerful picture by five minutes' exposure. He hopes to be able to obtain a very accurate daguereotype of the moon's surface, *drawn by* herself on a silver plate.

Mr. Rettie's paper on a new code of signals and the construction of the signal lamps was next read, and illustrated by models and experiments. By the simple use of a pair of slides attached to an ordinary lantern, a combination of signals is effected, by which the loss of life and property by the collision of steam-boats and sailing-vessels, might be cheaply avoided.

PAVING BOARDS v. THE BUILDINGS ACT.

MR. EDITOR,—You will oblige by informing me through the columns of THE BUILDER, whether the several district surveyors are putting the new Buildings Act into operation as to shop-fronts and their projections, or whether the powers exercised by the paving boards of the different parishes supersede the authority of the district surveyors and the new Act? The insertion of this in THE BUILDER, with your answers to the two questions above-named, will oblige a constant reader.

J. H. S.

*** The referees awarded, in the case of a stone eagle set up by the Messrs. Baily of Royal Exchange Buildings (see THE BUILDER, p. 577, Vol. III.), "That although by virtue of the provisions of the Metropolitan Buildings Act, cited in the said requisition, certain projections may project beyond the general line of fronts in any street or alley, subject to the restrictions therein set forth, yet such provisions are to be deemed to be permissive to such extent only, as any other law may not prohibit the subject matter thereof; and that the provision in Section 5 of the said Metropolitan Buildings Act, which requires that the provisions of that Act be observed, notwithstanding any thing contained to the contrary in any other Act of Parliament then in force, is to be deemed to apply to such provisions of the Metropolitan Buildings Act as are obligatory, and not to such as are permissive only."

THE COMPETITION CARTOONS.

MR. FRANK HOWARD has addressed a letter to us (on our refusal to insert his previous communication), which is the most extraordinary specimen of bullying lying insolence we ever had the fortune to receive. We beg leave to inform this person we are not to be driven from our course by his threats, and have no intention of giving increased circulation to the unwarrantable insinuation commented on by our correspondent, "An Old Writer," by reprinting it. The *Athenæum* is accessible to all, is read by all, and all may therefore see whether or not Mr. Howard's meaning was perverted by "An Old Writer."

As to the falsehoods that he *threatens* (forsooth) to make public in the event of our refusal to insert his letter, although personally indifferent to them, we offer him a timely word of caution. He has already exposed himself to the derision of his contemporaries: let him take care that he does not entail upon himself their contempt. We are not anxious to assist his desire to thrust himself into public notice, but if we are *forced* to speak again on the matter, it shall be loudly and to the purpose.

PROPOSED IMPROVEMENT IN PICCADILLY.—We have already referred to the very great improvements which have been progressing for some time past in Piccadilly; the street has been considerably widened by throwing into it a portion of the adjoining park, and a neat iron railing has been erected, through which some cheerful scenery may be viewed even by pedestrians. These improvements being now nearly finished, a correspondent is desirous of drawing attention through the medium of our columns to the pleasing effect produced by allowing the row of trees to remain along the distance from Park-lane to Down-street, and suggests the desirableness of continuing the row some distance further east, even to Cambridge House. We cordially join in the suggestion, and cannot imagine any valid objection to its adoption.

DUTY ON BRICKS.

Mr. Editor,—I am sure you will be doing the public a great service, and that portion more immediately connected with building in particular, if you urge the necessity of a repeal of the excise upon bricks. This tax is paid upon an article produced by ourselves, and which everybody directly or indirectly consumes; therefore should the loss of this duty be felt by the minister, I am sure none could or would complain of an increase of direct taxation, which sooner or later must ensue. All bricks good, bad, and indifferent, pay the same duty. All experimentalists who attempt new modes of making bricks, should their bricks on first experiments turn out bad, suffer not only the loss of such failure in the ordinary way, but have to pay a tax to the Government for making the attempt. This has been severely felt by some landowners, who have attempted such improvements. I know a person who really commenced this on a large scale with the best possible motives, viz., that of employing the surplus poor on his estate, and from a love of art, but who was obliged to give it up, from the continued drain upon his purse for the excise upon bricks, which in the course of his experiments turned out failures.

Moreover, the law at present has a tendency to confine us to the use of a brick of a particular form and dimension, and to keep the brickmaker behind the spirit of the age. Let this law be repealed, and you would soon have bricks of a better "body" and of every size and form both for ordinary plain buildings, and for every kind of decoration a brick can be applied to, also of a better colour.

All the architects who are raising an outcry against the use of cements, should seize this opportunity of getting the word *brick* into the new measure proposed by Sir Robert Peel, and not cease agitating until they have obtained a repeal of this odious war tax, for it was first levied for the necessities of the war in the year 1784, and since that period bricks have greatly diminished in quality, and the skill of the workmen who lay them has certainly not kept pace with that shewn by all other classes engaged in building.—I am, Sir, yours, &c. Δ

WHAT IS IN THE TIBER?

We mentioned some time ago, that two or three Englishmen had offered to cleanse this celebrated stream, by dredging, and to take whatever they might find in it, in lieu of other recompense. The "Art-Union," in an article on the subject, says:—

"In reflecting upon the history of this great "Mistress of the World,"—embroiled with foreign foes, and torn by internal commotion—we feel certain that this river, running in the midst of a population of millions of men, must of necessity, both by accident and design, have been made the receptable of a host of valuable and curious things.

The Tiber had once four bridges passing over it: near one of them, the ancient Pons Janiculensis, Ancus Martius built a splendid citadel: *three* of these are destroyed, and their remains most likely lie undisturbed. The Ponte Rotto is still a highly curious ruin; near to it are the remains of the magnificent house of the great and unfortunate Rienzi, which appears to have been built in the eleventh century, and made up of fragments of an earlier date: its beautifully sculptured exterior excites general admiration. Close by, is the splendid ruin of the Temple of Vesta; the Church of St. Maria, built on the ruins of the Temple of Ceres and Proserpine. At the foot of the Ponte Rotto is the Grotto of Cacus, the remains of the Sublician Bridge, the Prata Murcia, the situation of the Camp of Porsenna, the mouth of the great Cloaca, the island of Esculapius—which, as is well known, once contained two splendid temples.

We mention these remains as affording an idea of the architectural treasures with which the banks of the Tiber were once enriched.

A variety of circumstances favour the notion that vast treasures in taste lie bidden in the alluvial depths of the Tiber; for, in times of commotion, whatever was engulphed therein was not likely to be removed while the ferment remained; and, from the indolent and unenterprising spirit of the Italians, it is probable no effort was ever made to recover what was lost."

INSTITUTION OF CIVIL ENGINEERS.

February 3rd.—Sir John Rennie, president, in the chair. The paper of the evening was by Mr. W. H. Barlow, "On the existence (practically) of the line of equal horizontal thrust in arches, and the mode of determining it by geometrical construction." The author cummenced with a review of former theories on the subject by David Gregory, La Hire, Attwood, Coulomb, and Moseley. With the latter he agreed in the principle, that the line of resistance must be contained within the thickness of the arch, at every joint, and must meet each joint within the limiting angle of friction. The analogy between the catenary, the line of pressure of Whewell, the line of resistance of Mosely, was then pointed out, and the practical existence of the curve of equal horizontal thrust, together with its nature and properties was successfully illustrated by various models. The mode of obtaining the curve by geometrical construction was then shewn, together with formulæ for obtaining the necessary thickness of abutments, &c. Numerous drawings and diagrams illustrated this part of the subject. The paper concluded with a reference to the various circumstances in which arches were placed in practice, and the modifications to which theory was consequently subject. It was stated that more than thirty bridges on the Manchester and Birmingham railway had been erected, according to the principles described, with perfect success, and with considerable saving in brickwork. In the discussion which ensued the speakers accorded in attributing great credit to the author for his accurate mathematical investigation, and the judicious application to practice.

Miscellanea.

Meeting of Masons.—Last week, a meeting of the operative stone-masons was held in the Concert-hall, Lord Nelson-street, Liverpool, for the purpose of taking into consideration whether an advance of wages, or a reduction of the hours of labour, would be of the most permanent benefit to the trade. The attendance was numerous, there being upwards of 600 persons present. Mr. George Dobson, an operative, presided. Mr. Carter, the secretary, moved a resolution to the effect, that the condition of the masons of England was such as required considerable improvement, both morally, mentally, and physically, and they were also of opinion that a reduction of the hours of labour in the summer months to nine hours per day, was better calculated to effect such improvements than an advance of wages, and they pledged themselves to use their utmost exertions to carry the arrangement into effect. A second resolution stated, that in order to carry out the spirit of the foregoing resolution effectually, it was necessary that a good understanding should exist between every member of the trade, and to effect this it was essential that all who were not members of the masons' society should enter it as early as possible, and that a committee be appointed by that society to convey their intentions to the employers of Liverpool and vicinity.

St. Simon's Church, Liverpool.—Relative to this proposed church, we learn from the *Liverpool Mail*, that within the last few days the building committee, out of ten plans sent in to them by the principal architects of the town, have unanimously selected the one designed by Mr. John Hay, of St. George's Chambers. Having ourselves examined Mr. Hay's plans, continues the *Mail*, we take leave to compliment the committee upon the correct taste they have shewn in selecting them. If the intended building in any degree comes up to its paper drawing, it will be both an ornament and credit to the town, and, we may add, to the Church also: there will be a character, *a tone* about its external appearance—the graceful spire, the high-pitched roof, the splendid windows, that will arrest attention, and tell out to what and *Whose* service it has been dedicated. The porch of the principal, or western entrance, will be divided from the body of the church by a handsome screen, inscribed with appropriate texts, and fitted with plate-glass panels. The entire ground floor of this church will be fitted with open benches.

New York; the Paving, Scavenging, &c.—In scavenging and cleaning the streets, as well as soughing, paving, &c., New York is far behind Manchester and the generality of our large English towns. The pavements in the middle of the streets are composed of irregular boulder stones, with gaps or holes every now and then, enough to break a horse's leg if unused to them. The grids being often stopped by the floatings of vegetable matter, ashes, &c., which are thrown into the streets, cause the water to accumulate and freeze, and there is great danger even in the day time, if you are not careful—but especially at night—of tripping up your own heels by treading on the ice. The flags also, at the sides of the streets, as well as the brick pavements where flags have not been put down, are very uneven, compared with Manchester, Leeds, Liverpool, London, &c., leaving holes for the lodgment of water and ice, so as to require all your care in order that you may not fall. Pigs are everywhere to be seen in the streets, and are, in fact, the best scavengers in New York, by taking away the offensive vegetable matter, so that (at this time of the year at least) the nasal organs are not at all offended. I have been told more than once since my arrival here, that one important reason why the pigs are not prevented from traversing the streets of New York is this:—That any man who would advocate such a course, would offend the labouring classes so much, by thus interfering with the liberty of their pigs, as to forfeit their votes and support in the attainment of municipal and other offices. I have little doubt that time and experience will remedy these defects, but at present they form drawbacks to the splendour of New York.—*Memoir of B. Braidley, Esq.*

Another Accident at Paris.—A terrible accident happened on the 31st ult., in the workshops of Messrs. Chagot, Brunet, and Co., 30, Rue de Bientaisance. Experiments were made with an iron framework destined for the roof of the terminus of the Orleans-Tours railway, made after the plans and models of the engineers and architects of Government. One experiment of burthening the surface of the framework had perfectly succeeded. It was then intended to calculate the strength of one single king-post by attaching to it wooden scales, charged with weights, when, at once, the whole framework came down. The workmen could not retire quickly enough, and twelve were dangerously wounded. Mr. Brunet himself was mortally wounded, and shortly afterwards died. What Mr. B. wanted to experimentalize upon were three pairs of *principals*, of cast-iron. Hitherto, in France and England, wrought-iron has been used, whose greater elasticity is averred, as it has to stand both flexion and traction. It will be matter of risk now to put the whole iron framework on the top of the terminus—being an elevation of six metres, with thirty-six cast-iron pillars to support it. Then, besides the weight which is to be borne by it, the constant vibration occasioned by the passing of the trains is to be taken into account. Now, concludes a worthy Paris contemporary, the falling of such a roof over a whole train of passengers would be the most awful catastrophe ever recorded in railway history.

Improvements in the Electric Telegraph.—For some time past the attention of Messrs. Wheatstone and Cook in this country, and of M. Matteueci on the continent, has been directed towards ascertaining whether one conducting wire for telegraphic communication be not sufficient, instead of two, heretofore used. A great variety of experiments have been made and some novel phenomena connected with the electric fluid elicited. The result is a most perfect confirmation of the theory entertained *à priori*. A telegraph consisting of a single wire is now in operation on the Edinburgh and Glasgow Railway, and, according to *The Scotsman*, "works beautifully." A distinct message can be conveyed and an intimation that it has been received returned in one minute, and a simple intimation notifying the presence of the operator can pass and repass in two seconds.

Restoration.—The old church of Binbrook, St. Mary, Lincolnshire, which has been in ruins 20 years, will be shortly rebuilt.

The Lakes.—By Midsummer next, visitors to the Lakes of Cumberland will be able to reach the same by railway.

INTERMENT OF THE DEAD IN CHURCHYARDS.—Mr. Anderton, one of the Common Council members for Farringdon Without, has given notice of the following motion, which will be discussed in the next court:—"That this court do petition Parliament to pass an Act, to prohibit interment of the dead in churches and churchyards within the city of London and other large cities and towns, and prevent the violation of graves. The hon. member has also given notice that a petition be presented to both houses of Parliament to pass an Act to prevent nuisances arising from the smoke of steam-engines and furnaces in manufactories and buildings situate in and near the cities of London and Westminster, and from steam-boats on the river Thames.

MEETINGS OF SCIENTIFIC BODIES.

During the ensuing week.

MONDAY, Feb. 9.—British Architects, 16, Grosvenor-street, 8 P.M.; Geographical, 3, Waterlooplace 8½ P.M.

TUESDAY, 10. — Civil Engineers, 25, Great George-street, 8 P.M.; Freemasons of the Church, Newport-street, 8 P.M.

WEDNESDAY 11. — Graphic, Thatched House Tavern, 8 P.M.

THURSDAY, 12. — Royal, Somerset House, 8½ P.M.; Antiquaries, Somerset House, 8 P.M.; R. S. Literature, 4, St. Martin's-place, 4 P.M.

FRIDAY, 13. — Royal Institution, Albemarle-street, 8½ P.M.; Philological (London Library), 12, St. James-square, 8 P.M.

Tender.

For building a public-house in Lewisham-lane, for Messrs. H. and V. Nicholl: Mr. R. P. Browne, architect.

Travers	£886	0
Penny	938	0
Piper	996	0
Pilboe	999	0
Haynes & Co.	1,032	0
Trego	1,035	0
Hill	1,037	0
Wade	1,055	15
Goodwin	1,060	0
Metstead	1,072	0

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For the erection of the Maningtree station, and for the stations and lodges at Bentley and Ardleigh, for the Eastern Union Railway Company.

For the erection of the Monastery of the Holy Trinity, near Market Weighton.

For the erection of a lighthouse of Portland stone at Shoreham.

For stone pitching the yards of the Union Workhouse at Carton with pebbles. There are about 1,100 square yards to be done.

For the execution of the works of the Churwell contract for the Leeds, Dewsbury, and Manchester Railway Company, being in length of about 2½ miles.

For the execution of the works of the Dewsbury contract for the Leeds, Dewsbury, and Manchester Railway Company, being a length of about 3½ miles.

For the supply of 100 wrought-iron bedsteads for the Portsea Island Union.

For the erection of a Tennis Court at Leamington.

For the execution of various works on the Caledonian Railway.

For the supply of the 1,000 tons of blue Guernsey granite, of the best and hardest quality, to the trustees of the Middlesex and Essex turnpike-roads.

For the supply of coke for one, two, or three years to the Manchester and Leeds Railway Company.

For the supply of 150,000 sleepers to the Midland, Nottingham, and Lincoln, and Syston and Peterborough Railway Companies.

For the execution of three several contracts on the South Wales Railway, being a distance of about 14 miles, and comprising tunnels and a large amount of earth work.

For the supply of 35,000 slow-grown larch sleepers to the Manchester South Junction and Altringham Railway Company.

For the execution of the alterations on the Kilmarnock and Troon Railway.

For the supply of 20 six-wheeled locomotive engines and tenders, of first-rate power and workmanship, to the Midland Great Western Railway of Ireland.

COMPETITION.

The Directors of the Eastern Union and Ipswich and Bury St. Edmunds Railway offer a premium of 100 guineas for the most approved plan and estimates of a joint passenger and goods station at Ipswich; and a further premium of 50 guineas for the next best.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At the Methuen Arms Inn, Corsham, Wilts: A large number of valuable oak, ash, and elm timber trees, of unusual dimensions and clean growth.

At the Red Lion Inn, Worksop: A large quantity of very valuable oak, larch, elm, and beech timber trees now standing.

At Cob's Wood, Wimpole: About 12 acres of capital underwood, from 18 to 20 years' growth, and a quantity of ash poles.

At Chilton-street, Clare, Suffolk: 310 very superior larch, fir trees from 40 to 60 feet in length and of 35 years' growth.

At Eye, Suffolk, 90 Willow, Poplar, Oak, Ash, and Sycamore timber trees, of good dimensions, and 1,000 Spruce, Larch, Ash, Oak, and Elm stands and poles, of thirty years' growth.

At the Rose and Crown Inn, Nether Stowey, Somerset, 500 Maiden Oak, 129 Maiden Ash, and 120 Elm timber trees, now standing, they are of large dimensions and excellent quality.

At Novar, Ross-shire, upwards of 10,000 Scotch Fir timber trees, now standing and fit for railway purposes.

At Great Barton, near Bury St. Edmunds, between 1,100 and 1,200 Larch and other Firs; a few useful Beech of thirty years' growth, &c.

At Hull, a cargo of Larch and Scotch Fir poles.

At Mistley, Essex, an extensive assortment of Oak, Ash, Elm, and soft-wood timber.

At the Union Arms Inn, Child Okeford, Dorset, 41 very superior maiden Ash timber trees, now standing, &c.

TO CORRESPONDENTS.

"Lime Kilns."—*A country builder wishes to know "if any improvements have been made on the old dome kiln."*

"T. L. C." *must be a pupil before he can obtain a situation as clerk.*

"A Builder."—*We cannot venture to put a price on work we have not seen. Go to a surveyor.*

"T." *had better defer the consideration of the other forms.*

"W." (Hoxton).—*The tenant can remove them.*

"Clement." — *We will look to the building named.*

"F. Mulholland" *has our thanks.*

"Volens."—*The sketches sent are too slight for our purpose. We should be glad to have "geometrical drawings of the stone pulpit."*

"W. H."—*For the forcing pit recently formed in the garden of a house, as described (admitting the pit to be a "building,") the district surveyor should not claim a larger fee than ten shillings.*

"Bronzing." —*A correspondent asks for the particulars of a bronze wash for gas-fittings, and directions for its use.*

"E. S."—*In the absence of information, we are compelled to decline the drawing with thanks.*

"T. I. M."—*Declined with thanks.*

"J. C. W." *shall appear.*

"T. J." (Norwich.)—*Address the secretary, Mr. James F. Saunders, Eastern Union Railway, Ipswich.*

Next week. — "F. W. A.," "W. A. L." *Received.*—"Your Old Subscriber," "M. A.," "W. P. S.," "Young Architect," "W. Dredge," "P. C. Alderton;" "South Australian Papers," "The Archæological Journal," "Pictorial Gallery of Arts," Part XIII.; "Old England's Worthies," Part II.; Machinery as it affects the Industrial Classes," by W. Carpenter; "The Art-Union," No. 91; "The Year Book of Facts," 1846 (Bogue, Fleet-street); "Statistics and Calculations connected with Railways, &c.," by S. Salt (Bradshaw and Blacklock, Fleet-street).

ERRATA.—In the "Foreign Intelligence" last week it was stated that there was no English work on Diocletian's palace at Spalatro (mis-printed Spalato). There is, however, a noted work on this building by Adams.—In the first page of advertisements last week, the address of Mr. J. Thomas, architect and surveyor, is stated to be 47, Blackman-street, *Bow*, instead of *Borough*.

*** Correspondents are requested to address all communications to the EDITOR, York-street.

ADVERTISEMENTS.

TO ARCHITECTS, BUILDERS, AND THE PUBLIC IN GENERAL.

C. DEBAUFER and SON beg to call the attention of architects, builders, &c., to their general assortment of Gas Lamps, Pendants, Hydraulic sliding Pendants, Gas Brackets, Pillars, and every article connected with gas apparatus, at their Manufactory and their Rooms, 10 and 11, Creed-lane, Ludgate-street.—A liberal discount allowed to architects and builders.

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"This Instrument will enable Artists and others to make any Drawing, whether from Nature or Models, in perfectly true perspective, so that a likeness or landscape may be taken in a few minutes absolutely perfect. It is used by her Majesty's Royal Sappers and Miners, Chatham. To Travellers it would be found serviceable, since it can be employed without the knowledge of drawing."—*Art Union.*

Price 18s. and 26s. Apply for Agents to BENJAMIN WEST, 2, St. James's-walk, Clerkenwell.—Sold by BARRITT and Co., 173, Fleet-strett, London; GRIFFIN and Co., Glasgow, and by all Fancy Stationers, &c.

POLONCEAU'S BITUMEN PAVEMENT for paving Foot walks, Terraces, Garden walks, Stables, Coach Houses, Granaries, Corn Stores, and Salt Warehouses. For the exclusion of Damp and Vermin in Basements it is particularly adapted, and for Roofing Dwelling Houses, Porticos, Balconies, and Sheds.

Price 3s. 6d. per square yard.

BITUMEN for covering the Arches of Bridges, Culverts, &c. &c. on Railways and other places (with instructions for laying it down), may be had at the rate of 45s. per ton, by applying to JOHN PILKINGTON, 15, Wharf-road, City-road.

TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorized CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced. I. FARRELL, Secretary.

Stangate, near Westminster Seyssel Asphalte Company.

Bridge, Jan., 1845.

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specification, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; a boy can use it as well and effectually as the best workmen: it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 20s. per gallon.

STEPHENS'S LIQUID OAK, MAHOGANY, ROSE, and SATIN WOOD STAINS, for Staining various sorts of Inferior Woods, so as to give them the appearance and character of the more costly and ornamental kinds; also for reviving the natural colour of Wood Carvings and Panellings, and other ornamental Wood Work, when such has become faded from age or other causes.

IN THE BUILDING AND DECORATING NEW CHURCHES, where it is desirable to give to the cheaper kind of Woods the appearance of Antique Oak, or to make Deal assume the character of Oak Panelling, whereby the effect of the more costly may be produced by the use of a cheaper material, these Stains will be found more effective than any means hitherto employed.

IN OLD MANSIONS AND HALLS, where the Wood Carvings and Panellings have faded, the application of these Stains will be found to revive and bring back the rich natural colour, and which colour may be varied from the lighter to the deeper shades of the most Antique Oak.

The BIRCH WOOD, which has a fine natural grain, with little colour, is particularly suited to the application of these Stains; and the appearance which it assumes after Staining is so near that of the natural wood, that is is only when the grain and colour of the latter is particularly fine that it is preferred. Beech, Birch, Elm, Ash, and other Woods, English and Foreign, receive the Stains and produce various imitations.

For the exposed Timbers of the inside of the ROOFS of CHURCHES, for which north country Timbers and Deals are generally used, by brushing them over with the Stain, which operation is very rapidly, and of course economically, effected, the appearance of an Oaken Roof will be produced. For colouring the backs of the Seats, Pews, the fronts of Galleries, the Pulpit, &c., it is equally advantageous.

Prepared by HENRY STEPHENS, and may be obtained at 54, Stamford-street; of Mrs. ROWLAND, Painter and Glazier, 3, Broad-street, Golden-square; and at the Office of "THE BUILDER," 2, York-street, Covent-garden, at which places specimens of their application may be seen.

The Builder.

No. CLVIII.

SATURDAY, FEBRUARY 14, 1846.

A VISIT to the Courts of Law, albeit tiresome and vexatious in the highest degree when kept there day after day, constrainedly in suspense, is not always useless to those connected with the matters to which our attention is more especially directed. During a forced loiter there last week, two or three questions were settled, of which a brief note may not be altogether uninteresting.

In the Common Pleas, on Tuesday, a case was decided which should serve as a warning to workmen and others, that negligence and want of care may entail pecuniary punishment, besides feelings of self-reproach. A publican at Woolwich having occasion to lower some sheets of lead from the top of a house, rolled them up and *threw them over* one at a time, merely saying "one, two, three, and away." One of these rolls fell upon Elizabeth Wales, a child of eleven years of age, and the consequence of the injury was paralysis of the left side. An action was brought to recover damages, and the jury awarded 120*l.*

In the same court, two days afterwards, the "smoke nuisance" came under consideration. Mr. Rich (plaintiff), the occupier of a house, No. 10, Palace-row, New-road, alleged that Mr. Busterfield (defendant), possessed two yards, wherein he had wrongfully and injuriously erected two shops, having two chimneys, near to his premises, and that he, lighting fires therein, had caused a great quantity of smoke to enter the plaintiff's house, whereby it became unhealthy, and much damaged in value. To this the defendant pleaded, first, not guilty; and, secondly, that at the time of the grievances complained of, the defendant was not possessed of the shops in question.

As this case involves a question of considerable importance to many persons, we avail ourselves of a report of the trial which afterwards appeared, and give the particulars at some length.

It appeared from the evidence, and by a model which was produced in court, that in front of the house, No. 12, in Palace-row, and consequently at no great distance from the premises of the plaintiff, one of the shops in question had been erected about the year 1841, and was, together with the adjoining premises, in March or April last, assigned to the defendant. Subsequently to this, the second of the shops alluded to was erected, and both on that and on the former shop the defendant caused a chimney to be placed. These chimneys were about 20 feet high, the shops being not more than 40 feet, and the house of the plaintiff consisted of three stories. The defendant had let these shops to two tenants, at 13s. per week; and it was whilst in their possession, and not before, that the nuisance complained of existed; and it appeared in the course of the trial, that during nine months only half a ton of coals had been used in them, coke having been principally consumed. Two witnesses, however, were called, who proved that since the erection and use of the chimneys, and never before, there had been a very great difference in the enjoyment of the plaintiff's house. That when the wind was from a particular quarter no one could sit in the drawing-room on the first floor, whilst the windows were open, from the quantity of smoke and blacks admitted. It was also further proved by one witness that the premises, in consequence, had become deteriorated in value to the extent of from 15*l.* to 20*l.* a year. Numerous other chimneys of a somewhat similar description, it was stated, were in the immediate neighbourhood, and that the plaintiff himself had several on his premises at the back of his house, and one of them connected with a ten-horse power steam-engine. The plaintiff's house had been built for more than twenty years before the erection of the chimneys.

Mr. Serjeant Byles and Mr. Wordsworth for the defendant, submitted that the plaintiff should be non-suited. The declaration alleged that the nuisance had taken place during the possession of the shops by the defendant; and the evidence was that they were then occupied by tenants to whom they had been let, and if any one was liable the tenants were, who alone caused the smoke. Another objection was, that every man had a right, at common law, to have chimneys on his house; and, by their means, was perfectly free to use the atmosphere for domestic purposes. The other side contended, that it must be taken as clear that the shops in question had been let for the purpose of being used in the ordinary way, and that, therefore, the defendant was responsible for the acts of his tenants. The defendant's common law right to use his chimneys must be limited to a reasonable use, without causing an injury to the property of his neighbour.

Mr. Justice Erle said that both points should be reserved for the opinion of the full court, and proceeded to sum up the case to the jury. The law was clear that no man had a right to use his property so as to injure the property of his neighbour; but there was also an equally clear legal principle, that a man may make a reasonable use of his own rights of property in a convenient place, though it be to the detriment of his neighbour. In the present case the comfort of the plaintiff's house appeared to have been interfered with, and its value lowered; still no action would lie for that injury if it proceeded from a reasonable use on the part of the defendant in a convenient place. There were many parts of the metropolis where various offensive trades were carried on, and there it would not avail for one tradesman to say to another, your business is offensive; but if a trade of such a description were set up in a different place, a jury would no doubt say it was a nuisance. The attention of the jury in the present case must, therefore, be directed to the question of whether, in their opinion, the defendant had done no more than the adjoining owners of similar properties had done when exercising their reasonable rights in a convenient place. Contemplating the *locus* of the properties, as it appeared from the model and the evidence before them, it would be for the jury to say whether the defendant had done more than exercise a reasonable right in a convenient place, and if they thought that he had, and that the plaintiff had sustained substantial and not mere fanciful damage, then their verdict should be for the plaintiff; if of a contrary opinion, they should find for the defendant.

The jury retired, and after an absence of some time returned into court with a verdict for the plaintiff—Damages, 40s. and costs 40s.

While this trial was going in the Common Pleas, they were engaged in the Court of Exchequer in deciding that a man should not give his assent to an encroachment on his property to-day, and (having allowed the applicant to act upon that assent) withdraw it the next, and require the work to be undone.

The plaintiff and defendant were next door neighbours, living respectively at 22 and 21, Shaftesbury-terrace, Pimlico. In August, 1844, the defendant put up a new front to his shop, and extended the corner of the entablature three or four inches over the plaintiff's house, an occurrence not uncommon. Before all the alterations were completed, the plaintiff complained of the encroachment, but nothing more was done till September, 1845, when the plaintiff renewing his complaints, the defendant proceeded to remove the projection, and had partially done so, when the plaintiff's attorney called with a writ. The defendant then said that he was about to remove the encroachment, and would satisfy the plaintiff, but if a writ were sued out against him, he would "have it out." The writ was not then served, but was served a month subsequently, on his doing nothing more towards the removal of the cause of complaint.

The defendant, who began, proved that before he made the alteration, the plaintiff consented to it. The plaintiff's counsel then called evidence, which only went to shew that he subsequently complained of the alteration, but did not negative the direct evidence on the part of the defendant.

The Lord Chief Baron left it to the jury to say whether they believed the evidence for the defendant, for if so they should find for him. The plaintiff might have revoked his licence to make the alteration, but there was no part of the pleading to meet that state of facts. Upon the present state of the pleadings, if he once assented to this trespass, the jury should find for the defendant, and for the defendant they accordingly did find.

Walking out of the court into one of the railway committee rooms in the cloisters (the North Staffordshire Railway), we found the excellent official referee, Professor Hosking, Mr. Tite, Mr. Stephenson, Mr. Vignolles, and a dozen others endeavouring to settle the precise meaning of the word "soffit," as applied to an arch. A petitioner against the bill, objected to a measurement on the plans and sections, which was given as taken from the "soffit" of an arch; this, he contended, was an incorrect description, as the "soffit" meant the whole of an under surface, either of an arch or flat flooring, and not any one given point. The measurement should have been given as taken from the "crown of the arch." He submitted therefore, that the plans and sections were not correct in this particular and he quoted works on architecture, and called witnesses in support of his objection. Mr. Tite and Mr. Hosking both stated that by "soffit" they understood the whole of the interior surface of an arch from springing to springing, and not the top or crown. One said, that with such a point given to him he should consider himself at liberty to take the measurement for the *datum* line, from any part of the interior surface of the arch, and that, therefore, this was a fluctuating and not a fixed point. On cross-examination, most of the witnesses admitted, that from this word being used in reference to a level, they might probably suppose it meant the top of the arch.

In support of the bill, Mr. Rendell contended, that among practical engineers the word "soffit" was always taken to mean the apex of the intrados, and that the use of the word "soffit" in general was sufficient to describe the head way in navigation. The witness observed, that among practical engineer

there could be no doubt of the usual acceptation of the word "soffit," though there might be a question raised on it among "schoolmen." Mr. Robert Stephenson thought so too. After some deliberation,

The Chairman stated, the committee had considered the point in question, and it appeared to them that the word "soffit" had been used in the two different senses alleged, viz., to mean the whole of the interior surface of an arch, and the highest point of that surface, but considering that repeatedly, in Acts of Parliament, it had been used to signify the highest point, and also that no engineer had any doubt respecting that acceptation, they had decided that in this case the standing orders had been complied with.

Without any desire that a bill should be stopped simply on such a point as this, or questioning for an instant the decision of the committee, we cannot avoid saying that the architects were undoubtedly right, strictly speaking, and the engineers wrong, notwithstanding the remark made by one of the latter, that none but a *tyro* could suppose the word "soffit" meant any other portion than the top of the arch! Further, we deprecate the misuse, or want of precision in the application of architectural terms, as tending to lesson the efficiency of our nomenclature, which is at the best most meagre, lax, and unsatisfactory.

REMARKS ON MR. LUCAS'S RESTORATION OF THE PARTHENON.

BY PROFESSOR DONALDSON.

An ordinary meeting of the Royal Institute of Architects was held on Monday last, Mr. Tite, vice-president, in the chair, when Mr. R. C. Lucas read an essay on the Parthenon, with a dissertation on the restoration of this temple, now in the British Museum, including a brief review of the authorities consulted. Mr. Donaldson had previously intimated his intention of pointing out some defects in the restoration, looked at architecturally, and in consequence the meeting was more than usually numerous.*

Mr. Lucas's paper was exceedingly interesting and clever, and shewed that earnestness and devotion to the subject which always enlist sympathy and command admiration. As, however, the material points in it have been published by him in a pamphlet, and we have already spoken at some length of the models,† though chiefly as regards the sculpture, we will not attempt to give any outline of the paper now.

When Mr. Lucas had finished, Mr. Donaldson read the following remarks:—

You will doubtless, gentlemen, have been struck with the energy and fixedness of purpose with which Mr. Lucas has followed up his project of working out a reputation for himself by a restoration of the Parthenon, the fame of which, he hoped, would bring him favourably before the notice of the public, and no less pleased by the frankness with which he has communicated to us his ideas on the subject.

But there are other considerations of very great importance, which offer themselves in connection with so vast an undertaking. The boldness of the attempt must be justified by the qualifications of the enterprising artist. The taste and practical skill of the sculptor must be seconded by the learning of the antiquary, the professional experience of the architect, and the precision of the modeller. It seems beyond the range of human probability, that any thing less than a visit to this noblest of ancient monuments, and many weeks, nay months, devoted to the study of it on the spot, could enable any one, however gifted, to solve satisfactorily the many doubtful questions which hang over its complete restoration. We know that Palladio thrice visited Rome ere he ventured to publish his monuments of Roman architecture. Brunelleschi returned again and again to study the baths, the temples, and the ruins of that ancient city 'ere he felt satisfied to undertake the construction of the dome of Santa Maria dei Fiori, at Florence. Mazois repeatedly went to Naples to measure and draw the remains of Pompeii, in order to ensure a scrupulous and faithful record of the excavated buildings.

If Mr. Lucas had published his model and descriptions of it, as a restoration of the *sculptures* of the Parthenon, if the laudatory paragraphs, inserted by his admirers and friends in the public prints, had confined their eulogies to this, and had laid no higher claim than to the merit of having restored the work of the immortal Phidias, I should have left to others more competent than myself, and better acquainted with that sister art, to have examined into the proprieties of the restoration in that department. But the title-page of Mr. Lucas's own pamphlet, copies of which we owe to his friendly courtesy, states that one of the models exhibits *the temple as it appeared in its dilapidated state in the seventeenth century, and executed from the existing remains, or from authentic drawings.* The other *being an attempt to restore it to the fulness of its original beauty and splendour.* It is upon the fallacy of these statements, as regards its architecture, that I feel obliged at once to protest against the models—the one as not being a faithful representation of it in its dilapidated state, not executed from existing remains nor from authentic drawings—the other being inaccurate generally in its architectural details, and being *deficient*, instead of exhibiting the *fulness* of its original beauty and splendour.

I feel called upon to examine the subject thus specially, for the architectural errors are so contrary to the canons of the art, that the character of the profession is implicated, when we see that the Trustees of the British Museum give the stamp of approbation to these mistakes by purchasing the models and exhibiting them in juxta-position with the very marbles of the Parthenon itself. We must give them full credit for wishing to do full justice to the high reputation of Phidias; it is only to be regretted that, from parsimony or ignorance in themselves or those around them, they should have forgotten the claim of Ictinus to the character of the first architect of his own or any age, and as having produced in the Parthenon a work free from every defect, pure in every detail, graceful in every proportion.

In the model of the Parthenon in its dilapidated state, Mr. Lucas has erroneously represented on the architrave over the columns of the Posticum, the fillet caps over the guttæ. He has not placed them at the angles, and has continued them along the flanks. They now exist at the angles, and at equal spaces along the front, as shewn by Stuart, and there were none as usual along the flank.

Mr. Lucas has continued the antæ cap mouldings along the wall of the Posticum, and along the flank wall of the cella, in both which positions they never existed. Mr. Lucas has represented cornices on the inner face of the cella wall where they do not exist, nor according to the most probable mode of restoration, ever could exist.

These introductions are totally at variance with the drawings of Stuart, and cannot possibly be extant in any other authentic drawings as stated in the title-page of the pamphlet.

I must now venture to allude to the restored model. In the first place, it is less accurate as regards the steps, than that of the ruined temple. In the latter there are only three, in the former four. Upon referring to my own studies made on the spot, I find three steps of marble, and below the lowermost a slab of the same height and about the same projection of stone, and thus specifically stated in my sketch. There is then a much wider slab of stone, and a drop beyond of 3 feet 4 inches. It appeared conclusive to my mind, that the stone slab was a portion of the pavement of the area around the temple, which was laid with slabs of stone, the upper surface being level with the upper face of the stone slab under the third marble step. In fact, it would have looked incongruous to have had one step of stone and then three of marble. Besides which we have the testimony of Vitruvius, who says, Book III. c. 3. "The number of steps in front *should always be odd*, since in that case the right foot, which begins the ascent will be that which first alights on the landing of the temple." We know that our great master borrowed all his canons from the Greeks, and that the superstitions of the ancients had a common origin and a common acceptation.

The restored model shews no traces of the plinth which existed between the lower parts of the columns of the Posticum, and of which there are indisputable signs in the Parthenon. This plinth, which was 9 feet 1 inch high, and half as wide again as the centre fluting, received the standards of the metal grating which inclosed the intercolumniations up to the summit of the capitals, as is ascertained by the mortice holes still existing in the antæ. This metal work was for the purpose of giving security to the Posticum, as within it were exposed to public view many of the votive offerings of beauty and value, the riches of the temple, and being placed within the metal railing, they were prevented being injured by accident or purloined by the evil disposed. This grating was probably of bronze gilt, and many Roman bas-reliefs offer authority for a restoration.

The next inaccuracy to which I wish to call attention, is the doorway. The old aperture had been narrowed long since, either by the Venetians or Turks, by the introduction of slabs in irregular courses; beyond these slabs the wall is perfectly plain. Reasoning from the magnificence and importance of the Parthenon, which would be evidently deficient in effect if the doorway were a mere square aperture; reasoning from the analogy of the Erectheum, which has a magnificent doorway, although an edifice of less importance than the Temple of Minerva, and reasoning from the evidence to be found on the apertures of the Propylea, which had evidently bronze dressings, I have little hesitation in stating my opinion, that the dressings of the Parthenon were of bronze, and that the model is singularly unfortunate in having consoles or trusses, which support nothing, are accompanied by no corresponding embellishment, and are contrary to all reason, propriety, and example. I have already alluded to the continuation of the mouldings of the antæ caps, retained in the restoration, and quite contrary to fact. We now come to the interior of the cella, and considering the complexity of the opinions offered by Messrs. Pitakis, Finlay, and others, who were consulted by our author, it is not surprising that he should have found himself involved in a maze of difficulty. It appears that Mr. Cockerell, in the seventh volume of the Museum Publications, has restored the interior with two orders of columns; the lower are Corinthian, the upper are Doric. All the rules of the art, all analogy, and all probability have run counter to this daring arrangement. In the temples of Pæstum we find a double tier of columns, one over the other, to support the roof of the hypethrum, both Doric; but the casual statement of Mr. Inwood, that a portion of a Corinthian capital was brought by him from the Parthenon, and a similar fragment discovered in the Temple of Apollo Epicurius, at Bassæ, near Phigalia, seem to have been considered sufficiently grave authority for the introduction of the Corinthian, as one of the inner orders of the Parthenon. Assuming at once that Mr. Inwood got it from the Parthenon—How did it get there? Was it there originally? Had any other traveller—the precise Spon and Wheller, or the laborious Stuart and Revett ever seen it? Among the strange metamorphoses by Venetian, Turk, and Greek, may it not have been converted to the purpose of construction from some stray fragment beyond the verge of the Parthenon, as being lighter and more easily applicable for their purpose than the ponderous blocks of the construction of Ictinus? May it not have been purposely placed there by some wily Greek to give it additional value in the eyes of one, who was eager for any fragment of Attic art, and profusely liberal to every one who contributed to his collection? The introduction of the Corinthian order into the Parthenon involves so many serious questions in the art, that its adoption must rest upon some more authentic proof than that which accompanied this questionable fragment. But let us assume that it came from the Parthenon, and was always there; is it too much to require the restorer to pause and consider whether this may not have been a fragment from some ob-

* It gives us pleasure to mention, that Professor Donaldson has just been elected a member of the Royal Academy of Sciences and Belles Lettres, at Brussells.

† See pp. 593 and 619, Vol. III.

ject quite distinct from the architecture? for we know, from Pausanius, that all the Greek temples of any size and reputation were filled with statues, groupes, pedestals, candelabra, cars, tazzæ, tripods, vases, seats, and other articles of wood, metal, and bronze; the votive offerings of the conqueror, the supplicant, and the superstitious. Mr. Lucas has introduced the Ionic as his lower order, and the Corinthian above; a restoration more consistent with our preconceived notions, yet still open to serious objection. However, he has given a regular entablature to his lower order, whereas, judging from the Pæstan Temple, and the reason of the thing, a mere architrave or beam were more fitting. But a more serious objection presents itself in the arrangement of the ceiling, which is made to overhang the upper range of columns for the purpose of contracting the aperture of the hypethrum. This presents so much difficulty of construction, and seems so much in advance of the science of the Greeks at that period, that I cannot but consider it as apocryphal, as also the pedimental form of some of the compartments of the ceiling, and the sloping roof over the aisles of the cella.

I have not wished to lengthen my remarks by allusions in detail to some questionable portions of the sculpture. I may, perhaps, be venturing on ground for which I am as little qualified to judge, as Mr. Lucas is to form an opinion of the architecture; but I must own, that I could have wished that the sculpture had been modelled with a refinement and finish more corresponding with the exquisite execution of the matchless original. I could have wished that one's ideas of the dignity, the splendour, and proportion of the Chryselephantine statue, and the grave majesty and beauty of Minerva herself had been more realized than it is in this conception; and it appears to me that the want of pure drawing, the total absence of Attic elegance and correct proportion in the rude illustrations of his pamphlet, do little justice to the intelligence of the author in the letter-press. I could have desired that the modelling and putting together of the architectural details had been less characterised by coarseness and want of delicacy. And I must own, that the prominence given to the sculptures of the pediments, the projections of the heads and limbs of so many of the figures, seem to me so much to interfere with the lines of the architecture, and themselves to be so much cut up by the intersection of the corona, as to produce a most unsatisfactory intricacy, and disagreeable contrast. Neither the drawings of Carry (perspective views taken from a low point), nor the casual signs of a water drip, which may have arisen from a misplaced slab above, nor the solitary instance of a questionable indentation of a fragment head—more than probably a rebate to receive the bronze helmet, nor the projection of the horse's jaw at a part where no shadow broke the continuous line of light, seems to me to justify the solitary instance of so marked a principle, which would have itself established a rule in all future cases, but which has never, that I am aware, been followed in any succeeding instances in ancient or modern times, that have pretensions to be considered as classic works of art. I shall conclude with one more reference, and that is to the polychromatic embellishments timidly indicated over certain parts. Mr. Lucas states, that he is not called upon to run any risk of making a *gaud* of this restoration of the Parthenon, or to depart from the severe simplicity, which is the characteristic of all the art of Phidias. The testimony of tradition as recorded in the Transactions of this Institute, the evidences on the monument itself, the fragments recently dug up, all prove that polychromy had its full development in the Parthenon. The fragments discovered in the foundations, attest the antiquity of the practise. Will Mr. Lucas venture to say, that the Parthenon, when so embellished, was a gaud? Will he assume the question, and say that the simplicity characteristic of all the art of Phidias was colourless? What is the testimony borne by the monuments of ancient Egyptian architecture? What by the productions of medieval art?

If, in regard to the extent of polychromatic embellishment, Mr. Lucas hesitated among conflicting opinions to go to the full extent of some of the advocates for unqualified adoption of colour, I could understand his prudence; but it seems equally rash to reject all colour as to adopt it throughout; and reasoning does not seem to justify the introduction of colour in one or two parts only, which by their very solitariness contrast most harshly with the rest of the model.

In submitting to your notice these observations upon these models, I have felt called upon to do so, in order to vindicate the professional character of English architect, which is perilled by the conspicuous position given to a work of art, professing to be a restoration of the noblest monument of antiquity, and uniting the knowledge, science, and learning of this country. The accuracy of the English architect has been acquired by many personal sacrifices, laborious investigations, and pains-taking accuracy. The work of Stuart and the productions of the Dilettanti Society, had established the fame of the English, as the revivors and best illustrators of Greek art. But what will be the opinion of foreigners upon English architects, if this defective and erroneous restoration be assumed, as the proof by which to estimate the research, and knowledge, and skill of the English architect in 1846. In this I dont so much allude to Mr. Lucas, as to the Trustees of the British Museum. Mr. Lucas has been imprudent in calling this a restoration of the Parthenon in all the *fulness* of its original *beauty and splendour*. He has looked at it merely as a sculptor; and the architecture he has considered as subordinate to that his first object. The Trustees should have called in the advice of some one or more of the many architects who have measured the Parthenon stone by stone. They should have provided Mr. Lucas with the most perfect model of the building that modern research could have produced; and our sculptor could have worked on his restoration of the sculpture, unembarassed by considerations of the details of the architecture, for which he was neither prepared nor fitted by previous study, as he has himself modestly avowed.

I now conclude these remarks, put together in the brief interval of numerous and important professional avocations, not to detract from the merit of Mr. Lucas's courageous attempt, but, as I have said before, to vindicate my profession from the imputation of those unfortunate blemishes, which, although they may not affect the reputation of the author as a sculptor, seriously peril the fame of the English architect, scholar, and antiquary, in the estimation of the accomplished and learned foreign artists of Europe.

At the conclusion of Mr. Donaldson's observations, Mr. Lucas, with a manly candour greatly to his credit, admitted the weight of most of the objections;—he had looked at the restoration as a sculptor, not as an architect, and, moreover, had not seen the ruin. He was determined, however, to *make* it a perfect work architecturally also, if it were not so, and had arranged to visit Athens forthwith with that end in view.

A wish was expressed on the part of the meeting, that the trustees of the Museum would give Mr. Lucas all the aid in their power, and enable him to effect his purpose efficiently.

Sermons in Stones.—In laying the first stone of a new market-house at Truro last week, the mayor, at the conclusion of an excellent speech, said, "Before proceeding to lay the first stone of our building, it will give you pleasure to know, that one venerable relic of ancient times has been carefully preserved; and, as it held in our two last market houses a conspicuous place, so a conspicuous and suitable place will be selected for it in that which is about to be erected. I allude to the old stone on which the following words are engraved:—

"Who seeks to find eternal treasure,
Must use no guile in weight or measure."

The date of this stone is 1615; and, depend upon it, my friends, whatever improvement society may have undergone since then, there is no harm in keeping continually before our eyes a maxim which teaches that, as long as the world lasts, honesty will be the best policy, and an honest man the noblest work of God."

Stained Glass, Bristol.—We hear that Mr. Rogers, of Worcester, the artist who executed the stained glass windows in St. Mary de Crypt Church, Gloucestershire, has been engaged to furnish the principal window in the new Guildhall at Bristol.

PROFESSOR COCKERELL'S LECTURES ON ARCHITECTURE.

The fifth lecture of this course was delivered on Thursday, the 5th instant, at the Royal Academy. Mr. Cockerell said, that before entering upon the general subject, he should offer some comments on the usual course adopted by students, previous to their commencing practice. He should then continue the subject of medieval architecture, shewing its *Catholicity*, the general conformity of style in different parts of Europe, and the provincialisms which arose in each separate country, with the value and influence of types, or precedents. He should then give some account of the monastic establishments, and the order of Freemasons. He should also notice the character of orthographic delineation, as shewn by Müller and others, from original drawings preserved in Germany. Daniel Barbaro, who had translated Vitruvius at a later time than Cæsarianus and Caporali, and the large copy of whose book, from which the professor made frequent quotations, he then laid upon the table, had said, that discourse, or reason was the father of architecture, and the practice of building the mother. It was too frequent a mistake with students to begin by admiring the *prettiness* of the art—mere matters of detail—long before they were able to appreciate the value of a complete homogenous whole. *Last* of all came the conviction, that geometry was the foundation of the art, and that nothing was good that was not geometrical. Pamphilus had asserted, that no one could be a good painter unless he were a good geometrician; and how much more important was geometry to the architect. The professor in his lectures had, therefore, endeavoured to inculcate what, in fact, they were generally last inclined to; it being a great mistake to occupy time in the study of some really unimportant detail, which ought to have been devoted to subjects of greater, and permanent utility. Works of art, as Daniel Barbaro had said, affected those who were ignorant of them, with wonder and astonishment: it should be their object to estimate the principles on which such works were designed. This was to be done by examining buildings by approved masters, by noting the plan, and considering, how circumstances of ground and situation had led to particular results. By thus comparing numerous examples, they would become masters themselves. Every opportunity should be taken to improve themselves by travel, and by observation, even in their own island, city, or neighbourhood, rather than to spend so much time about picturesque, pretty drawings, which were really useless, and did not belong to their art, how much soever, in other respects, every man of taste must admire them. He repeated, what he had before said, that he had seldom found that the best designers were the best draughtsmen; and of this fact, the architect of the Hotel de Ville, at Paris, was a striking example. That architect's drawings, transmitted from Rome at the time he resided there, as a student of the French Academy, were by no means elaborately finished; but he had occupied himself to more advantage in diligently examining buildings. Every architect must regret the abortive labours, in which he had spent much of his time when a student, through a misconception of the proper course of study.

In the subject of medieval architecture, the professor commented upon the evidences of a number of schools or variations; but he explained, that there was a concurrent general uniformity to be traced throughout; there was the same *Catholicity* in art, as in the religion of the time. Rome was the great centre, from which the influences of religion and art emanated. From the advent of St. Augustine, the great types of the basilicas of St. Peter and St. Paul were always remembered. Provincialisms grew up in so natural, remarkable, and sometimes so baneful a manner, that we could discern in Germany, France, Spain, and other countries, distinct families of churches. He then shewed that such peculiarities, often arising from a circumstance apparently trifling, might entail bad and injurious consequences upon a national style, often curbing the inventive faculties with some preconceived requirements, and therefore, how happy must that country, be which, in its architecture, had possessed a noble original. Thus, the church built by Frederick Barbarossa in the castle at Nuremberg, had been the type of the church

in the same city, and of that at Ratisbon, and the chapel of William of Wykeham had been imitated in succeeding chapels at Oxford. There was no better mode of obviating the abuse of this tendency, than for the architect so to regulate his mind, as to appreciate beauty in art, wherever he might find it, and to have that toleration, which should raise him above the bigotry of schools. In illustration of the value of good types, he gave an account of the pedigree of St. Paul's Cathedral. Pointing to a plan of the cathedral of Sienna, erected by Lapo da Sienna at the end of the thirteenth century, he said, that there might be found the original of that idea, which was the distinctive peculiarity of St. Paul's. In the former building, the lantern or "hecuba" at the intersection of the cross, instead of occupying the space inclosed by the four columns, was extended beyond it, being hexagonal in plan. When Alan de Walsingham designed the lantern of Ely Cathedral, he adopted a similar extended arrangement, supporting it on eight piers, the diameter of the octagon being equal to the width of the church. This was doubtless adopted from the Italian cathedral. In 1660, the lantern of St. Paul's was in so insecure a state, that Wren proposed to add four piers, replacing the former termination with a dome, a plan which he afterwards adopted in the present cathedral. Now Wren's uncle was Dean of Ely, and the architect had been employed there; and the arrangement of the piers, and the intersection of the aisles were precisely similar in the two buildings. In this feature, St. Paul's was greatly superior to St. Peter's at Rome, the plan shewing that in the latter building, the aisles of the nave were terminated by the piers of the dome.—The transition of taste from the angular to the round was here noticed. The professor said, that in medieval architecture, there was an acuteness and harshness in the forms, opposed to those of the Greek and Roman architecture, which were of greater suavity. The early square tower was succeeded by the polygonal and octagonal; the alterations of form spread from one country to another, and became general. The architects of the middle ages had freely exchanged ideas one with another; they were ever ready to accept a valuable suggestion from whatever quarter it came, as every good and intelligent artist would always be.

In the course of his remarks, Mr. Cockerell referred to a sheet of plans of churches, commencing with the church of the Holy Sepulchre, at Jerusalem. He also exhibited a copy of the work of Albert Durer, on geometry, which that artist had designed especially for workmen.—He then slightly referred to the peculiarities of arrangement, which might be supposed to exist, according to the particular order of ecclesiastics, and from this proceeded to a circumstantial account of the arrangement of a monastery, as shewn in that attached to Winchester Cathedral, which had occupied a space of ground equal to twenty-eight acres. This led to further comments on the careful provision for the wants of so large an establishment, matters not unsuggestive in the present day. In one respect, this degree of attention was shewn in a remarkable manner. The *necessarium*, of which there were remains at Canterbury, and a perfect example at New College, Oxford, was a large room or hall, arranged with every appurtenance of a *cabinet d'aisance;* water was provided, and at the latter place there, were thirty-six distinct seats in the apartment, intended for the seventy-two students.

Mr. Cockerell then noticed the artistic skill, exhibited in the combination of the cathedral and the buildings of the town. It being the object, that the church should be everywhere present to the view, it towered over the surrounding buildings, as seen from a distance. The portal being the only portion visible in the narrow streets of projecting stories, all the riches of sculpture were lavished upon that part of the fabric. In Cologne Cathedral, decoration did not commence for a considerable height above the base, and nothing could be finer than the effect in that building. Character was the basis of the art, and poetry was apparent in all the conceptions. The artist was never animated by the desire of fame.—He then noticed the combination of the sublime and the grotesque in sculpture, and the frequent use of illuminations in manuscripts. In these the artist often essayed his inventions, and we find, in old manuscripts, peculiar forms of architecture, long before they appeared in stone. Recurring to the system of proportion, previously explained from the plan of Romsey Church, in which the east end, and the transepts were terminated in the centre by piers, standing on dividing lines of the squares, the professor shewed, that the towers of Antwerp and Cologne cathedrals had similar central piers or buttresses, whereas in the church at Frankfort, the absence of this pier was accompanied by a great diminution of effect, and had occasioned a failure in the masonry.

In giving the history of the Freemasons, Mr. Cockerell ascribed to that body a very early origin. They had been supposed to exist amongst the Greeks and Romans. Corporations of architects were established by Numa, called Collegia Fabrorum, and Collegia Artificum. They had a religious character, and had the right of framing laws amongst themselves. Subsequently, they greatly contributed to the extension of the Roman power, and were invested by the emperors with peculiar privileges. Hadrian attached a corps of architects to the cohorts; an example which the Institution of Engineers at Putney promised to follow with advantage in favour of our colonies. At the end of the eighth century, the masons of Como assumed the peculiar distinction of Freemasonry; they were greatly employed in the construction of churches and monasteries, and after the destruction of the Lombard kingdom by Charlemagne, dispersed themselves over Europe. They succeeded in obtaining peculiar privileges from the pope, and concealed their knowledge by mysteries.—The Freemasons, probably of Como, were invited to England by Alfred, and subsequently by Athelstan, who gave them a charter in York, the orignal of which is said still to exist in that city. It notices the history of architecture from the time of Adam, the building of Babel, the Temple of Solomon; Hieram, Pythagoras, Euclid, and Vitruvius are also quoted. Another document, still preserved, was written during the reign of Henry VI.—a great patron of architecture—and was published in the "Gentleman's Magazine" (1753, page 417). In 1459 we hear of a grand lodge at Ratisbon, of which Erwin von Steinbach, the architect of Strasbourg Cathedral, was the grand master. Subsequently, charters and privileges were granted by Maximilian. It was probably this lodge to which Cæsarianus alluded, in the comments on what Vitruvius says of the syndicate of architects, as he referred to similar bodies, then existing in Germany. In 1717, Sir C. Wren was the grand master in England, but shortly after that period the fraternity altered its original form and purpose—a change which must have been viewed by that great architect with extreme regret. * *

A LETTER FROM ROME.

* * * * The Tiber was the first connection with *ancient* Rome, the first object that seemed to make all my fondness for Roman story and art more real and substantial, and a kind of guarantee for the truth of it: the sight of this river made those two or three minutes moments to think of hereafter. What pleasure was it then to me, from the summit of the capitol, to recognise all the relics of imperial Rome beneath! I was perfectly delighted, perfectly in my element; I knew almost all, they were old friends, and so completely, that it seemed as if Pythagoras were true, and the descent of souls from age to age no fiction. I could have fancied I had only been revisiting a spot after a long absence, which had obliterated the memory of some of the surrounding objects. And then to see the identical "transfiguration" no *copy*; to gloat over those magnificent frescos in the Vatican which have quite taken me by storm; they are the master-pieces to form your ideas of Raphael's genius; to stand under that glory, the dome of St. Peter's; to come suddenly upon the Laocoon, or the Apollo Belvidere, or some triumph of art whose form has been fixed in one's mind almost from infancy, and the sudden flash of recollection of what it really is you are now gazing upon; to mount the steps of the capitol, and think of all Rome's greatest and wisest who have trodden the same path: it is a wild excitement and confusion to me, so that I never felt more thoroughly perplexed or utterly ignorant of what to do *next* in all my life. I have all within my reach, but there is *so much*, so many examples of art in *every* branch, that it confuses the mind, and completely unsettles one. I find, much to my consolation, that I am by no means singular; all advise me to keep very quiet for a little, and attempt at present to do nothing till I know my way well about the city, and have seen all the principal remains and palaces, &c. taking a note merely, of what appears most worthy of after-study, and then setting to work in a systematic method. At present, one's attention is attracted every moment to something new, or some ancient acquaintance recognizable by his *portrait*.

And yet, notwithstanding all classical enthusiam and associations, I must confess I have been disappointed. Rome is very different from the Rome I had pictured, and also from the Rome in *books*. In reading any account of it, of course all the *good* things are brought together: all the views are picturesque: if some incident peculiar to southern or *Catholic* life be represented, the *costume* looks well in colour and engraving—alas! Romans are swayed by fashion as other nations, and now all *try* to look like English. Rome's costume is quite modernized; plaids are as plentiful as in Edinburgh. I have seen but one really striking countenance (female) since I have been here. The women are mostly as ugly as one can safely pronounce any lady to be, and alarmingly inclined to be exceedingly fat. If by a rare chance a peasant comes by in the costume usually given to the people here, it is so tattered and dirty, that it only enhances the misery. All this, however, is, I find, the main fault of this season of the year; the pifferari will soon be coming, and *then* for picturesque costume: the grand festivals, &c., of Christmas approach, and then for grand Catholic displays and ceremonials. The carnival and the spring are to bring out all the beautiful women in Rome to enjoy themselves, and pelt one with comfits; so patience! patience! The streets are very badly paved—however, I won't go into all the petty troubles and discomforts which must always offend an Englishman, in consideration of the vast fund of pleasure and instruction contained within the walls of this ancient capital of the world. With St. Peter's, of course, I was at first disappointed; everybody is—you cannot help it; it does not at all convey the idea of the immense edifice it really is. The great court in front also appears, looking towards it, a mere nothing; but enter the church, and in a moment you feel you are in the first, the most gorgeous temple ever erected to the honour of a Supreme Being. In great proportion to the sense of disappointment outside, is the reaction within. I cannot describe the effect it had upon me; it surpassed all I had conceived. It appears almost an endless space; but the union of architecture, painting, and decoration is so skilfully contrived, that no part appears deficient or bare. An architect may doubtless find, as there are, many defects: but to me, to cavil at such things in so grand a whole, is evidence of a mind determined to find fault.

This may be but the first blush of delight and enthusiasm. I may hereafter think myself wrong, but I could not have found fault with any thing I saw when I first walked through it, had I been paid to do so. Let any cavillers produce something better, even upon *paper*, and then they may criticize and condemn Michael Angelo, and Bramante, and Carlo Maderno as much as they please. Rome is, above all others, a place that requires the greatest patience, and a long time to see and enjoy properly. If you attempt to hurry through any thing, you are inevitably lost, and so is time, money, and real enjoyment. * *

On Friday last, I went *all over* St. Peter's, saw every thing from top to bottom, from the inside of the ball, to the vaults of the old basilica. It is quite a hard day's work, I assure you, to see it thoroughly and well. The ascent is very capitally managed, you *really* mount up the dome, it looks quite like standing on a precipice when you arrive about half way up, and it is only when you are upon the roof of the nave, and in the galleries to the dome, that you can form any just idea of its enormous size. On the roof, there is quite a *little town*, houses, workshops, fountains, and men *constantly* living there. The vastness of the dome seems almost incomprehensible to me; our St. Paul's appears, from recollection, a mere

nothing to it (I speak of the *internal* dome). The settlements are in one or two places very large, one seems as if you could thrust your fist into it, but all the reports we heard in England about its being in danger, and expected to fall, are ridiculous and absurd. It will stand for many a long day yet. There has been no new settlement or great increase in an old one for many years. The ascent into the ball gave me the nearest idea of climbing a chimney I can well imagine; you are literally obliged to *drag* yourself up a perpendicular iron ladder in the centre of a *flue*. For all that, the ball will hold sixteen people without incommoding or squeezing. In one of the rooms are preserved some of the original models, but we found it was necessary to have an order to sketch from them.

I have, amongst other places, visited the basilica of S. Paolo, the one that was unfortunately burnt about twenty years back. You remember the view of it exhibited at the Diorama. It is now in progress of restoration on a scale of the greatest splendour, in aid of which the pope is very liberal. Six magnificent columns of oriental alabaster have been employed on the building, sent to Gregory by Ali Pasha. This is a most costly and rare marble, and the effect of the columns is very grand. All the interesting collection of portraits of the popes, and most of the mosaics perished in the flames. The basilicæ are all deeply interesting, the most ancient churches in existence, mostly dating back to the age of Constantine; they are all more or less enriched with spoils from heathen temples; then come the mosaics and curious sculptures of the succeeding ages, and the cloisters with their quaint columns twisting in every variety of form, all richly inlaid with mosaics, and all sheltering some interesting relics, which, whether genuine or not, have been so accredited for centuries and centuries. Then the magnificent masterpieces of art, the frescos and paintings, and gorgeous decorations of the renaissance, all combine to make them most interesting; each is a little history of the arts and religious feelings of nearly 1,500 years; in each you find something to carry you back to the earlier and more expressive ages of the Christian faith. The cloisters of St. John Lateran present a curious mixture of Paganism and Christianity. Roman funeral inscriptions strangely mingled with Christian emblems; decrees of imperial power with tombs of popes and cardinals; the papal chair of state used in the great Lateran councils side by side, with two columns of the ancient temple at Jerusalem, brought to Rome by the Empress Helena. At each step I found something to carry me back from the dull, plodding, modern world into the mists of bygone days. On such occasions, I am invariably a great dreamer, and stand and think till I almost lose myself in the confusion of brain such thoughts occasion. Notwithstanding all this, I imagine at times, that the old appellation of the "dark ages," against which I used to rail so violently, is very just and appropriate; and that popes, princes, and prelates, were as ignorant as peasants, of aught but the great ambition and lust of power. In the old part of Rome, at every turn, you meet with some ruin, that, spared by the hand of time, would even now have been perfect, but that some pope or stiff-necked baron of the "dark ages," aye and later, wanted a palace or fortress, or having one, repairs were necessary, and where so good or handy a quarry as the Forum? Temples, bridges, tombs, stript, plundered or swept away, to build palaces and fountains; statues and columns "ground down" for lime! Ancient bronzes melted down for decorating churches! It is really quite sickening to hear and read of all the horrors committed by such "infallibilities." I found the baths of Titus a very interesting ruin. Every one has heard of the famous golden house of Nero; when Titus came to the empire, he built over this palace his baths, putting up cross walls to strengthen the buildings thus used as substructures, and completely rendering it useless, as all light was excluded, at the same time he removed all the works of art into his baths above, all apparently to wipe out the memory of the habitation of such a wretch; in the course of ages, however, these baths are almost entirely swept away, and the accumulation of earth is so great, that vineyards now cover a great portion of the *roof*, as it were, of Nero's palace, but as the baths disappeared, so that palace was brought to light, and now we have it, the ancient arrangement almost perfect; the very spot seen where the famous Laocoon stood, and the ceilings still covered with frescos of the days of Nero; these were known in the time of Raphael, and studied by him, and in his frescos at the Loggie, one may easily see the use to which he turned them. The whole history seemed to me interesting, and the beauty, elegance, and freshness of the paintings enhance the pleasure. It would be impossible to expatiate on each ruin; all have their beauties and their peculiar interest, but nothing can give a truer idea of the magnificence and immensity of scale, on which everything was carried out connected with the *pleasures* of the Roman of imperial times, than the baths of Caracalla or the Coliseum. One feels perfectly lost in contemplating these enormous and grand masses of ruin. The other evening I mounted to the very top of the Coliseum to see the sun set, and was amply repaid for the risk and trouble. The view, and the lovely tints in the sky—tints you unhappy people in England can form no idea of—were things to revel in. You cannot imagine the clear deep blue that on a fine day we have over head; everything stands out from it, each building and tree, with almost microscopic clearness. * * * * J. M. L.

Rome, January, 1846.

RAILWAY JOTTINGS.

The prevention of accidents on railways is occupying great attention at the present time. Much ingenuity and much practical knowledge are being directed to this subject; the result is many novel suggestions and some really valuable inventions. One of the latest is Greenhaw's Geometrical Railway, a description of which will be read and the principle developed by means of models, &c., at the Society of Arts, next Wednesday evening. We shall make a point of explaining the merits of this invention in our next number.——Carpenters are now roofing the railway station at Dunbar. The structure is spoken of by a local paper as an ornament to the town. It is built of limestone, edged with ribda.——As a proof of the superior safety of railway travelling, the fact should be universally known, that upwards of two millions of passengers have been carried on the Paris and Rouen line in somewhat less than three years *without the slightest accident*. ——Last week, a branch line was opened on the South-Eastern Railway, leading from Ashford to Canterbury, being a distance of about fifteen miles. It was noticed that the carriages had an unusual springy and unpleasant motion, and this was attributed to the ballast under the sleepers being uneven and spongy, the result of want of traffic and the recent heavy rains. —— The inhabitants of Birmingham have taken up the subject of erecting one grand central railway station in their town with great energy and judgment. At a meeting of the town council, held last week, a committee was formed, whose duties will have special reference to this subject.——Mr. Rastrick, the engineer of the Brighton, Lewes, and Hastings line states, that the works will be complete for opening by the first week in May. The Brighton tunnel is sixty yards long, and is completed, except the eastern front, which will be built up as soon as the cutting is cleared away from the front of it. The Fulmer tunnel is 502 yards long, and is completed, except the cornice and coping to the eastern front, which only wait for more favourable weather. The Southover tunnel will be 90 yards long; 20 yards remain to be bricked, and the two fronts have also to be finished.——The embankments of the Sheffield and Manchester line, not long since opened, are reported to have been much affected by the continued rains. As many as forty slips are said to have taken place. ——For a considerable period large quantities of coal tar have been sent from Birmingham by railway, to Bristol, for supplying the Great Western Company with *creosote* (a preparation of coal tar), with which railway sleepers and other timber are saturated. The Boyne viaduct, on the Dublin and Belfast Junction line, is a mile in length, and comprises the heaviest works on the line. The estimate for all the works, now contracted for, including the mile and the viaduct over the Boyne, is 80,000*l*.——In the neighbourhood of Huddersfield the railway works in the directions of Manchester and Sheffield are progressing rapidly. For several miles on each side of the town the cuttings and embankments are in a forward state; the foundations and walls of the extensive and lofty viaduct, on the east side of the town, are also fast emerging from the surface, and the works of the Huddersfield tunnel are being commenced.——In order to gratify his constituents, Mr. Hudson caused a special train to convey copies of the new morning paper containing a report of Sir Robert Peel's commercial speech. The paper was on the Mayor of Sunderland's breakfast-table, 268 miles from the metropolis, at the same time as in the London clubs.——The *Railway Chronicle* gives the following personal gossip respecting the engineers of the Italian lines:—Mr. Stephenson furnished the plans for the line from Leghorn to Pisa; Mr. Brunel those for the lines from Genoa to Turin. The Italian engineers entrusted with executing lines in their own country are—Giovanni Milani, from Milan to Venice; Castinelli, from Pistoja to Florence; Piangini, from Siena to Empoli; Vegni, from Seravezza to Viareggio; Cini, from Pistoja to Poretta; Guiseppe Potenti, from Genoa to Leghorn. The Italian engineers employed on railways in other countries are—Francesconi, on the Austrian Northern; Negrelli, from Basel to Zurich; and Dallari, from Dijon to Mulhausen.

THE BRITISH INSTITUTION.

The exhibition of works of British artists opened on Monday last. It includes 482 pictures, and 11 models and pieces of sculpture. Turner, Creswick, F. Goodall, D. Roberts, C. Landseer, Danby, Lauder, Inskipp, Lance, Etty, Lee, Fraser, Claxton, Frith, Copley Fielding, Bright, Linnell, Pyne, F. R. Pickersgill, &c., are amongst the exhibitors, but taken as a whole we cannot term the collection an advance on former years. Pretty, pretty, pretty, and little beyond. Frith's "Norah Criena," No. 21, is an exquisite little picture—

> "Beauty lies
> In many eyes,
> But love in yours—my Norah Criena."

No. 180, "The Poppy of Andalusia," by Inskipp, Lance's fruit pieces, Brunwhite's "Frost Scene" (No. 191), two or three snatches by Bright, "Snowdon" by Pyne (No. 360), are amongst the gems of the exhibition, and would be in any other. Goodall's "Fairy-struck" (No. 93), is a piece of admirable execution, and his large picture "The Brittany Conscript leaving home," (No. 134), though perhaps inferior to his "Irish Wake," last year, is most honourable to the English school.

British Archæological Association.—A meeting took place on the 4th instant, when Mr. Croker read an account of Brecon Priory, accompanied by numerous drawings by Major Davis. A beautiful bronze statue was exhibited by Captain O'Malley, R.N. It represented a Venus at her toilette, and was executed in the highest style of art; it had been discovered at Mogla in Asia Minor. A paper was then read from Professor Henslow on the discovery of an ancient burial place at Kingston in Derbyshire, with drawings of twelve urns; more than 200 of these cinerary urns were destroyed by the workmen; they were found placed in trenches about 4 feet apart, each appeared to have been covered over at its mouth by a lump of sandstone, most of them contained burnt bones. Mr. Richardson of Greenwich, forwarded some rubbings from brasses of Thos. Leland, Prior of Lewes, date 1433, and others. Mr. C. R. Smith and Mr. W. Stothard exhibited some carvings in wood, which had been discovered in the Thames beneath old London Bridge, doubtless from the Chapel of St. Thomas, which formerly stood there. Mr. Smith made some remarks on these and similar personifications of the deity in various countries—as "God Pope," "God Emperor," &c. Mr. John Bell exhibited drawings of sepulchral slabs discovered at Newcastle, and Dr. Pettigrew, a large drawing of the Roman Villa discovered at Maidstone by Mr. Charles. Mr. Croker then read an amusing paper on the curious old custom of "hunting the wren," which was further illustrated by remarks from Messrs. Wright, Halliwell, and Smith.

ENTRANCE TO LITTLE CHARLTON HOUSE, KENT.



LITTLE CHARLTON, KENT.

In No. 146 of The Builder, attached to the account of the fine decorated windows at East Sutton Church, the manor-house of Little Charlton is mentioned among those objects in the immediate vicinity of Maidstone, well deserving a visit from the architect, and some account likewise is given of the remains of Great Charlton. The old building, represented in the print, is a capital example of the architecture during the reign of Elizabeth, and it is moreover the work of an English architect,—the celebrated John Thorpe; and not only is the general effect good, but the details throughout are highly picturesque and pleasing. Several of the old buildings about Maidstone are in the same style or manner of construction. On a substructure of Kentish rag stone, the walls are carried up in red brick, with the dressings round the doors and windows, the parapets, cornices, &c. of compo. In several of these buildings (those that are neglected), the compo has nearly disappeared.

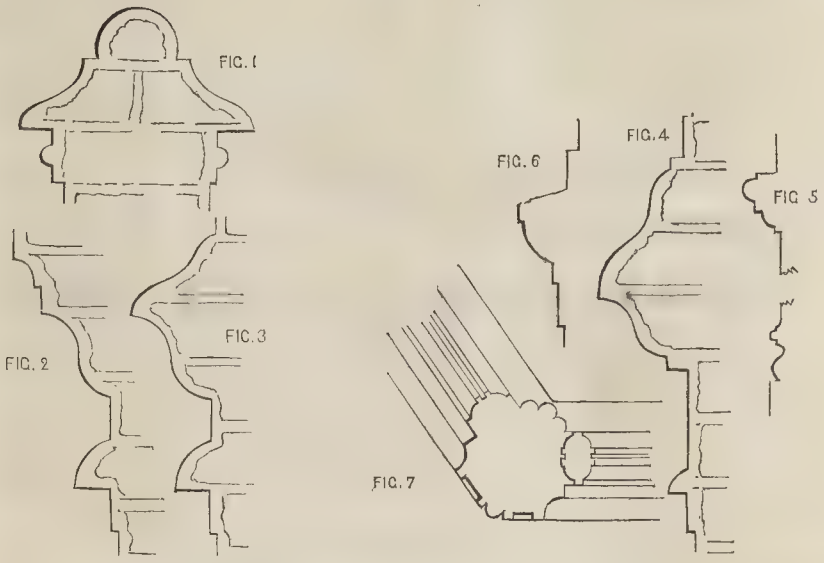
The house at Little Charlton presents the usual most striking feature of old English architecture, the high collar-beam roof, with the attic windows in the side fronts standing up, each with a brick or stone gable, like the principal front. These roofs were often constructed without tie-beams, and the side walls are often seen bulging out at top through the pressure of the rafters, and the weight of the roof resting upon them. At Little Charlton the tie-beams are concealed in the floor of the attic story, and, indeed, form part of its construction. The house had been for many years used as a farm-house, and becoming very dilapidated, it underwent a general repair a few years since by the direction of Sir Edmund Filmer, Bart., M.P., to whom it belongs; large additions were then made to it. The builders on the occasion were Messrs. Tassell and Bulmer, of Maidstone, by whom the work was done in an excellent manner.

The entrance-doorway, seen on the left in the print, is part of the additions made by Sir Edmund, by whom the old building has been turned into a noble residence.

According to the ancient design, the building was to have been three times larger; the gable shewn in the print formed merely the right-hand portion of the front; a similar gable was on the left, and between them, in the centre, was a triple triangular entrance and window of such ingenious and complicated form that I cannot describe it. As the form of these projecting bays in ancient times was very varied, I may possibly at some future occasion give a few plans in illustration of them, and these should certainly include the old plan of the entrance to Little Charlton. The triangular window at this place is very picturesque;

DETAILS,—LITTLE CHARLTON HOUSE.





the form is repeated in the centre of the garden side, but it is here corbelled over at the height of 6 feet 6 inches from the ground, and a small doorway made beneath. The garden front of Little Charlton, 68 feet in length, is very handsome; a view of it, with an interior of the triangular window, has lately been published.* This form of window was formerly very common in England. In the vicinity of Little Charlton was a building called Leeds Abbey (now destroyed), which had them, as is proved by the view given by Kip in his "Theatre de la Grande Bretagne."

Little Charlton was erected by Robert Filmer, Esq., who was for twenty years prothonotary of the Common Pleas in Queen Elizabeth's reign. Among John Thorpe's sketches preserved in Sir John Soane's museum, is to be seen the complete plan; pages Nos. 171 and 172. The great hall and parlour are placed in the centre, the great chamber above them, and the gallery at top. In consequence of the marriage of Sir Edward Filmer, Knight, son of the prothonotary, and the purchase by him of the adjoining manor of East Sutton from his brother-in-law, John Argoll, Esq., Little Charlton was deserted by the family, suffered to remain incomplete, and was only occupied as a farm-house. In this state it remained till within the last few years. The interior is very curious, nearly every room containing some rich fire-place, cornice, or ceiling. For the assistance of any student who may be desirous of drawing out the front, represented in the print, the details are here given.

Fig. 1 is a section of the coping or parapet: fig. 2, the upper cornice, under eaves; fig. 3, the upper cornice; fig. 4, the lower cornice; fig. 5, cap and base of small columns; fig. 6, moulding round attic window; fig. 7, angle of bay window, garden front; the details of the triangular window are the same. These details are drawn one eighth full size.

The dimensions of front are—height of rag stone base, 2 ft. 3 in.; from top of base to under side of first cornice, 9 ft.; cornice, 2 ft. 6 in.; second story, 9 ft. 3 in.; cornice, 1 ft. 5 in.; height of parapet wall, 3 ft. 5 in.; from parapet to top of gable, 12 ft. 3 in. The width of the front is 22 ft. 6 in., the triangular window, 7 ft. 9 in.

Fig. 8 is the ceiling of the triangular window, shewing the way in which it is ornamented with the emblems of England and France.

C. J. Richardson.

* Studies from Old English Mansions, Plate, Furniture, &c, &c, 3rd series, T. M'Lean.

BEDFORD CHAPEL, NEW OXFORD STREET.

All who have passed through this fine opening must have observed the extraordinary transformation which has been effected of a heavy, ugly brick building, known as Bedford Chapel, into a sightly, indeed, in the main, effective structure, by means of cement and skill. A correspondent who has addressed us on the subject, expresses his regret that it was not "rebuilt to range with the straight line, increasing as it does by its present position, the broken and divided effect already too evident in this admirable opening." The proprietors would probably let Shakspeare answer this ob-

jection, saying, "If to do were as easy as to know what were good to do, chapels would be churches, and poor men's cottages princes' palaces."

Another of his objections is certainly more valid, and that is to the brick dwelling-house which is built against the end of the chapel for the minister, and serves to disfigure it sadly. The architect employed in the improvement of the chapel is Mr. Kendall, sen. An arcade of five arches and square pillars, has been formed in the front, carrying an entablature which is ornamented with emblems in the frieze, and passes round the sides of the building. These sides have coupled pilasters and arches against the wall, and at each angle of the building above the entablature is a lofty pinnacle or obelisk.

FORMATION OF THE PORTLAND VASE.

At a meeting of the Society of Arts, held February 4th, a paper was read on the construction of the Portland Vase, by Miss P. Ensell. Miss Ensell considers the Portland Vase to have been formed in the following manner: a jar of blue glass has been made in the usual way by the glass blower, and its whole surface roughened; it has then been inclosed in a mould similar to those used for the formation of alabaster relievos; the jar and mould were then exposed to the action of one of the petrifying springs of Italy, and thus a clear transparent substance was deposited on the vase in such proportions as to form the figures in that beautifully white semi-transparent material, which is exhibited in the Portland Vase.

Miss E. then gave various details for the practical carrying out of the operation; and suggested the propriety of undertaking a series of experiments, with a view to constructing vases of a similar description. Mr. Doubleday, the gentleman who was charged with the restoration of the Portland Vase, and which is now under his care, having examined its structure most minutely, proceeded to give the following account of the manner in which it had been formed:—

The base is of blue glass, and has been made in the usual manner by the glass-blower, the white figures are also of glass, and perfectly united with the base.

The blue jar having been formed, was dipt into a pot of white metal, and so the lower part of it became entirely covered with a uniform coating of white glass. The material to work upon, which is thus described, is in all respects similar to the cameo, and has been operated on in the same manner. With some talent and considerable artistic skill, by a process like that of cameo cutting or gem engraving, the white glass has been cut away in different forms and various thicknesses by the artist; he considers that not less than three or four years of continuous labour would be required, in order to produce such a work of art.

Several other gentlemen then joined in the discussion, the result of which was to establish the fact, that we possess in this country, both materials, mechanical means, and artists capable of executing similar works of art to the Portland Vase, and that those works, if executed, would necessarily, from the length of time and skill required in their production, be the most rare and the most costly that art can produce.

Help One Another.—Several architects are at present endeavouring to raise a sum as a permanent provision for Mr. Moore, the architectural artist, late of Percy-street, Bedford-square, whose melancholy calamity affords no hope of recovery. Mr. Moore's works have been well known to the profession, by whom his talent was appreciated, but his name seldom came before the public, to whose pleasure he has often ministered. He entered the profession in the office of Mr. Blore, and subsequently travelled through great part of Europe with Mr. Gally Knight and Mr. Vivian. The latest work on which he was engaged, was the "Architecture of Italy" of the former gentleman. Mr. Cockerell, Mr. Barry, Mr. Hardwick, Mr. Gally Knight, and Mr. Vivian are among the principal contributors to the fund. Subscriptions are received by Mr. T. H. Wyatt, of Great Russell-street, who acts as honorary secretary.

FOREIGN ARCHITECTURAL AND COLLATERAL INTELLIGENCE.

Italian Architecture. — Gigantic Burial-ground [*Rome*].—In the whole extent of the fine arts here and elsewhere—the coming of a new period, the successive changing of hitherto valid principles, is undeniable. Still, Italian architecture yet dreams a dream of lethargy, and does not know what way to turn. Leaving aside such buildings as the guard-house on the square of the great Amphitheatre at Verona, which consists of a misunderstood imitation of antique forms, or the *Tribunale nuovo* at Palermo; we may mention grand buildings, like St. Paulo, at Rome, St. Carlo Nuovo, at Milan, Gran Madre di Dio, at Turin, St. Francisco di Paolo, at Naples—of which the first, rises up a structure quite different from ancient Basilicas, the others are nevertheless mere imitations of the Pantheon. At Florence, the laying out of a new street between the *Palazzo Vechio* and the Dome will be a great ornament and convenience to that city. Still, the latter edifice is deficient of a façade, and it is even not yet decided, what that façade is to be. As, however, the lateral façades and the whole remainder of the building are ready —the style of this main feature is a thing *given*, and cannot lie under any doubt or mistake.—Very important preparations have been made, of late in Italy, for the decorous and convenient burying of the dead. Verona and Bologna have been the first in constructing extensive works, but without either style or conception; Milan has gone somewhat further, in making room for honorary places, which will afford some scope for art-exertion; but nothing original appears yet in the plans which have become known. Thoroughly new, however, and speaking to the mind most pleasingly, is the *Campo Santo* at Naples, where, amongst flower-fields and cypresses, on the mountain slope of the Capuan road, and the view over town and gulph, and the wide lands towards Mount Vesuvius, Monte Angelo, the Islands and Posilippo—entire streets of sepulchral niches are raised, exhibiting the antique, medieval, and modern styles of construction; forming thus a real city of the dead, leaving us alone, as it were, with the dear ones, who left us, which never can be the case within the traffic and unquiet and noise of crowded cities.

Berlin.—Amongst the persons who obtained the order of knighthood of the Red Eagle of Prussia, at the late festival of orders—are, Privy Councillor and Building Intendant of the Court of Bavaria, *Von Klenze*, at Munich, and Building Councillor Busse, at Berlin.

Newly discovered Roman Mosaic Floor at Cologne.—This was discovered last year near the St. Peter's chapel, and an illustration in colours, with explanatory text, has just been published by the "Antiquity Friends" of the Rhinelands, being in the shape of a programme for the celebration of the birthday of Winkelmann, 9th Dec. 1845. In the middle of the square floor, we perceive in a hexagon the bust of the cynic, Diogenes, together with his name in Greek characters—around this are the portraits of six other sages of antiquity, Socrates, Sophocles, &c. The whole floor is in a pretty good state of preservation.

The Harbours of Carthagena.—In the late liberation war, the inhabitants of that city sunk several vessels loaded with large masses of rock at the entrance of the harbour, to prevent the Spanish fleet from entering. In this they succeeded so well, that all the time since, the entrance of the harbour has been completely obstructed. A *French* engineer has now laid a project before the New Grenada government, to clear away this impediment by some appropriate works.

Dyke Constructions in Holland.—The superabundant capital of that realm has been, of late, largely devoted to the above structures, for the sake of increasing the quantity of cultivatable land. Of the *Zuider Zee* it is now nearly ascertained, that it formed, in times long gone by, part of the land, with the embouchures of some rivers on it, to which its old appellations of *Vlie* and *Vlieland* seem to point. Besides the great dyke-works to be undertaken on the Waart and Graetgründe—the government has now authorized the extensive works at Harderwyk, by which a great gaining of land, and the deepening and repair of the harbour, will be combined. A new contrivance has been resorted to in these operations — called *Aanslibbing*. It is known, that the high tide carries with it a quantity of fertile soil (called *slib*), which on being prevented from receding with the low tide, becomes accumulated, and thus, those very same powers of the ocean, which destroyed these shores ages ago, are now forced by art to contribute to its reconstruction.—*Allg. Zeitung.*

Enlargement of the Oldest Street of Paris.—The *Rue de la Harpe* is one of those of the Roman *Lutetia*, where still some ancient baths are to be seen. The circulation, however, increasing every day in the *Quartier Latin* (near the colleges, &c.) has made its enlargement absolutely necessary. The municipal council has, in fine, adopted a plan, thus, that the ex-propriation (pulling down) will take place only on one side of the street, where the equal numbers of the houses are. The breadth of the new street will be 13 mètres, and this new line will unite with that of the College St. Louis.—*Le Constitutional.*

Hydrographic Works in Bolivia. — The French Government have consented to *lend* the above state one of their engineers, a man of high standing, to execute the above and other public works, which the native professionals are not able to cope with.

A Stop to the Defacing and Destroying of National Antiquities.—One of the Archæological Societies of France has held, of late, a meeting at Paris, for publicly *protesting* against the destruction of edifices of the middle ages without most cogent reasons. To the *Bandes noires*, in France, says the programme, have succeeded the councils of building, who, under the pretext of improvements, either destroy excellent relics of antiquity, or have them bedaubed or scrubbed by some itinerant Italian cobbler.

David d'Anger's Last Statuary Work.—The model of a statue for a philanthropic individual has been just completed by that artist—we mean that of Baron *Larrey*, for many years chief surgeon of the French armies, and subsequently of the Paris hospitals. He is represented in his dress of army surgeon. Four Basso-relievos will be placed at the corner of the monument. J. L——r.

FREEMASONS OF THE CHURCH.

Feb. 10.—Mr. G. R. French, architect, in the chair. A letter was read from the Rev. J. B. Murray, M.A., rector of St. Dunstan's in the East, directing the attention of the college to a beautifully executed model of his church, by Sir Christopher Wren, now in the possession of Mr. Leach, of Great Tower-street. Mr. J. B. Brown informed the meeting, that in one of the buttresses of Christ Church, Oxford, is a carving of great interest; it is considered to be of an early Norman or even Saxon date, and is believed to be the original font of Christ Church Abbey. Mr. Brown also exhibited a bell surmounted by a cross, captured in the late Chinese war; also a portfolio of sketches from nature, consisting chiefly of subjects of much antiquarian interest in the forest of Dean, Gloucestershire, a district which has not been much noticed. Among the many good objects aimed at by the College, is the extension of antiquarian information, and the discovery of new beauties and characteristics in architecture; in carrying out these views, he considered it must be of great assistance that an artist, who has travelled over a certain district with the feelings of an antiquary, should submit his sketches to his brother artists, and those who took an interest in the arts.

A paper was read "On Ancient Ornamented Bricks," in illustration of some casts of bricks presented by Mr. H. Stothard, and discovered while excavating for the St. Katherine's Docks, It is suggested, that the first attempt was to display some simple device, as the date of the buildings, or the initials of the proprietor's name, till at length they were extended to elaborate designs. The subject on the first brick is the Annunciation of the Blessed Virgin; on the second, the Nativity of our Saviour; the third appears by the lion to be a representation of the evang-list, St. Mark; the fourth bears the figure of St. John, the eagle holding his ink-horn. Both the evangelists are delineated in the act of writing their respective gospels. These bricks are all of the same dimensions, and of the same period; that

is, about the beginning of the sixteenth century. Stamped bricks of this kind and age are rare, but some few specimens have been collected in London and Gravesend.

Mr. W. P. Griffith read an Essay on the different kinds of Stone employed in the erection and architectural embellishment of the public and private edifices of Babylon, Egypt, Greece, Rome, and Great Britain; accompanied by an account of a few of the principal building stones, including the derivation of their names, specific gravities, uses, durability, the several varieties of each stone, the buildings in which they have been employed, &c.

Mr. Thomas Wilmshurst will deliver a lecture "On Painting and Staining Glass" on Tuesday, March 10th.

INSTITUTION OF CIVIL ENGINEERS.

Feb. 10th, 1846.—Sir John Rennie, president, in the chair.

The discussion upon Mr. Barlow's paper "On the existence (practically) of a line of equal horizontal thrust in arches," which was read at the last meeting, February 3rd, was resumed, and was continued to such a length as to preclude the reading of any papers. It was contended, that the theoretical propositions of Professor Moseley, in his work on engineering and architecture, although very beautiful, were unfortunately so abstruse as to be comparatively useless to the practical man. Mr. Barlow's object had been, on the contrary, to produce what might be termed an empirical rule, by which a line or curve of pressure could be laid down on the profile of an intended arch, by which it would be ascertained whether the structure contained the elements of stability, or whether, due allowance being made for the known qualities of certain materials, the arch would resist perfectly, the pressure or load to be imposed upon it under all circumstances. It was evident that it must do this if the line of pressure, or the line of equal thrust, being traced, fell at each joint in such positions within the voussoirs, as suited their form, dimensions, and quality of material. If the line passed at such points between the intrados and the extrados, as brought the surfaces of the voussoirs well into contact at full bearing, the figure described was practically correct, but if the line fell without either the intrados or the extrados, or in practice so near them as that the material should be unequal to support the insistent pressure, the voussoirs would either be crushed or would turn over on the points where the line fell; this had been previously insisted upon and demonstrated, by a model of a segmental arch, of which the surfaces of the voussoirs were curved. The arch assumed various forms, resulting from the mode of applying pressure, and the spot were it was applied; but in all cases the curve of pressure was shewn to be traced by the points of contact of the curved surfaces of the voussoirs. This arch stood well, and on the pressure being removed, always returned to its original form, until such pressure was applied as brought the line so near the extremities of the voussoirs as to cause them to turn over on their points, and rupture ensued.

Professor Moseley's proposition was very ably demonstrated, and it was argued that the formulæ given by him were practically applicable, and that it was more correct to take the one point given by his formulæ than to assume two points in order to find a third point, as directed in Mr. Barlow's method.

On the other hand, it was contended, that for practical utility the assumed points were preferable, as they enabled the line of pressure or thrust to be determined at one operation, instead of working through the tentative processes requisite in the application of Professor Moseley's formulæ; and in this respect Mr. Barlow's rule was preferable for the practical engineer.

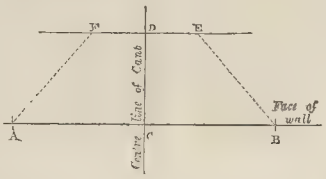
An arch should be viewed not as an assemblage of particles, but as a homogeneous and elastic mass, the pressure upon which extended in a greater or less degree, over the whole surface; therefore that which Mr. Barlow had designated the line of equal thrust might more properly be termed the line of neutral axis. It was argued also, that as an arch was defined to be "a system of bodies in contact, reposing ultimately upon the resisting surfaces called its abutments," an arch built of brick and cement might be considered as a curved girder, the abutments of the former acting as the tie rods of the latter. This was met by supposing the arch reversed, the apex being downwards, when evidently fractures must ensue. The principle of tension inherent in trussed girders did not at all exist in arches, wherein the forces were pressure and resistance.

The practical consideration for arches was to adapt the form to the object for which it was intended. Thus, for a flat roadway, a very different form of arch must be used to that for a curved roadway, as in the one case the weight was not distributed over the arch, as in the other case, and the point of rupture would be in a very different position; at the crown in one case, and at the haunches in the other.

TO SET OUT A CANT GEOMETRICALLY.

Sir,—If you or any of your numerous correspondents would favour me with a solution of the following problem, you would greatly oblige, Sir, yours, &c., J. C. W.

Eaton-place, Jan. 26th.



To set out a cant geometrically, the width AB, the projection CD, and centre line being given, and the three sides AF, FE, and EB being required to equal each other.

SHORT HINTS TO THE STUDENT IN ARCHITECTURE.

"No oake can grow so crooked, but it falleth out to some use."—Harrison.

To those who have not yet passed their noviciate, the following "Hints" are principally addressed; and it is trusted that they will not be considered entirely useless upon a careful perusal by those engaged in the study of architecture as a profession, but that by their assistance the student will find himself, at the expiration of his articles, more prepared for immediate practice, a greater credit to his instructor, and greater honour to his family.

The writer cannot flatter himself that the experienced practical man will take the trouble of reading these "Hints;" if, however, any should, it is hoped that nothing will be found objectionable or widely different from the system pursued by him, and that he will not scruple at calling the attention of those he may have under his guidance, to the importance of a strict adherence to the system here but imperfectly laid down, and intended solely for the junior branches of the profession, upon the consideration that some of the experience the writer has acquired might be usefully imparted to them; premising, that to the *prevention*, rather than the *cure* of errors, these suggestions will be adopted.

It unfortunately happens, that most young men enter upon their articleship fresh and green from school, and unprepared for the profession they have determined to follow. I will not here suppose such to be *your* case; on the other hand, I will take it for granted, that you have long had in contemplation this as your future study, and that you have adopted it from a slight and imperfect knowledge of its principles, and that you have been pursuing a preparatory course of study to fit you for its duties; that you have acquired a tolerable knowledge of mathematics, which may be confidently termed the alphabet of architecture,—the axle upon which all its many complications depend, and without a perfect knowledge of which you can never hope to become a sound practical man. If, then, you are already versed in this important introduction to your profession, many hours of study which the unprepared student is apt to consider irksome, will be spared to you; and by having attained this preparatory knowledge, theory and practice will explain and assist each other; for the one without the other would be perfectly useless, and difficult of retention if useful,: daily *experience* has taught us, that practice, when unsupported by theory, reduces the practitioner to a mere machine, requiring the aid of another for motion, and deficient at each material variation of circumstances.

Frequently, an architect who has pupils in his office, does not, or cannot, pay that attention to their attendance to their office duties that so serious a charge should entail, suffering them to study or not as it pleases themselves. I need not point out to you how sad will be the results if it should unfortunately happen that you are exposed to similar neglect and pursue similar conduct; reflect seriously upon your first outset that you have a double duty to perform,—justice to yourself and to your parents, and that your time is too valuable to be wasted in frivolous pursuits or amusements; your innate sense of right and wrong will convince you of the incorrectness of such conduct, and how disastrously it must terminate to your own disadvantage. Consider that you have an equivalent to obtain for the large sum of money that has been expended to fit you for a gentlemanly profession, and to place you in your present position, and that only by a constant, diligent, and zealous attention *now* (without which *nothing* can be acquired), you can hope to obtain eventually, notice and employment; strive, therefore, diligently to make yourself useful to your teacher, and devote all the time that can be spared from *necessary* exercise and recreation, to the study of the profession you have embraced, and the reward for your assiduity and attention will be the confidence and esteem of your instructor, and the regard he will evince for your future well-doing.

Perhaps the most material point for consideration at your first outset, in order that you may obtain the greatest benefit from your articleship, will be the division of your time between practice and study; I would therefore recommend you to enter as early as possible into an understanding of what is going forward in the office, and while in the office direct your attention solely to the business of the office; you will lose much of the advantage you would otherwise obtain by employing your time there in reading voluminous authors on your profession, because, during such time, you must necessarily be losing the practice which it is desirable you should obtain; I therefore repeat, that while in the office, devote your time and attention chiefly to that by which you are surrounded, and bestow your leisure moments upon the various elementary works upon your profession to be found in almost every architect's office.

Do not imagine that by my dwelling so much upon the *practice* of architecture that the knowledge to be derived from books is to be neglected; on the contrary, in the solitude of your chamber, devote your attention to the study of some of the brilliant works of those who have handed down to their disciples the fruits of the unremitting labour of years. Pass over nothing without thoroughly comprehending it, remembering that in order to make reading beneficial and effectual, you must not only impress the mind with the subject, but that the subject, by being pondered upon, must enlarge the views of the mind generally, and produce an effect that will remain, though the mere contents of a book may be forgotten.

There is not, perhaps, any thing that receives so little of the student's attention during his articleship as the study of arithmetic, so far as it is connected with his profession, and yet there is scarcely any more important branch of his education; do not imagine that, because you are studying for the profession of an architect, it is not also requisite for you to be an arithmetician. So much of the practice of architecture depends upon a correct knowledge of numbers, that you would find yourself sadly at fault, were you to pass by this seemingly unimportant subject without giving, it some portion of your time and attention. To you will probably be eventually entrusted the examination, correction, and adjustment of disputed accounts; how, then, can you fulfil the task if you are ignorant of the various, and sometimes complicated means of arriving at a correct definition; or how, I would ask, could you attempt to give an estimate of the probable cost of carrying out your designs, without a knowledge of the means by which that cost is to be determined. Devote then, to this, some portion of the time you set apart for study,

and should any abstruse and difficult point be at first beyond your thorough comprehension, do not pass it over to be studied at some future moment, but endeavour to make yourself thoroughly master of its intricacies before you leave it; there may perhaps be some in the office with you, more advanced in their profession, and capable of directing you. *Never be too proud to ask for knowledge, or too conceited to learn thoroughly.* Superficial knowledge may enable you to rub through the duties of an office, but such knowledge will never make you that which I presume it is your wish to become eventually, thoroughly master of your profession, and capable of directing the movements of others. To enable you to do this you must understand thoroughly how to dissect a building, commencing with the excavation you may require, the putting in of foundations, whether of concrete or of any other substance, and afterwards the carrying up of your walls above the ground, the quantity of timber, whether of oak or fir, &c., carpentry and joinery in connection with it; plastering, masonry, plumbing, painting, ironmongery, and all other details requisite for finishing your building. You will find that it will save you much trouble to have by you tables of the various scantlings of timbers priced at the existing charge per foot, cube: they are handy for reference when "moneying out" an estimate, and save the labour of calculation. If your memory be not retentive, it is also well to keep classed memoranda of the charges of the various branches; it is incalculable the saving of time such memoranda effect. Much useful information is to be derived from either Laxton's or Skyring's detailed works on this subject, and which contain (beside many useful observations) the method of measuring work employed by the several trades in connection with architecture.—J. B. Roberts.

EXTENSION OF BUILDING SOCIETIES.

Sir,—I have noticed and admired, your praiseworthy efforts to create and foster a more genial and extensive bond of union among the productive classes of society, and am sure they cannot have been in vain. Indeed I cannot help believing that from the very rapid and increasing demand for literary, scientific, and other useful information, there is gradually growing up a greater desire to unite in the common bond all classes coming under the general denomination, *industrious or productive classes*, and perhaps a more favourable moment than the present cannot be chosen for assisting in carrying out this great and paramount object, the want of which has been the cause of great and extensive suffering. I refer *first* to the contemplated reduction of those imposts which have for years, retarded and crippled the talent and best energies and resources of the manufacturing classes more especially. *Secondly*, to the wide-spreading desire on the part of the same class of persons, to avail themselves of the important advantages which "building societies" hold out, and it is to be regretted that such societies have not been brought more generally within the reach and control of the humbler classes, for whom, it appears to me, the Act 6 & 7 Wm. IV., c. 32, was more particularly intended—but who in fact have been, I fear, to a large extent excluded by reason of the heavy monthly subscriptions and redemption money, &c., imposed on borrowers, *in order to bring the society to an earlier termination*, thus forgetting the fate of the hare, in the fable of the Hare and Tortoise, and that, as Dr. Johnson observes, "the great bulk of mankind must owe their affluence to *small* and *gradual savings*, resolutely keeping their expenses within their income." By such a course they might safely reach the desired haven, which I fear may not be the fortunate lot of many of the thousands of borrowers in societies so constituted.

My more immediate object in thus addressing you is, to observe that it appears to me such societies are, or may be, made the means to more important ends than the mere acquisition of house property, important as that assuredly is. Indeed, I cannot help thinking that they afford the means, if judiciously used, whereby the union of mind and action may be accomplished and maintained at comparatively and individually no expense, or other encroachment on the already humble resources of the industrious classes, and thus raise them in the scale of citizenship and self-respect to an extent which to many might appear questionable, but which is, nevertheless, perfectly true, and beyond measure to be desired.

I am fully aware of my own inability to explain and illustrate the means by which this great work may be achieved; nevertheless, I will not be discouraged in the attempt, but hope to receive your encouragement and aid in my humble efforts, should they in any degree meet your approval, as being practicable or desirable.

My first wish is for the removal, if possible, of all stamp duties affecting building societies, and I trust we shall speedily have petitions from all parts of the kingdom to that effect.

It is proposed by one building association, recently established (after all the shares are allotted), to raise 4,000*l.* in shares of 1*l.*, to be paid up by weekly subscriptions of 6d. per share, to purchase or erect a suitable building, in which to conduct the affairs of the building society; to establish a literary and scientific institution, library, baths, &c.; affording also temperance refreshment, as in ordinary coffee-houses, on a scale of moderate charges, and thus engraft on it the industrious man's club-house.

To support the literary and scientific institution, 866*l.* could be raised at 1d. per share per week, payable half-yearly, in advance.

I am, Sir, yours, &c.,
St. John's Wood. F. W. A. Alder.

WESTMINSTER COURT OF SEWERS.

On Friday, the 6th inst., a numerous Court was held. The Hon. Frederick Byng was chosen chairman. The cash balance at the bankers was declared to be 14,585*l.* 13s. 8d. After some routine business, No. 9, on the business paper, was called on. 9. Mr. Leslie to move, in consequence of the resolution passed on the 16th January, 1846, "that it is not expedient to invite candidates to apply for the office of surveyor until a trial shall have been made of the fitness of Mr. Phillips for that office, whose form of Sewer has been adopted by the Court," that Mr. Phillips' appointment be made, as chief surveyor, upon trial for six months, at a salary of 250*l.* per annum.

Our limits prevent us, at this moment, from giving more than the unexpected result of the division.

For Mr. Phillips' appointment upon trial for six months, 14:—Messrs. Leslie, Unwin, R. Gunter, Marriott, Cumberlege, Fuller, Wilmott, B. E. Hall, Wood, Hon. P. P. Bouverie, John Gunter, John Branscombe, John Bidwell, Hon. F. Byng. Against it 16:—Messrs. Le Breton, Kendall, F. Crace, Thomas Allason, E. Willoughby, W. Perry, W. L. Donaldson, J. H. Johnston, George Gutch, Robert Cantwell, W. Hawkes, George Knight, W. Leverton, L. Bathurst, E. Page Clowser, Thomas Moss.

It was then ordered that a special Court should be held on Friday, the 13th instant, at one o'clock precisely, for the following business:—

1. To rescind the following order of Court of the 16th January, 1846:—"That it is not expedient to invite candidates to apply for the office of surveyor until a trial shall have been made of the fitness of Mr. Phillips for that office, whose form of sewer has been adopted by the Court."

2. To take such steps as shall be necessary for the appointment of a chief surveyor and drawing clerk. The salaries, &c., to be determined upon.

An able report from Mr. Phillips was then read, pursuant to an order of Court of the same 16th of January, on the state of the sewers and sewerage in Stafford-street, Stephen-street, and vicinity, with accompanying plans, sections, and estimates, and the Court ordered the report to be printed, with lithographs of the plan and sections, and to be immediately distributed to the commissioners.

The proceedings of the commissioners are quite beyond our comprehension; they seem really to be doing all in their power to weaken public confidence in them. On the sixteenth of last month they gravely discussed the question, and decided that it is not expedient to invite candidates for the office of surveyor until a trial be made of Mr. Phillips. On the sixth of the present month they refuse to allow him this trial, and notice is given for the thirteenth, of a motion to rescind the previous order, proceedings, as we venture very respectfully to suggest, in no way calculated to make their decisions respected. As regards Mr. Phillips, we much fear that his candour and straightforward conduct (apparently, perhaps, in opposition to the views of his superiors), have created a personal feeling against him in the minds of some of the commissioners. We sincerely trust they will on consideration put this entirely on one side, and be guided in their decision solely by the evidence they have before them of his fitness for the office.

New Books.

The History and Antiquities of Brentford, Ealing, and Chiswick, interspersed with Biographical Notices of Illustrious and Eminent persons who have been born, or have resided there during the three preceding centuries. By Thomas Faulkner. 8vo. Nichols and Son, 1845.

This volume contains notices and accounts of many persons and objects which the architect, the builder, and the general reader cannot fail to be interested in. Mr. Faulkner has long been known as a diligent labourer in topographical literature, having previously published histories of Chelsea, Hammersmith, Fulham, &c., and has at length brought out the above respectable volume, detailing and putting on record much valuable and curious matter respecting the very interesting parishes named. It is rather singular that the county of Middlesex, in which the metropolis is seated, has never yet had its local historian, though the adjoining and surrounding counties of Kent, Surrey, Essex and Hertford have each and all been very copiously elucidated by Hasted and others; by Manning and Bray, and by Brayley; by Morant, and by Chauncey, and by Clutterbuck. Hence we hail with satisfaction, every new work that tends to furnish original information on any parish or district of the metropolitan county.

Brentford is noted in historic, dramatic, and electioneering annals; and relative to it we find, in the volume before us, several curious notices. In the Saxon times, a noted battle was fought there between Edmund Ironside and the Danes, when the former was traitorously murdered by his brother-in-law, Edric Streone. In the time of King Henry VI., a chapter of the order of the garter was held at the Lion Inn, in this town. Six Protestants were burned at the stake here in 1558.

The civil, or rather barbarous, wars of the seventeenth century have left records of some of their conflicts and murderings in connection with this town. In November, 1642, several successive conflicts took place here between the royal and the parliamentary armies and rabble, in which the most revolting scenes of murder, rapine, burning, plundering, and blaspheming occurred. These events serve to mark the features of the respective times.

If Ealing offers but few objects of an historical nature, we shall find that paucity amply compensated in Chiswick, which abounds with topographical and biographical interest. In this parish there are many persons and things to detain and attract the attention of the reader and visitor. Belonging to, and either natives of, or buried here, we recognize the names of Sir Stephen Fox, Earl of Burlington, the Duke of Devonshire, Duchess of Devonshire, and branches of that family; Hogarth, Sharp the engraver, Henry Neele, De Loutherbourg, and others.

The illustrations are hardly so good as they should have been.

Statistics and Calculations essentiallg necessary to persons connected with Railways or Canals. By Samuel Salt; Bradshaw and Blacklock, Fleet-street, 1845.

A very valuable set of tables, almost indispensably necessary to parties connected with railways and the carrying trade. Good advice, in the shape of mottos, is plentifully interspersed. The first of them is well worth repetition—

"Take pleasure in your business, and it will become your recreation."

The Year Book of Facts in Science and Art. Bogue, Fleet-street, 1846.

Pope says, "What should one read for? For! why to know facts;" and truly nothing is to be done without them. "The wisest in council," remarks Burke, "the ablest in debate, and the most agreeable companion in the commerce of human life, is that man who has assimilated to his understanding the greatest number of facts." What more need be said to recommend the little volume now before us to all our readers; we would especially mention it as a fitting present to the young.

Correspondence.

DEFECTS IN CAST-IRON GIRDERS—CONVEYANCE OF GIRDERS.

SIR,—I this morning witnessed an occurrence of rather a curious character. As a timber carriage was proceeding down Aldersgate-street with a very heavy girder for the Money Order Office, it broke in two pieces about 15 feet from one end, to the injury of a horse; now it strikes me, if the girder had been placed on edge instead of flatways, this would not have happened. It appears to be a general practice to load girders of this description so, but this was a very long one about 45 feet; the bearings of carriage were about 20 feet apart, so that it hung about 12 feet over each end. The great swag thus necessarily produced is a dangerous test for cast-iron.

A few observations from you as a caution to others would be valuable, and may prevent similar accidents.—I am, Sir, yours, &c.

W. A. L.

Miscellanea.

IMPROVED GAS BURNER.—Some months ago we laid before our readers drawings of an improved stove, and means of ventilation, arranged and patented by Mr. Leslie. The theory of combustion, and the best mode of effecting combustion practically, have occupied this gentleman's attention several years; he invented a gas-burner some time ago, the best of its kind, and of which thousands have been used, and he has now invented a second that promises to supersede all others, giving a greatly improved light with less gas. Its construction is perfectly simple; we avoid describing it, as the proceedings necessary to secure the invention in France are not yet completed, but think it right to recommend it to the prompt attention of gas companies and consumers.

NAIL FORGERS' STRIKE.—Upwards of 400 nail-forgers in Hales Owen are again on the strike. It will perhaps be remembered that some weeks back a similar strike took place, when the masters, after mature consideration, agreed to give the full price, without discount; accordingly the men commenced working, and continued doing so up to the last two or three weeks, when the principal master began to reduce the make per thousand, on some sorts, equal to a discount of from 10 to 20 per cent. In consequence, the nail-forgers' association have caused the workmen to strike, and are now supporting them at a cost of about 80*l.* per week.—*Wolverhampton Chronicle.*

STATISTICS OF PARIS.—Paris says the *Constitutionnel*, has a population of 912,035 souls; it covers a superficies of 396,800 square metres, or 3,439 hectares, 68 ares. There are 42,000 houses, 1,922 public thoroughfares, 57 barriers, 46 *chimins de ronde*, 37 quays, 20 boulevards, 37 avenues, 133 squares, 37 bridges 105 "courts" or "cities" cloisters, &c., 9 palaces, 23 remarkable edifices, 6 public gardens, 4 principal arches, 5 columns, 1 obelisk (the Luxor), 35 libraries, 15 museums, 28 fountains, 38 churches, 25 convents, 26 hospitals, 4 equestrian statues, 24 theatres, and 39 barracks.

PERSHORE ABBEY CHURCH.—This venerable edifice is at present undergoing extensive and necessary improvements. The chancel is being completely restored, and in addition, the pews are being re-arranged, and the pulpit and reading-desk placed in a more eligible position.

NEW CHURCH IN WESTMINSTER.—Miss Burdett Coutts is said to have contributed no less a sum than 30,000*l.* for the erection and endowment of a church, parsonage-house, and schools.

EXTINCTION OF FIRES.—A correspondent in *Mayler's Bath Paper*, considering how many fires are destructive for want of early supply of water, suggests the construction of a sufficient number of water-carts, so as to supply each fire-engine station with one or two of them; that they be constantly filled with water *saturated with pearlash*; and whenever the engines are ordered out, that they be accompanied by one or more of these water-carts. On the arrival of the engines at the spot where the fire has broken out, the firemen are to commence their operations with a supply of this *prepared water*, conveyed from the carts by means of a hose or fire buckets; after the carts have exhausted their cargoes (and, in the event of no water being procureable on the spot) they are to proceed at the quickest trot, or canter, to the nearest pump, well, watercourse, or river, for a supply of water; they are then to return to the scene of action to replenish the engines; after which they will return to the station (if not further needed), with the exception of such as may be required to remain on the spot for the conveyance of individuals who may have sustained injuries to the nearest hospital. It is the opinion of an eminent professor, that *one pound of pearlash* will be required for each gallon of water; the pearlash must be dissolved in hot water previous to being mixed with the cold. Water saturated with pearlash thrown upon a fire will instantly extinguish it if of ever so combustible a nature. Water-carts have for a considerable time past been employed at Liverpool, to accompany the fire-brigade when ordered out; also at Plymouth and Devonport

OPEN THE CATHEDRALS!—"The dean and chapter of Norwich have given orders that their cathedral shall be opened to the public two hours a day. "Magnanimous dean and chapter!" says the *Edinburgh Weekly Express*, "Generous dean and chapter! Condescending dean and chapter! Great, no doubt, is your self-glorification at having made the tremendous sacrifice of throwing open, for two whole hours every day, without money and without price, the church of God that is under your control. Butah! good dean and good chapter, you have not made such a wonderful concession after all. You appear not to be aware that the cathedral church of Norwich is not yours, but the nation's—not yours, but the people's—and that, consequently, in keeping it shut up for all but two hours a day, you perpetrate a monstrous wrong, and commit a monstrous fraud. In sober truth, the conduct of this dean and chapter of Norwich, as well as of all other deans and chapters in England, is most abominable. They make show-places of their churches as if they were theatres."

ART-UNION CARTOONS.—His Royal Highness Prince Albert inspected the cartoons on Monday last, and expressed himself warmly as to the merits of several of them. The exhibition will close this evening, Saturday. The committee propose, with the consent of the artists, to reduce a certain number of the cartoons and issue them in outline. The following additional names of competitors have been communicated to us by correspondents:—"Alfred surrounded by his Family," *W. P. Salter.* "Ill May-day," J. Leighton. "Ancient Britons defending their Families," and "Spenser reading the Faërie Queene to Sir Walter Raleigh," Marshall Claxton.

CHIEF COMMISSIONER OF WOODS AND WORKS.—Lord Lincoln has been appointed secretary for Ireland; Lord Sandon is spoken of as his successor in the above office. We take this opportunity to express our thanks to the late chief commissioner for the assistance afforded us by his lordship, and a most courteous expression of his approbation.

THE masons employed in building the bridges and culverts on the Newcastle and Berwick Railway, near Alnwick, have struck work for an advance of wages. They have made a proposal to their employer to resume work on receiving the same wages as are paid on the southern part of the line—viz., 26*s.* per week.

PUBLIC PARK IN LIVERPOOL.—The Liverpool corporation has agreed to give upwards of 80,000*l.* for the Newsham estate of 200 acres, contiguous to the Zoological Gardens, for a public park. The purchase of other ground, so as to surround these picturesque gardens, is talked of.

FALL OF A WAREHOUSE AT LIVERPOOL.—Last Saturday week a corn and flour warehouse, seven stories high, and situate in Moor-street, Liverpool, fell with a tremendous crash. There were at the time of the calamity 11,000 sacks of flour, a large quantity of the same material in barrels, besides much cotton and grain in the building. The cause of the accident is believed to have been the loading of the warehouse beyond its capacity. Fortunately no lives were lost.

THE parish church of Uffculme, near Collumpton (in the peculiar jurisdiction of the Dean of Sarum), is about to be enlarged, and a spire added to the tower, and other improvements effected, at an expense of 1,300*l.* of which sum 800*l.* has already been raised by voluntary contributions.

CARVED FURNITURE.—A public dining-room at Campbell's Scotch Stores, in Beak-street, Regent-street, recently built by Messrs. Cubitt of Gray's-Inn-lane, is fitted up with a greater amount of decoration than usual. The furniture which was executed by Greig of Farringdon-street deserves praise.

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For the erection of a church at Eye, near Peterborough.

For the erection of the stations and lodges at Bentley and Ardleigh, on the Eastern Union Railway.

Fos supplying the East-India Company with British iron.

For the erection of a portion of the River Wall at the northern extremity of the Dock estate, Liverpool, being about 360 feet in length by 40 feet in height.

For the erection of a new church at East Compton, near Oldham.

For the erection of a lighthouse at Shoreham.

For the erection of a workhouse in the Harrow-road, for the guardians of the poor of the parish of Paddington.

For the erection of a monastery near Market Weighton.

COMPETITIONS.

A premium of 50*l.* is offered for the best approved plan in the elevations and sections of a public exchange, to be erected at Blackburn. Two additional premiums of 20*l.* and 10*l.* will be awarded to the second and third best.

Plans and designs are required for an asylum to be erected in the neighbourhood of London, for aged and infirm fishmongers and poulterers. The style to be Elizabethan or Gothic, and the cost not to exceed 3,000*l.* The party whose design is most approved of will be appointed to superintend the erection. Ten guineas and five guineas will be awarded to the second and third best designs.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At the Half-Moon Inn, Taunton: 161 capital maiden oak, 163 maiden elm, and a quantity of ash, poplar, sycamore, walnut, and yew timber trees; also 53 oak, ash, and elm pollard timber trees.

In the Alder Car, Mistley Park, Essex: 103 loads of oak, ash, elm, beech, lime, Spanish chesnut, horse chesnut, fir, and cedar timber trees. Many of the oaks and ashes are of large dimensions, and particularly straight and clear.

At the Rose and Crown Inn, Birdsmoregate, Dorset: 250 prime maiden oak, 45 ash, and 6 elm timber trees. The greater part is of good dimensions.

At Melton, near Woodbridge, Suffolk: a quantity of oak, ash, poplar, and chesnut timber trees, &c.

The Hassells, Sandy, Bedfordshire: a large fall of long large and straight, larch and Scotch spires.

At the Star-inn, East Tetherley, Hampshire: upwards of 1,000 capital firs, nearly 300 fine large elms, ash, and beech timber trees, &c.

At the Anchor-inn, Combwich, Somerset: 135 elm, and 19 ash timber trees, and 12 alder poles.

At Baverstock, Wilts: a quantity of prime ash, beech, sycamore, and other timber, &c.

On the East Tetherley and Lockerley estates, near Salisbury: an extensive sale of capital oak.

At the King's Arms-inn, Oxenwood, Hants: 300 prime oak trees.

At Mucking Herony, Essex: 100 large elm timber trees, and 400 ash trees of various sizes and superior quality.

At the Manor House, Ashbocking: 200 Scotch firs, 40 ash, elm, and willow trees, 200 ash and elm pollards, &c.

On the premises in Farringdon-street: All the brickwork and materials of the outer walls of the late Fleet Prison, containing nearly 1,000,000 of the finest stock bricks, a large quantity of stone coping, &c.

TO CORRESPONDENTS.

"W. H. O." can hardly hope to keep out the water effectually. Something might be done by rendering the floor and walls impervious. John's cement might be tried.

"Constant Reader" (Kensington).—*We are disposed to think that the upper part of the wall may be dealt with as an external wall. We know it has been permitted in a similar case.*

"Zanoni."—If B assented and permitted the work to be done, A might have refused to alter it. See a case in the first article of to-day.

"Old Subscriber" (Nottingham).—*We seriously advise him not to attempt "to warm his church by means of open charcoal braziers placed in different parts of it."*

"Andrew Dell."—*Weale, Holborn.*

"A Subscriber.—*An advertisement will cost you 3s. 6d.*

Books.—We are compelled to decline recommending books.

"John de la Haye," "B. B.," "W. Dredge," "Marsh Nelson," *will appear.*

Received.:—"Edwin Dearlove," "Practice on Portland Stone," "J. Wilson," "Thomas Sanders," "Carbon."

ADVERTISEMENTS.

ROYAL ADELAIDE GALLERY, Lowther Arcade, West Strand.—During the week, the magnificent Tableaux Vivans of Professor Keller, after the works of the greatest Masters both Ancient and Modern, will be continued every Morning and Evening: The New Model of Nickel's Compressed Air Railway, and Pilbrow's Atmospheric Railway, will also be continually exhibited daily; an entirely new entertainment by Mr. J. Russell, entitled an Hour of Table-talk, enlivened with Songs and Anecdotes, will be given every Tuesday, Thursday, and Saturday, during the week; the Concert and Singing every evening, with various other Attractive and Instructive Exhibitions.—Admission One Shilling, Schools Half-price.

REMOVAL.
THOMAS JOHN CROGGON
Begs to inform the Trade that he has removed to
8, LAWRENCE POUNTNEY-HILL and
THREE CRANES WHARF, 69, Upper Thames-street.
Orders addressed to either place for ROMAN CEMENT of genuine quality will be executed with promptitude and the strictest regard to quality and economy.

TO BUILDERS, PLUMBERS, ENGINEERS, AND IRONMONGERS.
BEST PAN WATER-CLOSETS, with round Valve, complete, 30s. each.
Plumbers' Bib, Ball, and Stop Cocks, ½ in., 20s.; ¾ in., 28s.; 1 in., 56s. per doz.
Lifting Force Pumps on Planks, 2½ in., 4l.; 3 in., 4l. 15s.
Washing Coppers, 1s. 1d. per pound.
Water Balls, 4 in., 15s. per doz.
Gun Metal Steam Cocks, Safety Valves, &c., and every description of Brass and Copper Work equally low, at A. McGLASHAN and Co. Brassfounders and Coppersmiths, 16, Long-acre.—N.B. Every article warranted.

DREDGE'S PATENT TAPER CHAIN for Bridges and Piers of any power and length, and also free from undulation and oscillation, is immensely stronger and less expensive than the old plan. A comparison, with numerical calculations, shewing its economy, safety, &c., will be found in the "Mechanics' Magazine," No. 1172.
Mr. DREDGE has erected in Great Britain alone fifteen public bridges, four of which are county bridges for common road traffic, varying in length from 50 to 294 feet. The very extensive and constant destruction of bridges, so fatal to life and property, arises solely from the error of principle in their construction.—Bath, Feb. 1846.

CALIGRAPHIC BLACK LEAD PENCIL.
Manufactured by E. WOLFF and SON, 23, Church-street, Spitalfields, London.
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SIR WILLIAM BURNETT'S PATENT for the Preservation of Timber, Canvas, Cordage, Cotton, Woollen, &c., from Decay.
TESTIMONIALS.
From THOMAS GRAHAM, Esq., M.A., F.R.S., L. and E., Professor of Chemistry, University College, London.
"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.
"The wood appears to be fully and deeply penetrated by the metallic salt; I have found it in the centre of a large prepared paving block.
"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not coat the surface of the wood by efflorescence, like the crystallizable salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.
"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Toplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.
"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as supplied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotised principles it contains, by entering into chemical combination with them.
(Signed) "THOMAS GRAHAM."
"University College, 25th October, 1845.
From Professors BRANDE and COOPER.
"London, 4th November, 1845.
"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.
"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.
"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibre of the substances in question.
"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.—(Signed) "WILLIAM THOMAS BRANDE,
"JOHN THOMAS COOPER."
"To Sir William Burnett, K.C.H., F.R.S., &c. &c."
Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 53, King William-street, London-bridge.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.
TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above.
N.B.—A weighbridge on the premises.

PAYNE'S PATENT PROCESS FOR THE PRESERVATION AND IMPROVEMENT OF TIMBER, &c.
PAYNE and LODER beg to invite the attention of Engineers, Railway Companies, Architects, and others to the above process, and to state that they are prepared to erect the necessary apparatus in any part of the United Kingdom where the quantity is sufficiently large to cover the outlay of its removal.
Further particulars can be obtained at Whitehall-Wharf Cannon-row, Westminster, or at their other stations, Fleetwood-on-Wyre, Lancashire; Wisbeach, Cambridgeshire; Union-Wharf, Southampton; and Guildford, Surrey.

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ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—Wyatt, Parker, and Co., Agents. The above tiles have lately been considerably reduced in price.
N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

HIP TILES to suit slate roofs in colour; Ridges, with plain or rebated joints, roll tops, and vertical ornaments; drains, many sizes, with plain or socket joints; paving in squares, hexagons, octagons, &c., different colours; roofing, in Grecian or Italian styles, other devices also, or plain; conduits, which do not injure pure water; fire-bricks and tiles; clinkers, and out-door paving; sundry wall-coping, garden-borders, chimney-tops; also tubular and other flues of peculiar material. No agent, but a depôt at 22, WHITEFRIARS-STREET, FLEET-STREET, LONDON, under Mr. PEAKE'S personal care, to supply genuine TERRO-METALLIC goods at fair prices as per quality; also, additional Stock at No. 4 Wharf, Macclesfield-street, South, City Basin.
The TILERIES, TUNSTALL, STAFFORDSHIRE, are near the centre of England, whence boats are sent direct to any inland place; or to the Mersey for the coasts, the colonies, and elsewhere.

HOLBORN AND FINSBURY SEWERS, MIDDLESEX.
THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persons about to Purchase or Rent Houses or Property, or take Land for Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Persons to apply for at the above Office. By the Court,
STABLE and LUSH, Clerks.

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDDLESEX, No. 1, Greek-street, Soho-square.
TO BUILDERS and Others interested in buildings or in ground for building upon, within the district under the jurisdiction of this Court, drained by watercourses falling into the river Thames, between the city of London and the parish of Fulham.
The Commissioners hereby give notice, that by an Act of the 47th Geo. III. (chap. 7, local) it is required that, previously to the making of any new sewer in any street, lane, or public way, or in any part intended to become a street, lane, or public way, or to carry or drain off water from any one, or more than one house, building, yard, or ground, into any sewer under their management, or within their jurisdiction, a notice in writing shall be given to them, or to their clerk at their office, and that such new sewer or sewers shall be constructed and made in such manner and form as shall be directed by the said Commissioners, and not otherwise.
And, in order to prevent the serious evils and inconveniences that must arise from ground proposed to be built upon being excavated at too great a depth, the Commissioners have directed that, upon application being made at this office previously to the excavation of such ground, information shall be given as to the lowest depth at which the same can be drained.
And the Commissioners do also give notice that, whenever the lower floors or pavements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any sewers, or drains into sewers, to be made for the service of such buildings.
It is recommended to all persons about to purchase or take houses, or other premises, to ascertain whether such premises have separate and distinct drains into common sewers.
All petitions must be delivered at this office at least three clear days before they are presented to the Commissioners; and all such petitions will be called on in the order of their application, and the name of any party not present when called on to support the application will be struck out, and the proceedings must in consequence be commenced de novo.
All communications made with any sewer without leave of the Commissioners will be cut off, and the parties making the same will subject themselves to a fine.
The provisions of the Metropolitan Buildings Act (7 and 8 Victoria, c. 84) do not supersede the authority of the Commissioners of Sewers in the above respects, but their powers are expressly reserved, and their regulations made subservient to the purposes of that Act. The execution of such works, under the superintendence of the district surveyor alone, cannot therefore warrant the making of any sewers or drains within this commission, nor relieve the parties making them from the penalties above mentioned.
By order of the Court,
LEWIS C. HERTSLET, Clerk.

The Builder.

No. CLIX.

SATURDAY, FEBRUARY 21, 1846.

THE removal of Lord Lincoln from the office of Chief Commissioner of Woods and Works, together with the more than ordinary degree of excitement prevailing in the political circle, will probably have the effect of postponing for a time the revision of the Buildings Act. In the meanwhile, the public do not cease to call for this revision: the parishioners of St. Mary Abbot, Kensington, are summoned to meet in vestry on Monday morning next, to consider what steps should be taken with the view of immediately obtaining it; and other parishes, it is said, contemplate holding similar meetings for the same purpose. From letters that we have received, it would seem that our correspondent of February 7th (p. 61), "A District Surveyor," put into words the feeling of a large number of persons when he said, there is one defect "pervading the whole measure, which appears to me a primary cause of the failure, viz., an unnecessary interference with private rights beyond what is really necessary to protect the public; protection to the public being in my mind a sufficient, but the only reason upon which such an Act can be justified, and the only basis upon which its provisions should be founded." We trust that the parties to whom the revision of the Act may be committed will proceed with a full appreciation of this principle; we should then have little fear of the result.

Pending the desired alteration, the immediate appointment of an official referee in the place of Mr. Higgins, who now no longer acts, is indispensably necessary. The position which the excellent registrar is *compelled* by the Act to take, in the absence of a second referee, has proved distasteful to the building public, who desire, on applying to the referees, to submit themselves to the decision of practical men, and to have as little *law* as possible. A strong statement on the subject has been submitted to us by an able and accomplished architect; but we do not think it desirable to insert it, at all events at this moment. We have great respect for the gentleman now holding the appointment, and should feel a delicacy in referring to any subject calculated to annoy him; in the present instance, however, we are satisfied this cannot be the case, as we know that he would gladly resign his forced office of referee, and confine himself exclusively to the office he fills so well—that of *registrar*.

We take this opportunity to mention that the Buildings' Office will be removed in the present week from Trafalgar-square to No. 6, Adelphi-terrace.

The following are the heads of some recent awards:—

CUTTING INTO CHIMNEYS.

Mr. B. Davies desired to remove the chimney-breast situated in the party-wall on the ground-floor of a house in Powis-street, Woolwich, and to carry the breast in the upper floor on a York landing, supported by two iron columns.

The district-surveyor objected under schedule F.

The award was, "that inasmuch as we have reported our opinion to the Commissioners of Works and Buildings, that a modification of the rules of the Metropolitan Buildings Act to the effect stated in the said requisition, ought to be made, we are of opinion that the surveyor of the district will be justified in permitting the work to be done as stated in the said requisition, and as shewn in the drawings thereto annexed, so that the same be done in conformity with all the other rules and regulations of the Metropolitan Buildings Act, and to the satisfaction of the surveyor of the district."

RENEWAL OF WOODEN PROJECTIONS.

Mr. Hill of Lewisham, having renewed a wooden eaves-gutter in front of an employer's house, and secondly in respect of "the wood covering of shop front pentice,—about 3 feet in length at one end thereof, having been stripped and renewed with similar materials; the district surveyor, Mr. Badger, gave him notice of irregularity. The referees' award was that, "Inasmuch as the renewal of wooden eaves-cornices is contrary to the said Act, we the said official referees do hereby determine and award, that the eaves-cornice in question in so far as it is of wood, must be taken away, and if such cornice be restored, it must be formed and made of uninflammable materials, or the present eaves-cornice must be covered with some proper and sufficient incombustible material, under the superintendence of the surveyor of the district, and with regard to the repair of the wood covering of the shop-front, seeing that the same is only about 3 feet in length, and a small addition to an old covering used for the purpose of trade, and being of the nature of a cornice to a shop-front, we the said official referees do further award, that such covering may remain."

Costs of office 1*l.* 11s. 8d., and 10s. 6d. to the district surveyor, to be paid by Hill.

PARTY-WALLS.

Mr. Gosling, of Edward-street, Woolwich, "applied to be allowed to use a party-wall 8½ inches thick (which was built under the Act to a fourth-rate building, three stories high), for a third-rate building of the same height as the fourth-rate, viz., three stories, consisting of cellars, ground and one-pair floors; Mr. Gosling, finding that the wall was not thick enough, began an external wall 14 inches, or 1½ brick thick against the 9-inch party wall, but as it cut up his space, and was much more expensive than he contemplated, he was induced to make the application. The district surveyor, Mr. Aitchison, was of opinion that as his building was to be precisely of the same height as the other, and merely differed in being of rather larger area, that a 9-inch wall would be as efficient for all practical purposes as it would be between two fourth-rate buildings."

The referees said—"we are not authorized to relax the rules of the Metropolitan Buildings Act in respect of party-walls as it regards their thicknesses in such cases, and if the said William Gosling desires to build a house against the party-wall in question, he must build a fourth-rate house, or must take down and rebuild the said party-wall of the thicknesses required by the said Act for the rate of the house which he proposes to build, or must build an external wall of the thicknesses required by the said Act for the rate of the house which he proposes to build against the said existing party-wall."

MR. GALLY KNIGHT, M.P.

THE death of Mr. Henry Gally Knight, which occurred on the 9th inst., at his house in Lower Grosvenor-street, will be deplored as well by all who are interested in architectural literature, as by those who enjoyed the gratification of being acquainted with him. He was in his fifty-ninth year, and has sat in Parliament since 1834. Mr. Knight's literary taste exhibited itself in the first instance in a series of poetical tales, illustrative of the countries through which he had travelled immediately after leaving Cambridge, and where he had renewed an acquaintance with Lord Byron. These failed to obtain for him any great reputation as a poet, and after the publication of a dramatic poem called "Hannibal in Bithynia," he appears to have deserted the muses, and to have devoted his leisure to the investigation of architectural history at home and abroad.

Startled by the early dates ascribed by the Norman Society of Antiquaries to certain churches in the pointed style, he landed at Dieppe in May, 1831, examined the buildings and the *libraries* throughout the country, and on his return published "An Architectural Tour in Normandy," which conclusively destroyed the assertions of the French antiquaries. Speaking of the want of precise evidence as to the date of existing buildings, or of the particular portions of those buildings upon which the solution of antiquarian problems frequently depends, he said wisely:—"The best evidence is contained in the buildings themselves,—the evidence of construction and style. This evidence is a fact, and a fact of more weight than bushels of inferences, conjectures and opinions. Against the evidence of style, the evidence of silence (often much insisted upon) is of no avail, for unrecorded ruin is, in any instance, much more probable than the real existence of an unprecedented anomaly."

At the conclusion of the Tour are two valuable essays, one on Norman architecture in Normandy, the other on Norman architecture in England.

Having thus reviewed the works of the Normans in these two countries, he was desirous of completing the survey "by giving some account of their operations in the third scene of their conquest and dominion, Sicily;" and accordingly started for Messina in August, 1836, and in 1838, published a sequel to the Tour, under the title of "The Normans in Sicily." This is prefaced with an historical notice of the events which led to the establishment of the Normans in the south of Europe. His third, last, and best work is called "Ecclesiastical Architecture of Italy, from the time of Constantine to the fifteenth century;" splendidly illustrated by Mr. Owen Jones.

In each of the former cases he had engaged a professional architect to assist him; Mr. Richard Hussey in the first instance, and Mr. George Moore (whose present sad state we mentioned last week) in the second; and appears to have spared no trouble and expense in obtaining correct data. We have great satisfaction in recording, that nearly his last act was one of benevolent liberality. Mr. Wyatt, the architect, having attended him a very short time ago, on the subject of poor Moore, Mr. Knight immediately wrote a check for fifty pounds, and presented it as his contribution to the fund it is desired to raise.

Mr. Knight was a member of the commission for the advancement of the fine arts, and was a constant attendant at the anniversary meetings of several of the metropolitan societies connected with literature and art.

DECORATIONS, BUCKINGHAM PALACE.—The grand staircase has been decorated, under the direction of Mr. Gruner, and is now completed after the manner of the Italian masters. On the ceiling four fresco paintings, on gold ground, representing morning, evening, noon, and night, have been executed by Mr. O. Townsend. Wreaths of flowers, surrounding these frescos, are the work of Messrs. Murdock and Denby. The imitations of marble, executed by Mr. Moxon, are admirable.

NEW ORDER OF ECCLESIASTICAL ARCHITECTURE.—The spire of Grace Church is like an alligator's tail sticking up out of a thimble, if there ever was such a thing.—*New York Tribunal.*

REPEAL OF THE BRICK DUTIES.

Sir,—Having seen some observations in your paper of Saturday, the 7th, on the repeal of the brick duties, I beg to forward you a copy of a letter I addressed on the 24th ult., to Sir Robert Peel on the same subject.

I should suggest that a petition should be prepared immediately to the legislature for the repeal of the duty, and as your journal is now the acknowledged organ of the building interests and is circulated in every town in the kingdom; copies of the petition might lie at the offices of your agents in the provinces and in the metropolis, and in the course of a few days, the opinion of the building trades on a matter so important to their interest could be laid before Parliament.

In the metropolis alone, there are upwards of 45,000 persons occupied in the trades connected with houses, and the number of houses erected in 1841 amounted to 3,102.

In the provinces, the number of houses erected in the same year was 30,631, and the total number of persons connected with the building trades was upwards of 334,000.

No manufacture in the country has so large a number of persons employed upon it as are connected with the building trades.

A petition emanating from so numerous and influential a class, would no doubt command the attention of the legislature.

Should the suggestions I have taken the liberty of offering be carried into effect, I shall be happy to assist in any way in my power, and to subscribe 5*l.* to the funds for defraying the necessary expenses.

I am, Sir, &c., Marsh Nelson.

Reform Club, 10th Feb. 1846.

Sir,—As I feel assured that any suggestion with reference to taxes which press unequally, will be favourably received by you at this time, more particularly if it can be shewn that by amendment or repeal increased employment will be given to the working classes, I have ventured to address you on the subject of the brick duties, which is frequently brought under my notice.

Bricks are now selling for 40s. a thousand, and the cost to make them is not more than 25s., including a duty of 5s. 10d. a thousand, and even when the prime cost is 20s. the price is seldom below 30s. The duty is levied whilst the bricks are "green in the hacks," i.e. as soon as they are stacked in rows to dry, and it is payable in six weeks from the time it is levied. Under the most favourable circumstances the bricks cannot be dried and put into the clumps or kilns, and burnt ready for sale by the time the duty is payable.

In wet seasons, when bricks are a long time drying in the hacks, they are not ready for sale for many weeks after the duty has been paid. The maker has therefore to provide capital to pay the duty in *anticipation* of the manufactured article. This excludes the small capitalist from the manufacture, and even the large brick-makers are often obliged to make great sacrifices in wet or bad seasons, to meet the duty payments. But another injustice arises from this mode of collecting the duty. A storm or succession of wet weather will frequently destroy or seriously injure, several hacks of bricks; upon these also the duty must be paid, as no remission is allowed after they are once stacked in the hacks. A misfortune of this kind has been the ruin of several brick-makers, and in addition to the loss of the undried bricks, the exciseman seizes the remainder of the bricks in the field for the duty on those destroyed.

These reasons will I think sufficiently explain the causes that operate against the small capitalist entering into brick-making, and they will at the same time, account for the large profit they bear upon the prime cost to cover contingencies.

Bricks are manufactured articles, and the same facility should be afforded to those engaged in the trade by the legislature, as is afforded to other manufactures. Taxing a brick before it is dry or burnt, is like taxing the raw material of any other manufactured article. Bricks in the hacks when the duty is levied, are but a remove from lumps of clay.

The manufacture of bricks has an additional claim to be unshackled over most other articles. It is a manufacture that is produced almost entirely by human labour, and in a season of the year when most other out-door occupations are abandoned. In the winter time the earth is prepared, and a large number of hands are always employed upon this part of the process.

By the removal of the duty every small builder would have his brickfield, and such would be the competition, that improved modes of manufacture would be adopted, and I have no hesitation in saying, that in a short time, the price would be reduced one-half, and employment given, particularly in the agricultural districts, to a great number of labouring men. By taking off the duty at this season of the year, additional labourers would at once be set to work to prepare the earth for the summer, and no injustice would be done to the large brick-makers, as the enormous price will shew that the stocks in hand are not sufficient to meet the demand till the new bricks come into the market next season, which is generally about the middle of May.

In another point of view, the brick duties are unfair. Why should the principal building material of a house be taxed in one county and not in another? The mere accident of its geological position is the cause. A man who lives over a stratum of stone pays no duty to build his house, but a man who has the misfortune to be located in a clay soil has to pay a duty; and hence it is, that in districts where good building stone prevails, the houses of the lower order are always larger and more commodious than in the brick districts. Every facility therefore should be given to cheapen the manufacture of bricks, to render their cost on a par with stone. But the duties press more heavily on the poor man than on the rich man. Bricks form a much larger proportion of the total cost of a cottage than they do of a mansion, and this is evident, from the absence of the ornamental plastering and other expensive finishings upon which no duty is levied.

The advantages to be derived from the repeal of this duty would not be confined to the brick-makers, and the employment at this time of the year of a large number of labourers; it would give a spirt to the whole building trade, and employment to carpenters, joiners, plasterers, and to workmen in every department of building. The last census shews that the population was more crowded per house, in the metropolis than at the preceding one, with a much smaller proportion of uninhabited houses and a decrease in the number building.

In 1831	there were	7·5	inmates to a house
,, 1841	,,	7·6	,,
,, 1831	,,	8	uninhabited to 100 in-habited
,, 1841	,,	4·7	,,
,, 1831	,,	21	houses building to 100 inhabited houses
,, 1841	,,	15	,,

Which indicates a demand for houses without a sufficient supply; and this demand is still continuing. The repeal of the brick duty would be a great boon to the agriculturist and the agricultural labourer, as it presses harder in the rural districts than in towns.

In the country, the demand being limited, the kilns are many miles distant, and then only the smallest possible number is made; as the maker, having to pay his duty beforehand, would be a serious loser if his stock was to remain long unsold. It is frequently the case in villages, that repairs to farm buildings and cottages are neglected from the dearness and scarcity of bricks.

I beg to apologize for troubling you with this lengthy statement; and were I not afraid of trespassing on your time, I should have extended my remarks to the advantage that architecture, and house building in particular, would derive from the manufacture of improved forms of bricks and of ornamental bricks. At present, a maximum size is fixed under a heavy penalty. The advantage could also be shewn, that the coal owners and ship owners would derive, from the increased consumption of breeze or small coal, an item of considerable importance in the manufacture of bricks. It could also be shewn what the effect has been of the repeal of duties of a similar kind, that on stained paper, for instance, in giving employment to capital of smaller amounts, in multiplying the number of workmen, and at the same time improving the manufactured article.

In conclusion, I beg to refer you, in support of my views, to Mr. McCullock's opinion on the same subject. Speaking of the brick duty, he says, "Sound policy would suggest its repeal, for no duty being laid on stone, the use of bricks is unfairly limited, and an injury done to those engaged in their manufacture."

I have the honour to be, Sir, your obedient servant, Marsh Nelson.

To the Right Hon. Sir Robert Peel, Bart., M.P.

THE FLORENTINE SCHOOL OF ARCHITECTURE.

SIENNA, AREZZO, AND PISTOJA.*

To that school of Italian architecture, which may properly be designated the *Florentine*, we have previously attributed a high degree of merit.† The grand and severe style of its elevations is precisely what an English architect, accustomed to the regular architecture of the Palladian school, might look at with some degree of surprise; but in the hands of one, sufficiently versed in the principles of design, a new style might be gained from these, having the advantages of each, yet with more of novelty, than just now our architecture is accustomed to exhibit. To what has been achieved in the Palladian style, we are able to point for a reply to many, who make an unfavourable contrast between the modern architecture of England, and that of other countries. But a style, which more than any other is governed by strict rules—the more indispensable from the constant use of the orders—requires also, more than any other, to fertilize and invigorate it, the frequent addition of foreign matter. By an architect, sufficiently alive to the real value of rules, much might be effected, without shewing any disunion of parts, and which might have an appearance of novelty, though only a new arrangement of previous ideas, the only form in which originality can be considered to exist. We do not forget, that something has already been attempted, by adopting that noble feature of the Florentine architecture, its cornice; but there are other materials. The general massive character is admirably adapted to a certain class of buildings; and the details of windows and rustics but require to be attentively studied by modern architects, to make of them, what the Roman architects made, a different style and school, whilst our habits and wants, added to our present position in the Palladian school, ought to produce something essentially new and characteristic. *Copy* the Florentine style, and we know of few so unsuitable to the expression of modern wants; *learn from it*, and *adapt*, and there is none from which more information can be acquired. Cornices, heretofore proportioned to an upper order, or proportioned ill, we should regulate as at Florence, by the height of the building, and with sufficient projection. In Gwilt's "Encyclopædia," page 747, the following table is given:—

In the Spannocchi palace, at Siena, the cornice is $\frac{81}{1000}$ of the whole height of building, or $\frac{1}{12}$=·081.

In the Piccolomini palace, at Siena, the cornice is $\frac{74}{1000}$ of the whole height of building, or $\frac{1}{13}$=·074.

In the Pojana palace, built by Palladio, at Pojana, in the Vicentine territory, the cornice is $\frac{71}{1000}$ of the whole height of building, or $\frac{1}{14}$=·071.

In the Strozzi palace, at Florence, the cornice is $\frac{69}{1000}$ of the whole height of building, or $\frac{1}{15}$=·069.

In the Pandolfini palace, at Florence, by Raffaelle, the cornice is $\frac{69}{1000}$ of the whole height of building, or $\frac{1}{15}$=·069.

In the Villa Montecchio, by Palladio, the cornice is $\frac{69}{1000}$ of the whole height of building, or $\frac{1}{15}$=·069.

In the Villa Caldogno, by Palladio, the cornice is $\frac{69}{1000}$ of the whole height of building, or $\frac{1}{15}$=·069.

In another villa by Palladio, for the family of Caldogno, the cornice is $\frac{66}{1000}$ of the whole height of building, or $\frac{1}{15}$=·066.

In the Farnese palace, at Rome, the cornice is $\frac{59}{1000}$ of the whole height of building, or $\frac{1}{17}$=·059.

In the Gondi palace, at Florence, the cornice is $\frac{57}{1000}$ of the whole height of building, or $\frac{1}{18}$=·057.

The conclusion to which Mr. Gwilt arrives is that the mean height for a cornice may be considered as $\frac{1}{15}$. By varying the rustics

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* Vide "Architecture Toscane, ou Palais, Maisons, et autres édifices de la Toscane, mesurés et déssinés, par A. Grandjean de Montigny et A. Famin, Architectes. Paris, 1837."

† Continued from vol. iii., page 618.

d plain surface, we might gain much the solidity and massiveness of the Florntine palaces, without the "heavy monony" which by some is considered, and erhaps is, a peculiarity in them. They were naracteristic of the inhabitants; our dwellings ould not be less so: we need no half castelted pile, where civil contest is no daily ccurrence; we have no use for lofty towers, e sign of aristocracy, and the means of ousing power, but we require the most precise tention to modern comfort, and desire that naracter to be expressed in the exterior.

In our previous notice of M. M. Grandjean e Montigny and A. Famin's work on the lorentine style, we deferred that part, which lustrates the examples in some parts of Tusany. Of such examples Sienna possesses veral remarkable ones, having a character mewhat differing from those of Florence. Ve remark in them the same political or soal influences, and the same general ingreients of design, but varied by the peculiarities f the ground, on which they stand.—Now rming part of the duchy of Tuscany, Sienna as formerly an independent state. Agitated y similar commotions, and often actuated by onflicting interests, Florence and Sienna ere frequently at war. The city stands on ne summit of a mountain in the midst of hills. rom its situation, there was less need of large nternal courts, an arrangement so desirable n a more confined atmosphere, whilst the eauty of the prospect led to the arranging teraced courts, looking on to the gardens down he side of the mountain. Whilst the courts re smaller, their porticoes are more rare than n the palaces of Florence, but the vestibule of ntrance becomes of more importance.—The own-house of Sienna is the oldest building of he city here illustrated. The style is that of he thirteenth century. It is a curious mixure of windows with pointed arches, arranged vith some attention to regularity, with the mahicolated parapet of a castle. Beside it tands a lofty tower perforated in every part or defensive operations. The interior of the ormer building underwent some alterations in he 14th century, and amongst the architects' ames we find those of Agostino, and Agnolo, f Sienna. Notwithstanding its peculiar chaacter, it has rather an imposing appearance, nd is commanded by thirteen different streets. A chapel near the entrance to the city is intesting, as being one of the works of Franesco di Giorgio, an architect and sculptor, who is said by his writings and his example to ave first subverted the style, practised by Giovanni da Pisa, and others. It shews that he architect had paid some attention to anique monuments, being very similar to the ancient temples and tombs on the Appian way, and the frieze is an imitation of that to the emple of Antoninus and Faustina. The crescents of the Piccolomini family are inserted in the modillion band.—The same architect built a small house of brick in the Corso, about the year 1460, which has some merit, and is remarkable for its perfect state of preservation. There are ornamented string courses, a large cornice, pilasters at the angles, the lower story being rusticated, with the courses alternately broad and narrow. The whole of the ornamental work is in terra cotta. The sacristy of the cathedral was constructed about the year 1450 by Pius II. It was intended for a library. The decorations are very elaborate, and it contains some paintings by Pinturicchio, from the cartoons of Raphael. It is, of course, in a very different style to that of the cathedral. "The loggia of the pope" was built by the same pontiff, in the year 1460. Francesco di Giorgio was the architect. It is quadrangular in the plan, presenting three arches, springing from Corinthian columns, with an inscription and cornice above, in the main front, one arch at each end, and a wall at the back. The architect executed the capitals and enrichments. These loggie were common in Tuscany. They were built by the nobility in the neighbourhood of their palaces, in order to assemble their friends and dependents to discuss the affairs of the republic, and frequently matters of science and art.

The Spannocchi palace was completed in 1472, the architect being Francesco di Giorgio. It greatly resembles the palaces of Florence, being rusticated the whole height, and having a bold cornice. It is in three stories, and the proportions are happily arranged. The ground story presents five arches of entrance, the arrangement of the arch stones being irrespective of the horizontal courses, and with the extrados pointed, both strong characteristics of the style;—above are two heights of windows and string courses. The windows have all the central column. The cornice is very peculiar, having between its cantilevers, busts projecting boldly from circular pannels. There are iron rings fastened in the wall, at the ground story, as in the palaces at Florence.—The Piccolomini palace in general design is very similar to the one just mentioned. It is, however, of nearly double the length, and a better character is given to the basement by the treatment of the rustics, the steps, and the base, and impost mouldings. The arch of entrance is larger than the four on each side. The crescent is seen in the enrichments of the cornice. The internal court has been elaborately decorated. The design is attributed to Francesco di Giorgio, and the date is supposed to be the commencement of the sixteenth century. The names of some other architects are mentioned as having been engaged at Sienna; amongst others, it is said that Baldassare Peruzzi was the architect of a second house of brick in the Corso, which has some details carefully executed in terra-cotta.

At Arezzo, besides the Gothic cathedral, there are several churches, and the hospital. The church "della Pieve" was restored by Giorgio Vasari, and in consequence of the care which the monks had taken of his education, and because his ancestors were buried there, he executed the work at his own expense.—The façade of the church of the Madona delle Grazie, near Arezzo, was by Benedetto da Maiano. It consists of a portico of eight columns with arches, supporting an entablature, and a boldly projecting roof. The frieze and the spandrils of the arches are elaborately decorated. This portico occupies about the same space as the body of the church, to which it is at right angles. There is much of the school of Brunelleschi in the design.—At Pistoja, there is a fine church, which was commenced in 1509. Ventura Andrea Vitoni, the architect, was at first a joiner, and was employed in that capacity upon some of the works of Bramante, at Rome. On his return to his native country, he was commissioned to build this church. Dying before its completion, another architect could not be found sufficiently skilful for the work, and it remained a long time unfinished, until at length it was completed in 1561 by Vasari, though not exactly in the original idea. It is highly praised by the authors of the volume, as one of the best productions of the sixteenth century. The plan is octagonal with a vestibule in front, and a recess at the opposite end. In the domes and vaulting, there is some display of skill.

The work concludes with plans of the square at Leghorn, and with plans and views of the Campo Santo at Pisa. It also contains frontispieces to the different parts, illustrating the sculpture and antiquities preserved in the museums of Tuscany, some useful description, and a table of architects' names. E. H.

CARPENTERS' HALL, LONDON WALL.

At the time when the paintings were first discovered in this hall, we visited it with the intention of placing before our readers such particulars of the structure and of the company to which it belongs, as might be obtainable. Finding, however, that Mr. Fairholt and other members of the Archæological Association had already commenced an investigation, we, of course, left it in their hands. Mr. Fairholt's excellent paper, the result of that inquiry, illustrated by four engravings of the paintings, is since published in the journal of the association, and we avail ourselves of it for most of the following information.

"All that remains to us illustrative of the ancient state of the civic companies of London, is so very slight, that any addition to our knowledge on that subject is welcome and curious. The great fire in the first instance, and the hand of spoliation and mis-called improvement in the next, have nearly eradicated all vestiges of their past glories. The discovery, therefore, within the last few weeks, of so much of the internal fittings and decorations of an ancient civic hall, as may lead us to a correct comprehension of its original condition, is an event of singular interest to all who are curious in London antiquities.

On Friday, December 26th, 1845, one of the workmen employed in refitting the interior of Carpenters' Hall, London Wall, finding an insecure hold for a nail he was driving in the upper part of the western wall, tore away the very old and decayed canvas which had covered it, in order that he might ascertain the cause: by doing so, he uncovered a portion of an ancient painting, which induced him to strip the entire surface, and thus led to the exposure of the series of pictures which formed the principal decoration of this ancient hall three centuries since. These pictures are all scriptural, and have reference to the art and mystery of the carpenters; but others have since been found on the south wall, which are entirely ornamental.

Carpenters' Hall is one of the few ancient buildings that escaped the great fire, which came very near, but did not destroy it. Its position at that time was on the very verge of London, and the fire was checked when it may be said to have surrounded it; it was frequently in imminent danger, and Drapers' Hall, in its immediate vicinity, was destroyed."

The court Book of the company shews that a similar fate was feared for Carpenters' Hall. Being fortunately saved, it was let to the drapers, goldsmiths, feltmakers, weavers, and haberdashers companies to hold their courts in; and afterwards, 12th October, 1666, to the lord mayor of London elect, "to keep his maioralty in;" his lordship undertaking to arrange with the companies just mentioned.

The situation of the hall was originally very pleasant. The old walls of London faced it, beyond which were Moorfields and Finsbury,—the great places for recreative walks; while all beyond was open ground, stretching right and left to the nearest villages. Moorfields, in the ancient maps, is covered with linen; and in Thomas Deloney's 'Crown Garland of Golden Roses,' may be seen the ballad history of 'the two ladies of Finsbury that gave Moorfields to the city, for the maidens of London to dry clothes in,' and where he says:

> 'Now are made most pleasant walks
> That great contentment yield:'

while Finsbury fields was the great school of archery, from the time when every man was enjoined by law to 'draw a good bow and shoot a good shot,' until the entire decay of the science. Until comparatively modern times, Moorfields was an open space, uniting with the Artillery ground and Bunhill fields. Eastward of the hall was the mansion of Sir Henry Pawlet, built in the reigns of Henry VIII. and Edward VI., with its large gardens, and at its back were others, reaching to Lothbury. The company still preserve much open ground about their hall, with the old garden behind, which has never been built on.

The account of the hall and company, given in our histories of London, are extremely meagre and unsatisfactory, however voluminous the works may be. Stow merely names it, and Strype, in 1720, dismisses it in these few complimentary words:—'Carpenters' Hall, which hath a very handsome comeing into it of free stone, which leadeth to a court yard and garden, which is begirt with the hall and apartments thereunto belonging, being a pretty handsome building.'

Edward Hatton, in his 'New View of London,' 1708, merely speaks of it 'as ornamentally built of timber.' Seymour, in his 'Survey of London,' 1735 (vol ii., p. 378), has devoted most space to the subject: he says:—'The company of carpenters, being a society of antient standing, were incorporated by letters patent, bearing date the 7th day of July, in the seventeenth year of the reign of King Edward IV., by the name of Master, Wardens, and Commonalty of the Mystery of Freemen of the Carpentry of the City of London. Their arms are—*Argent*, a chevron engrailed between three pair of compasses, pointing toward the base, and a little extended, *sable*. This company are a master, three wardens, assistants uncertain, 99 on the livery, besides yeomanry. The livery fine is 8*l*. The Carpenters' Hall is situated on the south side of London Wall, almost against the east end of Bethlehem.

In this hall, in memory of two eminent members of this company, hang up two pic-

tures representing them. The one is an aged person, in a ruff, well drawn, with one hand putting a compass upon a rule, held in the other, and underwrit, 'WILLIAM PORTINGTON, ESQ., master carpenter in the office of his majesty's buildings, who served that place 40 years, and departed this life the 28th of March, 1628, aged 84 years; who was a well-wisher of this society. This being the geft of Matthew Banks, who served fourteen years, and is at this present master of the said company, August 19th, 1637.'

The other picture is more modern, and underwritten: 'This picture of John Scot, esq., carpenter and carriage-maker to the office of ordnance, in the reign of King Charles II., was placed here by his apprentice, Matthew Banks, esq., master carpenter to his Majesty, and master of this company this present year, 1698.'

'A table also hangs up for Richard Wiat, of London, esq., thrice master of this Company of Carpenters, Ann. Dom. 1604, 1605, 1616, and a good benefacter thereunto. Among other gifts he gave 500*l.* to build an almshouse near Godalmin in Surrey, for ten poor men, and 70*l.* a year to maintain them. And his wife added something for the company to go down to visit it.' In vol. i. p. 373, speaking of the parish of Allhallows, London Wall, he says, "In this parish is Carpenters' Hall, an old building of timber, with nothing very remarkable in it.' The company still preserve the two portraits in their meeting room, the old hall having been let by them for other purposes."

The company possess also (and still use on one day in the year), four very curious caps or crowns. The oldest and at the same time handsomest, is dated 1561. They have also some good silver cups, one of them particularly elegant. This has no date; two others are dated 1612 and 1628.

"Malcolm, in his *Londinium Redivivum*, 1803 (vol. ii. p. 79), speaks of a manuscript account of the foundation of this company, its statutes, benefactions, and list of masters and wardens, in the Cottonian Library, Vitellius F. XVI., which was so damaged in the fire which injured that library as to be illegible; and although the company possess some very old records, Mr. Jupp informs me he has not been enabled to find 'any entry which will give any information as to the date of the building, there being no records between the years 1515 and 1533, and no money accounts until 1554.' It is very probable that the old hall was constructed about the period when this lapse in the books occurs, as the portions of it incorporated in the more modern buildings are evidently as old, if not older, than that date."

The length of the apartment is about 58 feet, the width about 26 feet.

"The exterior of the hall possesses no traces of antiquity; the date upon the water spouts is 1722; 'the front consists of a neat Doric basement with arches, windows, and porticos at the east and west ends. On the basement is a rustic story, ornamented with cornices, pediments, &c., and the armorial bearings of the city and company.' (*Hughson's Lond.* 1806, vol. iii. p. 28). Malcolm speaks of the 'ancient hall,' and alluding to its internal aspect says, 'the roof of this hall has been originally of oak, something like that of Westminster Hall, but that is either demolished or concealed by the present stuccoed ceiling.' This ceiling was constructed in 1671, and the ornamental pilasters which support it, spring from the corbels of the old arched timber roof. The exposure of the upper half of the western end, by the recent removal of its canvas covering, has laid bare the massive oak beams that originally supported it; the paintings which are about to be described, occupying the entire length of the hall, their base being level with the corbels at about the height of 9 feet from the ground. They are surmounted by an embattled oak beam, and measure 3 feet in height and 23 in length; being broken and destroyed at some distance from the north side.

The paintings—which all bear some reference to carpentry—are divided into four compartments by ornamental columns, painted in distemper. The laths, which form the groundwork, are placed at right angles with each other, and some few inches apart; upon this is a thick layer of brown earth and clay, strengthened or held together with straw, and it is not unworthy of notice that the ancient fresco painters used finely chopped straw to form the *intonaco* of their under surfaces. Upon this body of clay, which is of considerable thickness, is spread a layer of lime, about one-sixth of an inch in depth, and upon this the paintings are executed. The first represents the construction of the ark; Noah is represented kneeling on one knee, with his hat in his left hand, and his adz before him, receiving the order for its construction from the Almighty, who is in the clouds above. A tree separates this from the other portion of the picture, where his three sons are busily employed in its formation: one drives a nail into the prow of the vessel, another is engaged behind; the third, in the foreground, rests his hands upon a saw. Of the inscription above, which is much decayed, a portion only of the second line is legible, with the words

carthe is full of lyke and I shall destroy them—

which is addressed to Noah by the Almighty. The subject of the next compartment is obtained from 2 Kings, chap 22, and represents King Josiah ordering the repair of the Temple. The king is seated on his throne, attended by two noblemen, and is giving directions to an officer, who stands before him with a staff in one hand and a purse in the other. Behind him is a grave elderly man in a tall cap, who may be intended for the high priest, who is delivering to the workmen the money for the necessary repairs. The choice of this subject may have been originally decided from the complimentary manner in which '*the carpenters* and builders' are mentioned in the sacred narrative; for we are told 'there was no reckoning made with them of the money that was delivered into their hands, because they dealt faithfully;' a circumstance not forgot to be recorded in the inscription above, which runs thus:—

Kinge Josyas commaundyd ye hye prest yt ye money wch was
hous of ye lord shoulde be deliverrd to ye carpenters wt
out any . . .

The next subject, which is perhaps the most curious of the series, represents an incident in the early life of the Saviour. Joseph is represented at his work as a carpenter, while the Saviour is engaged in gathering the chips and placing them in a large basket beside him. Mary is seated on one side busily engaged in spinning with the distaff, and the scene takes place in the court-yard of a house which is built with red brick, the central portion of lath and clay, having a plain thatch; the yard is enclosed with wooden palings, and is entered by a porch of the same humble materials. A single tree grows in the area, its roots supported by a circular framework of timber. Several logs lie about, upon one of which Joseph is busily employed,—apparently in obedience to the orders of a grave figure in a furred gown, ruff, and cap of the sixteenth century. The inscription above is the only perfect one of the series.

Cbrpst, at ye age of xii yeres, sptrpnge amonge the
teachers in the temple, his father and his mother
were come to seke him, ye went wyth them to Nazarethe
and was obedyent unto them. Luke ii. chapter.

This incident was a favourite subject with the ancient artists: Albert Durer has devoted one of the large woodcuts of his series illustrative of the life of the Virgin, to it. This was executed in 1511, and the figure of Joseph is very similar to that in the present picture."

The fourth and last compartment represents the Saviour in his youth teaching in the synagogue. It is the best composition of the series, but has been entirely destroyed on one side; the inscription is still more fragmentary:—

Cbrpst teachynge in ye synag . . . . . ,
wysdom is thys, is not thys that carpynters . . .

Enough is here left to assure us of the reason which dictated the choice of this subject,—the question 'is not this that *carpenter's* son?'

These paintings are executed in a remarkably free and masterly manner, and the drawing of the figures is always good: I may particularly allude to the officer who stands before the king's throne, and the foremost of the doctors in the last painting, who carries the book; both are exceedingly good, and could not be surpassed by any work of the same age. The thickset limbs, and strongly marked features, as well as the general *pose* of the figures, remind us forcibly of Holbein, and certainly refer to that school and period, as the school in which the artist of these works had studied, and the era in which they were executed. They are painted in a vigorous black outline, the tints of the dresses are flat, with little attempt at shadows, and there are occasionally traces of gilding observable. Thus the figure of the Almighty in the first compartment has been entirely gilt, as have the various portions of jewelry worn by the principal figures; the buttons of the dresses, the cuffs of Joseph's sleeves, &c. The costume is interesting, as it may lead us to fix the date of the painting with some degree of certainty. It is not a *pure* costume belonging to any particular period, but is a mixture of antiquated dress, and the ordinary dress of the artist's own day. The attendants on King Josiah, and the officers in front of his throne, are in the costume of the latter part of the reign of Henry VIII.; but many of the other figures, of the men in the synagogue for instance, are in a strangely heterogeneous sort of dress, but which was much used by scriptural designers at the same period, and is, therefore, valuable, as it also fixes the same date.

Above this series of pictures, in the spandril of the arch, is painted the arms of the company, supported by nude figures of boys, the ground being filled with an enriched scroll, beneath which was painted an inscription in two lines, of which the only two words remaining—'SHREVES' and 'ROBARD'—would shew that it commemorated the doings of some sheriffs who were especial benefactors to the company. On the southern wall the compartments between the corbels which supported the original timber roof are filled with what is generally termed 'Elizabethan scroll-work,' composed of monsters, cupids, cornucopiæ, and ornamental panels and foliations; these are in a very decayed and imperfect condition. The fleur-de-lys forms the central ornament of that nearest the great eastern window. The mullions of this window are of carved oak, of massive proportion, with central pillars, whose bases are in the style of the *renaissance*; and these divide it into nine lights: the glass is not very old, and consists of the arms of the company, the city, and the kingdom, and the names of the masters and wardens; the earliest bearing date 1627, and the greatest number being from 1660 to 1684; the latest containing the record, 'this hall was repaired anno Dom. 1718.' The side lights of the window are perfect, and shew the arch of the original roof corresponding to that above the paintings at the west end; but the centre is considerably flattened by the more modern ceiling, which descends much lower; and above which, rooms are constructed. This ceiling was put up in 1771, as the inscription upon it informs us; and is a bold and striking work in its general effect; it is divided into four compartments, containing the arms of the kingdom, the city, and the company, together with the names of the master and wardens in whose time it was erected. Three ancient wooden panels were placed over the door: one containing the arms of the company, and the date 1579; another the names of the wardens for the time being; and the third the name 'Thomas Harper, master, 1579,' with the rebus of his name, *a harp*, and his mark as a merchant. The only other wood carving in the hall is the original corbels, ten in number; the four at each angle are plain; the two next the window on each side, are of the ordinary design, an angel bearing a shield; the remaining two on the southern wall, have respectively the head of a lion and a man. The most interesting of the series are the two on the northern wall, beneath the modern windows. The one nearest the east wall represents a female with dishevelled hair, her left arm over the neck of a lion, whose mouth reposes on her breast. The next one is a male head, dressed in the Italian cap, with its *becca* or streamer, which was so very fashionable in the fifteenth century, and which is still the hood of the knights of the garter, used in their investiture, as well as in the investiture of a civic order of not equal importance—the barber surgeons—who always place such a hood upon the shoulders of their newly-elected members; the pendant scarf being placed across the breast, with the same formalities. Neither of these corbels are perfect in their lower portions, but they are exceedingly good in point of workmanship; the

countenance of the man in the cap is particularly vigorous and characteristic.

Malcolm tells us that the original floor of the hall was 'of marble, but covered with wood at present, for the double purpose of warmth and to preserve it from injury.' We have thus a pretty perfect picture of the hall in all its phases: originally with an open timber roof springing from elegantly sculptured corbels; a noble east window, filled with old glass, its western end rich with paintings, 'the best to be had,' combining vigorous drawing with brilliant execution; and a series of elegant arabesques upon the side walls. Tapestry over carved panels of wood reached to the corbels on gala days, when the hall would be strewn with rushes, and resound to the minstrelsy, which the many entries in their books shew they frequently indulged in. In time the olden splendour is dim, the fashions alter, or the roof decays, or may be in some degree injured by the great fire; and five years after, it is replaced by one 'in the newest taste;' but throughout all its vicissitudes, enough has been spared to give us at this time a clear idea of its original form and decoration."

The company originally possessed considerable power over "the trade;" and their charters would probably afford much interesting matter on this head. We have not yet obtained access to them, but hope to do so before long.

PORTLAND STONE,

Sir,—The removal of the duty off Caenstone has caused that material to be very generally used in London, &c., these last two or three years. I beg leave to offer a few remarks on Portland stone, knowing that, unfortunately, there is an impression among many architects and gentlemen that it will not resist the action of the weather, and, consequently, is not calculated for a public building. The principal cause of this impression is, I have no doubt, the stone used at the entrance to the park at Hyde-park-corner and the Church at Brighton, built about twenty years ago. I shall, by stating facts, endeavour to shew that the stone used at both these buildings is not a fair specimen of the durability of Portland stone; for, unfortunately, they were built with the worst stone the island produces for exterior work. In the case of Brighton Church, the contractor not requiring any large blocks, went to the island of Portland and bought up, at a reduced price, the blocks that were scattered about the quarries—the refuse of other tradesmen for thirty years before. Consequently, stone of an inferior quality, unsound blocks, and stone quite unfit for external work, were indiscriminately mixed and used in the building. Thus Brighton Church is not a fair specimen of Portland stone, but rather of the bad judgment of the builder in selecting stone not fit for external work.

In reference to the building at Hyde-park-corner, it will be necessary to explain the manner of quarrying the stone, to shew what stone was used at these buildings. The principal part of the stone quarried at Portland, and generally used, is called the white bed; about ten feet below this there is another layer or bed of stone, about six feet high. This is not generally, but is occasionally, quarried: it is termed the best bed, and is of a very fine quality, and well calculated for all sorts of in-door work, such as stair-cases, paving, &c., but not at all fit for exterior work, as it will in no case resist the action of the weather. Decomposition commences as soon as it is fixed in the building, and exposed to the weather. At the commencement of the building above-named there was a scarcity of Portland stone, and the builder unfortunately selected a quantity of the best bed, rather than wait for a supply of the white bed; in consequence of which, the chaste and beautiful sculpture and ornaments are in a state of premature decay: if they had been executed in Portland stone, properly selected, they would have been as perfect now as when left from the hands of the carver, as is the case at the same building, where the Corinthian capitals, executed in the white bed, are as perfect as ever.

Thus, the improperly selected stone for Brighton Church and Hyde-park-corner has partially (by a false impression), destroyed the character of Portland stone which has been in general use for more than two centuries, and was extensively patronized by Sir Christopher Wren, as most of his public buildings prove. Having shewn the cause of certain buildings being in a state of decay, I shall now endeavour to prove, that Portland stone (if properly selected), will resist the action of the weather, and that it is the best material for public buildings of any brought to London (and I have the authority of one of the most talented architects of the day, a gentleman at the head of his profession, in confirmation of the assertion); to prove this, I shall refer to St. Paul's Cathedral, where the ornaments, which being much relieved, would, of course, first decay, are as perfect as ever; for instance, those beautiful swags of flowers around the building, which if the stone would not stand the weather, would have dropt from the face of the stone years ago, but are now quite perfect, as is the building generally. As respects the decay of the face of the stone, I shall also refer to the new church, Strand, the two towers at the west end of Westminster Abbey, Greenwich Hospital, and all buildings of Portland stone built a century and more ago, which are all nearly as perfect as ever. It may be affirmed, that the stone is not as good now as it was a hundred years since, but having had extensive practice in the quarries, I can confidently affirm, that the stone is as good now as it ever was; I will example the following buildings erected within the last thirty years:—The Custom-house, London General Post Office, Goldsmiths'-hall, Reform Club-house, and Royal Exchange: neither of these buildings shew any signs of decay, and if stone will not stand the weather, decomposition begins as soon as it is fixed in the building.

Thus, if Portland stone is properly selected (for which for the Reform Club-house, Royal Exchange and British Museum, a competent person was sent to the island), there is no doubt of its durability; and it has, moreover, an advantage over other stone, inasmuch as the waste or outside slabs, are more suited for general purposes, than any other stone brought to London. I am, Sir, yours, &c.

A Mason of Twenty Years' Practice on Portland Stone.

TO THE LONDON GAS COMPANIES.

Gentlemen,—When we look at the difficulties the system of gas lighting has had to encounter, the opposition it has met with from ignorance, prejudice, and interest, and now see the successful and flourishing state of its practical application, it leads us to think highly of the moral energies of the nation. In the present day we are enjoying the gratification of having introduced this branch of science to a practical utility, calculated to be of the greatest benefit to mankind, and in after ages we may confidently expect to have it recorded, that it was England and Englishmen that conferred this benefit on posterity.

Notwithstanding, however, that this branch of science has arrived at a wonderful degree of perfection, it is not difficult to perceive that much yet remains to be done, both as to a more general diffusion of the advantages of its introduction, and improvements in its more general applicability, and its production. It is to these points that I now beg to call your attention, and I would suggest the necessity of greater care being paid to the quality of the gas manufactured, and that you should cease to devote attention to the coke; rely solely on the gas, by which you would find your profits very considerably increased, in addition to rendering the gas available for the lighting of private houses, which at present it is unfitted for, through the comparative smallness of its illuminating power. I would suggest the use of Cannel coal, or at least a mixture of it with the Newcastle, and not allowing the coal to remain so long in the retorts as is now usual, as by the excessive baking it has been proved its illuminating power is destroyed, and you do not reap advantage, from the increased quantity of gas carbonized. By your present system you hold out inducements for the introduction of new companies, who, if once started on the principle of supplying richly illuminating gas, you would find formidable opponents, and when too late you will have to alter your system and follow in their wake. But you could never successfully compete with them, as a company so constituted would require smaller sized works for the carbonizing, lesser sized mains for the distribution of the gas, and a considerably less establishment, not being burdened with the make or sale of coke; and in consequence the capital required would be less, whilst the profits would be greater. It behoves you to take this into consideration without further delay, as once let the consumers of gas see that it is to their interest to be supplied with a richly illuminating gas, and they will not be long in taking steps to be so supplied, and this is being every day brought nearer by the introduction of meters. It has been proved that only half the quantity of Cannel coal gas is required to give a requisite light, in comparison with Newcastle coal—for instance, the gas being consumed through a thirty-hole argand burner, it required, to give light equal to twenty-five mould candles, seven cubic feet and five-tenths *of gas made from Newcastle coal*, and *only three feet of gas from Cannel coal*. This has been proved by Messrs. Clegg, Hedley, Lowe, and many other engineers of the present day. The necessity of the improvement in London gas is acknowledged by your own engineers, as shewn by their various patents, the one of which was for passing gas over naphtha; this certainly is very beneficial, and adds greatly to the illuminating power, but I cannot see why the naphtha or carbon should be first taken from the gas by excessive baking, and then a patent process adopted for giving it back again. It puts me in mind of a company that was formed for the purpose of supplying bread from which the spirit had been extracted; before they could effect sales they were obliged to give a glass of spirits with each loaf. Where was the gain? just so in your case, you take the spirit from the gas, and in consequence have to give twice the quantity to your public lights and scale consumers, and for which extra quantity you do not get paid. In concluding this letter I will sum up with what I think would be to your interest to do—pay more attention to the manufacture of gas, and less to that of coke; lessen your expenses, see to the competency of your officers, to the proper distribution of the main pipes, and the fittings for houses, shops, &c. Sincerely trusting that these suggestions will not be lost,

I have the honour to be, &c.,

Feb. 9th, 1846. "Carbon."

ART-UNION CARTOONS.

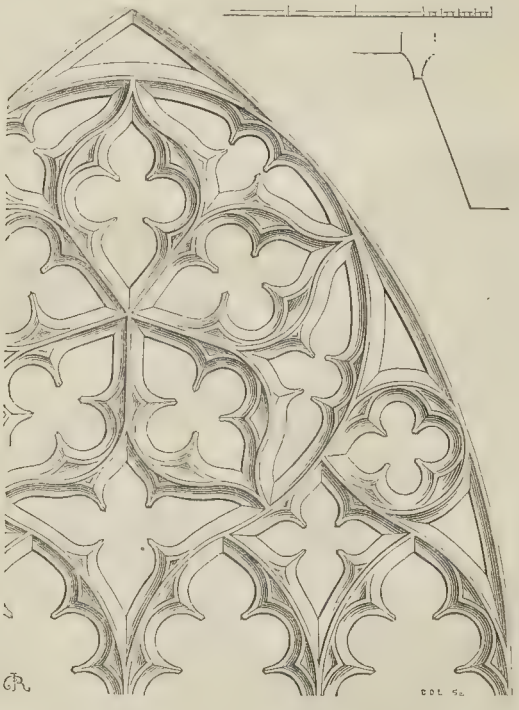
The committee have determined on engraving in outline, and distributing to all the subscribers of some ensuing year, nine of the cartoons that were submitted in competition, of course with the assent of the respective artists, who will themselves be invited to make the reduced drawing at the expense of the society. The following is the list:—2. Saxon Alms-giving. 4. Life of Alfred. 8. Queen Elizabeth's visit to Kenilworth. 12. Howard visiting a prison (*Armitage*). 13. Non Angli sed Angeli (*Scharf*). 22. Alfred surrounded by his family (*Salter*). 23. The welcome of the Boy-King, Henry VI. (*Corbould*). 25. Seizure of Roger Mortimer (*Paton*); and 27. Spenser reading the Faërie Queene to Raleigh (*Claxton*). We are disposed to think this determination will give universal satisfaction, as well to the subscribers generally as to the artists named, whose works will thus be brought under the notice of "all England," and somewhere besides.

New Buildings at Hamburgh.—A correspondent of *The Times* says a number of the newly-erected, many of them still unfinished, buildings on the Monkedamm have given way; and, though for the moment secured, as far as may be, by strong wooden props, must, it is feared, be taken down in whole or in part; and God only knows how many houses as yet free from outward flaw may be in a similar precarious predicament. The examination ordered by the senate is whispered to have produced some very disagreeable discoveries; shall the lives of the lieges, whether inhabitants or passers-by, be left to the tender mercies of architect contractors or building speculators, who, can they but close the rents, and whiten over the defects until they deliver over their work, or sell their houses, will care little how long or how short they may stand afterwards?

LATE DECORATED WINDOWS.



FROM BOXLEY CHURCH, KENT.



FROM BOUGHTON ALUPH CHURCH, KENT.

GOTHIC WINDOWS

AT THE CHURCHES OF BOXLEY AND BOUGHTON ALUPH, IN KENT.

THE small beautiful example of late decorated character, of the date probably of 1370, is from Boxley Church, near Maidstone; this window and a fine corbel head within the church are now the only objects of interest the building possesses, though it was once celebrated for its magnificent rood-screen, and the grandeur of its embellishments.

The larger specimen is from the great west window of Boughton Aluph Church, near Ashford. The date of this window, I am inclined to consider, is after 1500. In one of the transepts is another window of similar character; both of them, although late in style, have a very good effect.

The church, which is a very large one, contains numerous objects well worthy of inspecting. On one side of the chancel is a small piscina, and a single-seated sedilia; the latter somewhat resembling in character the stone confessional chair at Lenham Church, only a few miles distant; but the sedilia at Boughton Aluph does not project from the wall as the chair at Lenham does. With regard to this chair, which was engraved in No. 99 of THE BUILDER, I think there is much greater probability in supposing, that instead of a confessional, it was the abbot's chair. The small stone at the side, which was described as the kneeling-stone, may have served for a seat to one of the officiating chorister boys. I should like to have the opinion of some of your numerous readers on the subject. C.

NEW SALE ROOM, ST. PAUL'S CHURCH-YARD.

Mr. Charles Fowler, the able architect of Covent Garden-market, has recently constructed a sale-room for Mr. Toplis, at 16, St. Paul's Church-yard, which has the merit of combining a picturesque effect with simplicity and economy. It is 73 feet by 20 feet in the clear; 16 feet high at the walls, and 21 feet to the centre of the roof.

The entrance for the public is near the east end, and the access for goods at the west end; the well-hole of the stairs being covered with flaps, laid flush with the floor when not used. The auctioneer's rostrum projects from a recess in the centre, as shewn in the annexed engraving, and is approached by a private staircase from the offices below. Tables are constructed to form a semi-circle in front of the rostrum, bringing the buyers into the best position in regard to the auctioneer, and at the same time forming an enclosure clear of the company in which the porters can hand round the goods for inspection. A moveable screen about 7 feet high, occasionally shuts off one-third of the room at the west end, for the exclusive deposit of some kinds of goods; and a passage is reserved from thence to the circular enclosure, by which they are brought forward in succession for sale, and replaced when sold.

The roof is boarded against the rafters, but all the other timbers are exposed to view; and the whole is planed and varnished.

The range of lights in the centre comprises thirty-six frames, each glazed with a single plate 4 feet 6 inches by 2 feet 8 inches and ¼ thick, rough from the casting. The light is remarkably strong, at the same time it is so modified by the rough surfaces of the plate-glass as not to be glaring or offensive. The great strength of the glass was an important desideratum in this situation, as skylights are found to be exposed to constant damage from missiles, probably thrown from the cathedral.

The circular ribs of the roof are formed with three thicknesses of 1½ deal, and footed into iron sockets or corbels, let into stone templates.

As a precaution until the perfect set and settlement of the work, three of the roof-frames have iron rod ties; but they are not intended to be left permanently; as it is not calculated that there will be any lateral thrust.

NEW SALE ROOM, ST. PAUL'S CHURCHYARD.



FOREIGN ARCHITECTURAL AND COLLATERAL INTELLIGENCE.

Plan of a "General Annuity Fund" for the Working-classes in France.—The above subject is, certainly, attracting much attention with our neighbours, as we find, that it has been one of the topics included in the speeches of the ministry to the *sovereign*, on the festivity of the new year. The following extract from an article by Mr. Adolphe Beaumont (the traveller in Ireland), will best explain the views entertained in France on this important topic. "The General Chambers of Manufactures and Commerce have pronounced themselves favourably on the establishment of a general annuity fund for the working-classes (*caisse générale de retraits pour les classes laborieuses*), and we have every reason to think that the General Council of Agriculture will follow the same example. The question will then have made a great step, likely to extend over the whole bulk of the nation, all tending towards the realization of that idea—a "natural and necessary complement of the system of *savings banks*." Objections have been, it is true, raised against this annuity fund, which, however, will not stand the test of serious sifting. Certainly, *all* workers are *not* in a state of saving; but we have to exert ourselves in the improvement of that class, so that the above cases become as rare as possible. But we must acknowledge, that a somewhat (albeit one-sided) progress *has* taken place for the last fifty years, and which may be the harbinger of still more general *advancements*. We allude to the savings banks, which prove clearly, that the numbers of workers, who are in the position of saving, *are* on the increase. The general fund will still more help that way, because it will receive payments so *extremely small* and reduced, that the humblest will not be precluded from its benefits. By the saving of a few *centimes* a day, it will be possible to acquire an annuity for old age—whose maximum, however, has been wisely limited to 480 fr. (19*l.*) by the commission, which, presided over by Count Molé, contained amongst its members Messrs. Gasparin, Passy, Vivien (all three late secretaries of state), Bignon, Michel Chevalier,* Legentil, President of the Board of Trade of Paris, Olinde Rodriguez, Eichthal, (regent of the Bank of France), Wolkonski (professor at the Conservatory of Arts and Trades), &c. By one of the stipulations of the "*General Annuity Fund Bill*" of France, the wife may obtain the right of depositing her savings in that way, by an interference of the *juge de paix* (magistrate), even against the will of her husband. When the minister alluded to this plan before the king, on presenting to him the General Chambers of Agriculture, Commerce, and Trades—he said, that "they felt honoured in their being the representatives of the working-classes before H. M., and that nothing seems to them more deserving of attention than the improvement of those classes." Mr. Cunin-Gridaine then adverted to "the regulations of children employed in manufactories—regulations, which would inspire them with the ability and inclination for work, and thus regenerate the moral and physical condition of mankind."

Mr. Vicat—chief engineer and director of roads and bridges, who had received from the French Parliament a national recompense for his investigations on lime and mortar, has been promoted by the king to the rank of a commander of the royal order of the Legion of Honour.

Railways in Greece.—This ancient cradle of modern civilization is also on the point of obtaining its most positive improvement—railways. Authorized commissaries have arrived in Greece, for treating with Government on the establishment of a line from Athens to the Pyræus. This line will be the more important, as it will rectify an *error*, which had been perceived too late, viz., of having chosen Athens instead of the latter as the metropolis of the new kingdom. A chief difficulty in the effecting of such plans in Greece, is the purchase of the necessary lands, as hitherto no law of appropriation has been enacted.

The Barrage and Embankment of the Nile—presents greater difficulties than were expected, as the completed plans exhibit an immense amount of labour and capital required. It is, moreover, apprehended that the river, thus hemmed in and led away from its previous course, may form in some places an altogether new bed, or that the sea may encroach on the Delta, where considerable alterations are contemplated. It is said, further, that even the arable land now at hand is not adequately cultivated, for want of hands, and that the land gained by these stupendous hydraulic operations, will be of no avail whatever.

The Royal and Public Library at Munich.—Happy may be considered *those* times, when the scope of a library comprehended chiefly the collecting of books appertaining to civilized Europe. With the expansion of literature, and the knowledge of so many, hitherto hardly attended to—almost all the modern libraries have required reconstruction. Bavaria has not remained behind other (even larger) countries in this respect. It was in the year 1831 that the necessity for the new building for a library and archives at Munich, was laid before the Parliament, and their consent being readily obtained, the foundation-stone was laid in 1832. Situate in the *Ludwig's Strasse*, this structure, erected by *Gärtner*, may rank amongst the grandest monuments of Germany. Towards that street is directed one wing of the square building, 520 feet long, and of a height of 85 feet. The other corresponding wing lies towards *Gärtner Strasse* and the park, where, most judiciously, the working rooms of the officers and the reading rooms have been placed. Here you enjoy a charming view over the whole park, up to the Bavarian mountains, and the morning sun, so genial in northern climes, falls straight on the whole flight of rooms. Two lateral wings, one with a southerly, the other a northern aspect, abut respectively towards the Horse-guards' building and the *Ludwig's* church. The front and

* Once a member of the Fourrierist body—now Councillor of State on extraordinary service.

hind wings are connected by a transversal building, whereby the inner space is divided into two similar squares, in each of which are situate two wells, wherefrom, in case of fire, the water can be forced into all rooms, even up to the roof. In this middle building is the splendid staircase, flanked by marble columns, the arched ceiling adorned with frescos, representing the allegories of the different arts and sciences. It leads to the middle of the first floor of the hind wing, to the reading rooms, and those where the books for lending are issued. In the midst of the wing on the Ludwig street, the Princes Hall (*Fürstensaal*) attracts our notice. There the busts of those twelve Bavarian sovereigns are placed, who most contributed towards the endowment of this splendid collection. On the ground floor, the general archives of the realm are placed; the first, second, and third stories of the building contain the *seventy-seven* saloons of the library. The moving of this huge collection, comprising 20,000 MSS., and 480,000 printed works, each to be reckoned, at an average, at two volumes, was accomplished in sixty-two days. We may briefly state one of its principal features — which is, the collection of Chinese works collected by Professor Neümann in the East, amounting to several thousands, many unknown in Europe—the *Museum Etruscum Gregorianum*, Romæ, 1842, 2 vols. fol. A new and very praiseworthy arrangement may conclude our sketch—viz., that all *recent* acquisitions, be it of works lately published or of older date; all those presented by either sovereigns or literary and scientific bodies, are exhibited in an especial room, the moment they arrive, and *before* they are arranged, catalogued, bound, &c. &c. Thus the professionals may know what they possess, and what they may select for further use.*

Masters and Workmen in France.—The House of Peers are just discussing the system of "*livrets*" (or little books) *for journeymen*. This is—says the *Journal des Débats*, an important progress of our legislation of industry, and a real step made towards the organization of labour and the internal government of the humbler classes. In regulating the relations between master and men, the *livret* surrounds both with the same protection, it guarantees the accomplishment of their reciprocal obligations, it insures the proper order of workshops and, the regularity of work. In some degree, it puts a stop to the abuses of *competition*, by closing to it the illegitimate road of *embauchage*. The first establishing of the *livrets* remounts in France to the later years of the last century, and although the revolution swept away indiscriminately the bad and the good, the *livrets* have been retained in several well-conducted and prospering manufactories. The regulations run as follows: — "Journeymen and apprentices employed in workshops, manufactories, mines, forges, quarries, carpentery, and other works —be it that they work on the establishment, or at home, will be obliged to provide themselves with a *livret*.—When the journeyman enters the place of a master, the latter will inscribe on the book the date of his entry.—And at his leaving his employment, the master shall inscribe the date of his leaving, an acquittal of the engagements the journeyman or apprentice might have entered upon, or the amount of advances which the latter might be indebted to the establishment." It is to be borne in mind, that nothing about the character of the servant is to be entered on these books, which are *not* to be expedients of police.

The Railways of Germany—in winter.—Mr. Negrelli, one of the Austrian employès of the road and bridges department, has started from Vienna for Bohemia, to inspect the damage done by the late snow-storms to some of the railway bridges, &c., and to superintend the repairs. It may be put down as an axiom, that beyond 48° of latitude, *no* railway can be considered practicable with any degree of certainty on the Continent, during the winter months.

Large increase of Master-paintings to be expected in England.—The celebrated *Hoofman's* collection of pictures at Haarlem has been purchased by a Mr. *Nieuwenhuys*, and will be brought over, at least its best specimens, to this country. The picture gallery of the late Baron Verstalk van Saelen, collected by him through the space of a long life and at much expense, is selling by the heirs, and will also be brought to this country.—*Allg. Zeit.*

Gaining of new Lands in France.—The town council of Marseilles have sanctioned a contract, for exhausting and laying dry the great pond of *Pourra* by means of extensive engines. They have the power of emptying the quantity of 2,200 cubic mètres every minute, and are to be on the spot and ready for action early in April next, the proper period for the beginning the drying up of ponds and bogs.—*Journal des Débats.*

The King of the French—has given a private audience to Mr. *Homnaire de Hill*, one of the travelling commissioners, whom the French Government employs in various parts of the globe, for various scientific and artistical purposes. Mr. H., who is about to start for an extensive expedition into Central Asia, had the honour of presenting to H. M. his work on a former voyage to the Caspian Sea and the Caucasus.

Railways and other Buildings in Portugal.—The overstraining of railway speculation has only damaged its own authors, as wise and prudent people retreated at once, when they saw on what unsafe basis their capital was required. In other respects improvements are going on satisfactorily, as for instance, the road making in the north of Portugal; the streets of Lisbon, are all to be macademized; the new theatre also is a fine building, and an extensive new aqueduct for the capital is projected.

J. L——y.

* Such of our readers as are interested about libraries and their arrangement, will find a good description of the chief curiosities, &c. in a little work: Ueber die Königl. Hof und Staats - Bibliothek für Beaucher derselben. München, 1843, 8vo.

ILLEGALITY OF OBSTRUCTING ANCIENT LIGHTS BY NEW BUILDINGS.

An action has lately been brought in the Court of Queen's Bench by Sir Frederick Roe, bart., against the Marchioness of Westmeath, for the obstruction of his ancient lights by means of a building raised upon the premises of the defendant on the opposite side of a street in London. Formerly the space so built upon had been a mere wall, but lately the marchioness had erected a conservatory and some other rooms over and above the height of the wall, whereby the light in some four or five of the apartments was materially diminished, so that the inmates were unable to read; the effect was sensibly felt in the diminution of the plaintiff's comfortable enjoyment of the light, and in the exclusion of the beams of the sun, for a considerable period of the summer. A vast number of witnesses, architects and others, were called to prove the case, and various plans, models, and elevations were introduced for the information of the court and of the jury.

The Solicitor-General, for the defendant, assured the jury that the case was without a precedent; that no plaintiff before had ever had the courage to risk an action for obstruction of the light to his windows, in consequence of an alteration in the height of a neighbour's house upon the opposite side of a public street. Such an assumption of right upon the part of owners of houses in this metropolis would, if sanctioned by the decisions of juries, soon put an end to all those improvements by individuals, in respect to their houses, so very general at present, and which so materially contributed to the convenience and beauty of the capital.

Mr. Justice Wightman, in summing up the evidence, said that the question in dispute between the parties was more one of law than of fact. He should therefore submit to them this question only. Whether, in their opinion, there had been a substantial diminution of the comforts of the plaintiff in consequence of the buildings that had been erected by the defendant, taking into consideration the situation of the premises and the purposes to which they had been applied.

The jury, after an absence of half an hour, handed up a written verdict.

Mr. Justice Wightman having read it, said, you are of opinion that the beneficial occupation of the plaintiff has been substantially interfered with, &c.

The foreman replied, that such was their opinion.

Mr. Justice Wightman.—Your verdict, then, will be entered for the plaintiff, subject to the opinion of the court, as to whether the fact of their being a public street between the houses of the plaintiff and the defendant, is not a sufficient answer to the present action.

Nominal damages, 40s.

THE AUST BRIDGE.

Sir,—As you alluded to the proposed suspension bridge over the Severn, at the Aust passage, in the last number of your journal, and have not favoured us with your opinion, perhaps you will allow me to make a few observations on the subject.

Although willing to add my meed of approbation to the magnitude and boldness of the design, I am very much disposed to question its practicability, notwithstanding the sanction seemingly accorded to it by an eminent authority, inasmuch as we have not an instance of the suspension principles having been carried out to any thing like the extent (of span) proposed; nor has it yet, I believe, for obvious reasons, been applied to railway purposes even on a small scale. The largest suspension bridges we have in existence are the Fribourg, in Switzerland, 870 feet span; the Hungerford Foot-bridge, with a central span of 676½ feet, and a total length of suspended roadway of 1,352 feet; the Menai-bridge, with a central span of 550 feet, while the ends are supported on arches of masonry; a circumstance, I think, which deteriorates from the merit of that work. There is also the proposed Clifton-bridge over the Avon, near Bristol, the span of which is to be, when completed, 700 feet.

It is to be regretted, that this bridge company do not exert themselves to complete Brunel's magnificent structure, more particularly as the towers on each side, in their present neglected state, look like monuments erected to commemorate either their pusillanimity or their folly. I have been told that Sir John Guest, bart., has offered to complete the work if the company would mortgage the tolls for a certain period.

The Aust-bridge is intended for the double purpose of railway and general traffic; and this will be attended with great inconvenience, unless a screen is erected to separate the roadways, and sufficient width allowed for each description of traffic; the increased width will, of course, add considerably to the weight to be suspended and supported. I rejoice at the progress the science of engineering is making in the present day, and that magnificent works are daily springing up into maturity and perfection as it were by the magic wand of the engineer, and throwing new lights on the arts of construction, and the better distribution and economy of material; but I hope, the universal success that has hitherto attended our efforts in the development and successful completion of our public and private works, will not induce us rashly to embark in enterprises that have not received the sanction of venerated experience, or been satisfactorily proved to be capable of construction by a series of undoubted experiments. With practical science, as with every other puny effort of man, there is a limit, "thus far shalt thou go, and no farther." I fear in this instance the projectors have over-estimated their own abilities, and the tensile powers of the material they propose to employ. I have thrown out these hints for the consideration of the public and the projectors, and trust they will be considered worthy of a place in your journal.

I am, Sir, yours, &c.,

B. B.

Merthyr Tydfil, S.W., Feb. 10th, 1846.

The House of the Bonaparte Family.—The town-council of Ajaccio have decided that the house on the Piazza Ramolini, where the emperor was born, should be acquired, after the demise of its present occupant, Dame Letizia. It is to be put in the same condition as it was at the time of Napoleon's birth—to be a monument of gratitude for one of the greatest lawgivers modern Europe ever possessed. It is to become public property, open for visitors the same as other public monuments in France, free of charge.

Caligraphic Black Lead Pencils.—Messrs. Wolff have given us the opportunity of trying some of their caligraphic black lead pencils, and we feel bound to say that we have found them very satisfactory, being free from grit, and keeping a good point.

NOTES IN THE PROVINCES.

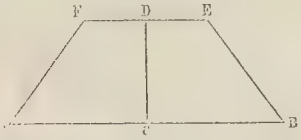
It has been determined to improve and enlarge the interior, and to restore the exterior of the ancient parish church at Worksop. At a meeting of the inhabitants, held last week, the Duke of Newcastle in the chair, Mr. R. Nicholson's plans, by which additional accommodation for 300 persons will be obtained, were adopted. The total expense is estimated at 900*l.* A subscription is to be opened forthwith.——The first stone of Galway Queen's College will be laid towards the close of next month. The site is Belmont, within about ten minutes' walk of the remotest district of the town; it is spoken of as being very salubrious, and highly picturesque. The edifice will be in the Gothic style, after the design of Mr. Kean.—The sum of 1,950*l.* has been subscribed towards rebuilding Trevethin church, for which plans and specifications are in course of preparation. It is intended to take down the old fabric, and on its site to erect the new church, which is to be finished by October.——A Gothic pulpit, of carved oak, from a design of Mr. Hutchinson, jun., has just been erected in St. James's church, Hull. It is octangular, supported by an open square pedestal. In the front compartment is a shield bearing the crest of the donor, the Rev. W. Knight, M.A., incumbent, supported by a pair of cherubim.—— A spacious school, in the early English style, and capable of accommodating 800 children, has been erected at the extreme end of Grafton-street, Toxteth park. At the back of the main building two houses have been erected for the accommodation of the master and mistress. The whole of the building was contracted for by Mr. Parr, of Litherland, and will cost upwards of 2,300*l.*, which sum has already been collected, John Gladstone, Esq., of Fasque, who erected and endowed the church at his own expense, giving 600*l.*——A quarry of excellent marble has been discovered at Aberfoyle, on the estate of the Duke of Montrose, and near to the line of the Forth and Clyde Railway.——The Earl of Lonsdale has given a donation of 50*l.* in aid of the subscription for rebuilding the parish church of Aspatria, Cumberland; that ancient building being inadequate for the accommodation of the residents of that locality.——It is stated that there are nearly 100 building societies in Liverpool, and that their capital amounts to 240,000*l.*——The newly-erected Roman Catholic chapel, in St. John-street, Bridgwater, will be opened on Tuesday next. It is dedicated to St. Joseph.——At a special meeting of the Severn Commissioners, held last Saturday at Bristol, it was unanimously resolved to erect a new bridge at Upton, and to raise £30,000 to defray the cost of the same. Mr. Williams handed in the plans of the proposed structure. It is a "bascule," or perpendicular drawbridge; and in reference to this subject Lord Hatherton remarked that the people of Upton need not be under any apprehension, for that at Amsterdam and many other places on the continent the same kind of bridge was in use, and had not been found to offer any obstruction to the traffic. ——The Grammar-school Chapel, at Clapham, was opened on Saturday last by the Bishop of Winchester. It is built in the early English style of architecture, and contains seats for about 250 persons. Its dimensions are 50 ft. by 20 ft. wide, and 32 ft. high. Over the communion-table are three painted windows, which were presented to the chapel by the pupils of the grammar-school. The subject of the centre window is the Apostle John, the chapel itself being dedicated to that saint. There are painted windows also on each side of the chapel, representing Bishops Cranmer and Ridley.——The town of Glasgow was visited by a very destructive hurricane, accompanied by a heavy fall of rain, on Saturday last. A new tenement of three stories in height, situate in Cook-street, Gorbals, after rocking to and fro for some considerable time, fell and buried in its ruins a small one-story house that rested against its gable. The whole was converted into a mass of rubbish. Fortunately, there was sufficient warning of the impending danger, and the inmates escaped with their lives. About the same time, part of the roof and walls of the foundry belonging to Mr. Robertson, in Surrey-street, Gorbals, were blown down. In the same neighbourhood the extensive rope-works of Mr. Wales was demolished.

METHOD OF SETTING OUT A CANT GEOMETRICALLY.

At page 81 of The Builder for the 14th current (February, 1846), a correspondent, who signs himself "J. C. W.," in a letter to the Editor, proposes as a problem for solution:—To set out a cant geometrically in such a manner, that the three sides of the projection shall be equal to each other, the base of the cant and its perpendicular breadth or central line being given.

The solution of this problem is a matter of the utmost simplicity, so much so indeed, that to any person but slightly acquainted with the elementary principles of geometry it must be self-evident; and the circumstance of its being proposed for solution in the pages of The Builder furnishes another proof, if any such were wanted, how small a share of geometrical knowledge is possessed by the generality of practical men. If the problem had been proposed as a curiosity in science, or with the design to puzzle those who are prone to inquiries of this nature, it would have been altogether beneath the notice of the merest tyro; but since it has a direct reference to certain departments of constructive practice, it merits our attention on that account; and as the proposer is obviously seeking for practical information, the following solution is supplied for the purpose of meeting his views. Other and more elegant solutions might be given, such, for instance, as tracing the locus of an equation of the second degree; but as simplicity of operation is always to be preferred in practice, we consider the method here adopted as the best, and the most likely to be generally understood. Let ABEF, fig. 1, be the plan of the cant which the problem requires to be laid

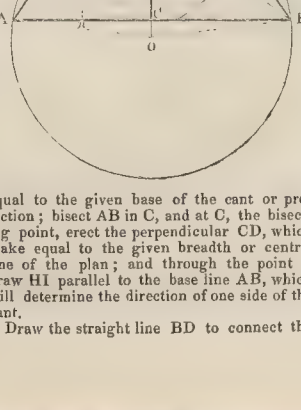
Fig. 1



down; AB the base or opening of the projection; CD the central line or perpendicular breadth of the plan, and AF, FE, and BE the equal sides, of which FE is parallel to AB; AF and BE being similarly placed with regard to the parallel sides AB and FE.

Since AB is bisected in C, and FE in D, the plan is manifestly divided into two equal and symmetrical parts with regard to the central line CD, and because by the conditions of the problem the three sides, AF, FE, and BE are equal among themselves, it manifestly follows, that DF or DE is equal to one-half of AF or BE; and this, in reality, is the only circumstance that requires to be discovered to lead us directly to the solution of the problem. The geometrical construction is as follows:—

Draw the straight line AB (fig. 2) in any convenient direction at pleasure, which make



equal to the given base of the cant or projection; bisect AB in C, and at C, the bisecting point, erect the perpendicular CD, which make equal to the given breadth or central line of the plan; and through the point D draw HI parallel to the base line AB, which will determine the direction of one side of the cant.

Draw the straight line BD to connect the given points B and D, and on D as a centre; with any distance D*a* taken at pleasure as a radius, describe the semi-circle *abc* meeting DI in the point *c*, so that D*a* and D*c* are equal to one another; then, on *c* as a centre, with the distance *cn* as radius, describe the circular arc *aem* meeting BD in the point *m*; draw *mc*, and through the given point B, one extremity of the base line AB, draw BE parallel to *mc* meeting DI in E; then is BE one side of the required cant. Make DF equal to DE and draw AF, so shall AF and FE be the other two sides, and ABEF is consequently the cant or projection sought. Bisect BE in P, and at the point P erect the perpendicular PO to meet DC produced downwards in O; then is O the centre of the circle which circumscribes the figure sought, and passes through its angular points at A, B, E, and F.

Such, therefore, is the geometrical solution of the problem, and it is obvious that nothing can be more easily effected; but in order that the reader may have no misgivings as regards the correctness of the principles here adopted, we think proper to supply the following demonstration.

The distance D*a* is assumed at pleasure, and since D*c* is equal to D*a*, *ca* is equal to twice D*c*; but *cm* is equal to *ca*, the two being radii of the same circular arc *aem*; consequently, *cm* is equal to twice D*c*. Now by the construction, BE is parallel to *mc*, therefore, in consequence of the parallelism of these lines, the triangles D*mc* and DBE are similar, and their homologous sides proportional; that is, DC is to *cm*, as DE to EB; but *cm* is equal to twice D*c*, consequently EB is also equal to twice DE, and this is the condition that the problem requires to be satisfied; hence the truth of the construction is manifest.

What we have done above is all that the proposer requires, and however easy may be the process of delineation, or the determination of the sizes by the principles of geometry, it is otherwise with the algebraic and numerical solutions, and since it may be necessary in some instances to know the exact numerical value of the equal sides, as obtained from calculation and not from measurement, it strikes us that the solution of the problem will not be complete or satisfactory, unless the method of obtaining the sides by calculation be also exemplified, and for this purpose—

Let F*n* be drawn from the angle of the figure at F, perpendicular to the base line AB, and meeting it in the point *n*; then, since F*n* is parallel to DC, *n*C must be equal to FD; but FA by the question, is equal to twice FD, or twice *n*C; and consequently, FA squared, is equal to four times the square of *n*C. Now, $FA^2 = An^2 + Fn^2$ by the property of the right angled triangle; hence we have, $An^2 + Fn^2 = 4Cn^2$; but, by subtraction, $Cn = CA - An$, where A*n* is unknown; therefore it is, $An^2 + Fn^2 = 4(CA - An)^2$; and this, by expansion and transposition, becomes $3An^2 - 8CA \cdot An = Fn^2 - 4CA^2$, which is an adfected quadratic equation, involving A*n* as the quantity to be determined; and if this equation be reduced by the rules appropriated for that purpose, we shall obtain

$$An = \tfrac{1}{3}\left\{4CA \pm \sqrt{3Fn^2 + 4CA^2}\right\},$$

a result in which the negative sign only can be employed, the positive one being inconsistent with the conditions of the problem. The following is the rule in words for reducing this equation:—

Rule.—To three times the square of the perpendicular breadth, or central line of the projection, add four times the square of the semi-base; then, from four times the semi-base, subtract the square root of the sum, and take one-third of the remainder for the quantity sought. From the semi-base subtract the quantity thus found, and twice the remainder will be the side of the cant required.

Example.—Suppose the base of the projection to be 40 feet, and the perpendicular breadth or central line 15 feet, and let it be required to determine the side of the cant.

Here by the rule we have $15 \times 15 \times 3 = 675$
$20 \times 20 \times 4 = 1600$
Sum $= 2275$

the square root of which, is $\sqrt{2275} = 47{\cdot}69$; then we get $An = \frac{1}{2}(20 \times 4 - 47{\cdot}69) = 10{\cdot}77$; and finally, it is $FE = 2(20 - 10{\cdot}77) = 18{\cdot}46$ feet, the length of the equal sides of the figure.

This is the method of obtaining the result by the principles of algebra, but there is still another method to which we beg leave to direct the reader's attention, as it may in most instances be more readily applied than that which we have just illustrated; it is as follows. By the construction, Da or Dc which is equal to it, is taken of any convenient magnitude at pleasure, we may therefore suppose it to be represented by any particular number, say 5; then, since Cm is equal to twice Dc, we have $Cm = 10$.

Now $BD = \sqrt{BC^2 + DC^2} = \sqrt{225 + 400} = 25$ feet, and the angle CBD is equal to BDE; but the angle CBD is such, that tan. $CBD = \frac{DC}{BC} = \frac{15}{20} = 0{\cdot}75$, the natural tangent of $36^\circ\ 52'\ 12''$ very nearly; therefore, by trigonometry, we have

$Cm : Dc :: \text{sin. } BDE : \text{sin. } Dmc$; that is,

$10 : 0{\cdot}6 :: 5 : 0{\cdot}3$, the natural sine of $17^\circ\ 27'\ 28.''$

Here then, in the triangle mDc, we have given all the angles and the two sides Dc and mc, to find the third side Dm, and for this purpose it is

$$\text{sin. } mDc : mc :: \text{sin. } mcD : Dm;$$ that is,

$0{\cdot}6 : 10 :: 0{\cdot}82236 : 13{\cdot}54$ feet nearly, and by the property of similar triangles, we get

$$Dm : Cm :: DB : EB;$$ that is,

$13{\cdot}54 : 10 :: 25 : 18{\cdot}46$ feet, the same as before.

We have been very full and explicit in the resolution of this problem, not indeed from any conviction or impression that it makes on our mind as regards its utility or importance, but with the view of instigating the proposer, and others that may be similarly situated, to the study of arithmetic and constructive geometry, as without an accurate and extensive knowledge of these departments of science, they will in many cases find themselves either obliged to grope at random after their object, or to make their escape from surrounding difficulties by following blindly a slavish routine; whereas with a competent acquaintance with the principles of practical science, as applied to the different branches of their respective professions, they would be enabled to see their way through every intricacy, and thereby to bring their undertakings to a successful and satisfactory termination. T.

*** After the above was in type, we received nine other communications on the subject, some of which possess the merit of great simplicity.

INSTITUTION OF CIVIL ENGINEERS.

Feb. 17th. Sir John Rennie, president, in the chair.—The paper read was "On water for locomotive engines, and its chemical analysis," by William West, Associate. The author commenced by commenting somewhat severely on the want of precaution manifested in the choice of the watering stations on railways, where, he contended, previous analysis of the quality of the water would have avoided not only considerable expenditure in subsequently procuring fit kinds of water, but would have prevented great destruction of the boilers, and inconvenience from the tendency to prime which was induced by certain substances being either in solution or held in suspension. He then treated of the various kinds of earthy crust or "fur" deposited by evaporation; these he shewed the various compostions of; the principal components being carbonate and sulphate of lime, whose powers of conducting heat were so inferior, that when deposited upon a metallic plate or tube, which should be in contact with the water, the caloric traversed slowly, diminishing the evaporating power of the fuel in proportion to the accumulation of deposit, and, at the same time, oxydating the metal with great rapidity.

The various substances present in spring or river waters, such as soda, lime, magnesia, as bases, and sulphuric acid, carbonic acid, and chlorine, which represents hydrochloric or muriatic acid, iron, and organic matters, were then reviewed, and the discrepancies in the results of analysis by different chemists were treated of, and it was shewn, that although there were apparent differences of opinion among chemists, they were not in reality so great as existed among engineers on the relative merits of the locomotive and atmospheric systems, the screw and the paddle-wheel, and the broad and narrow gauge. In treating of the "modus operandi" of analysis, the imperial gallon was recommended as a uniform standard of quantity for the chemist, as being a measure known to and understood by all, and enabling the engineer to discard the minuter fractions of the chemist, and to attend with exactitude to whole numbers in results. As an instance, it was stated, that an engineer might be tempted to disregard the presence of three-quarters of a grain of deposit from a pint of water, but the deposit of one thousand gallons of such water would amount to fourteen ounces avoirdupois, which was a very tangible quantity.

In examining the tendency of different compounds to deposit, it was shewn, that sulphate of lime was more disposed than the carbonate to attach itself to the plates: that a mixture of the sulphate caused a harder deposit than the carbonate alone, and therefore waters containing much sulphate should be avoided. It was shewn also, that although what is generally termed "hard" water might be considered inferior to "soft" water, yet in the question of deposit, hardness and softness were only vague terms, and could not be accepted as positive rules; inasmuch, as muriate of lime which imparted great hardness to water, and therefore rendered it unfit for domestic purposes, was a very soluble salt, and therefore did not form any detrimental deposit or crust during ebullition. It appeared that the author could only recommend, as a means of precaution against incrustation, the selection of waters which by analysis were found to contain only soluble salts, or in situations where bad water could alone be obtained, that the boiler should be frequently "blown through," in order to get rid of the dense saturated part of the water before the crust had time to be deposited. The introduction of substances, such as potatoes, leather shavings, &c., into the boiler, in order to prevent incrustation by enveloping the earthy particles in a slimy evating, being inapplicable to locomotives, because of the tendency to induce priming.

The paper noticed slightly the various patents for preventing adhesion in boilers, and in the appendix gave the analysis of many kinds of water which had been submitted to the author professionally for his opinion. In the discussion which ensued, Mr. Gooch demonstrated the importance of the subject to railway and steam-boat companies, and stated that his attention had been called to a process invented by Dr. Ritterbant, for preventing incrustation in boilers. That process consisted simply in the addition of a small quantity of muriate of ammonia to the water in the boiler. It had been found, that this process not only effected the object proposed, but that it disintegrated and removed the incrustation already formed. In all the locomotives in which it had been used, the steam was much more readily generated, so that the blast pipes of several engines had been enlarged without diminishing this facility. There was, therefore, no doubt, of a great saving of fuel being effected by the process, the expense of which was stated to be about threepence per hundred miles run of a locomotive engine.

In sea-going steamers, the success of the experiment had not been less remarkable. In all these cases the water had been tested by practical chemists, without the slightest trace of iron or copper being detected, shewing that there was no injurious effect upon the metal of the boiler, &c., he looked upon the process as perfect.

Dr. Ritterbandt, in a concise and lucid manner, stated the results of his investigations; it appeared that carbonate of lime was the only substance which formed a solid incrustation; the other substances being merely mixed with, and cemented by the carbonate. That the muriate of ammonia acted as a perfect solvent on the carbonate of lime, converting it into the soluble muriate, without acting upon the boiler. He gave a practical demonstration of the action of the muriate of ammonia on calcareous water to the satisfaction of the president and members, who expressed themselves in terms of approbation of the great practical utility of the invention, and of the manner in which it had been brought before the society.

WILLIAM OF WYKEHAM.

The first part of "Old England's Worthies," one of Mr. Knight's wonderfully cheap and instructive illustrated works, contains a sketch of the life of this great architect, from which we condense the following:—

There is an old tradition, perhaps not worthy of much credit, that upon the wall of a tower in Windsor Castle, known as the Winchester Tower, was inscribed, 'This made Wykeham.' The great churchman raised this tower as the architect of Windsor Castle, working under the commands of his patron Edward the Third. It is further said, that the king being offended at this inscription, its more obvious meaning was dexterously explained away, seeing that it should be interpreted to record that the building of the castle was 'the making' of the architect. There are other proud edifices still remaining upon which might be inserted 'This made Wykeham' in the most complete sense. No man ever left more permanent traces of his course and character. The founder of Winchester College, and of New College, Oxford,—the builder of the noblest part of Winchester Cathedral,—had a title to be called their 'maker,' with no king or subject to dispute his pretensions. He was one of the very few men who, having raised themselves by their abilities and integrity to riches and honour, worked not sordidly for themselves to heap up treasure, but nobly employed their wealth in works of the highest public utility. The life of such a man is for example. William de Wykeham, or of Wykeham, was born at Wykeham or Wickham, in Hampshire, in the year 1324, and, as his biographer Bishop Lowth has shewn, some time between the 7th of July and the 27th of September. The parents of Wykeham are held to have been poor, but of creditable descent and reputable character.

There seems to be no reason for supposing that he ever studied at Oxford, as has been affirmed by some of the later writers of his life. It is evident, indeed, that he had not had a university education, and that he never pretended to any skill in the favourite scholastic learning of his age. His strength lay in his natural genius, in his knowledge of mankind and talent for business; and probably the only art or science he had much cultivated was architecture. He is said in an ancient contemporary account, to have been brought to court when he was no more than three or four and twenty, which would be about the year 1348; but the earliest office which there is the evidence of records for his having held, is that of clerk of all the king's works in his manors of Henle and Yesthampsted, his patent for which is dated 10th of May, 1356. On the 30th of October in the same year, he was made surveyor of the king's works at the castle and in the park of Windsor. It is affirmed by a contemporary writer to have been at his instigation that King Edward pulled down and rebuilt great part of Windsor Castle. Wykeham had the sole superintendence of the work. Queenborough Castle, in the Isle of Sheppy, was also built under his direction.

Upon the death of William de Edyngton, on the 8th of October, 1366, Wykeham was immediately, upon the king's earnest recommendation, elected by the prior and convent of Winchester to succeed him as bishop of that see.

At the period of Wykeham's election to the see of Winchester, the bishops of that diocese had no fewer than twelve different castles or palaces, all furnished and maintained as places of residence. Wykeham's first undertaking, after he found himself in possession of the see, was to set about a thorough repair of these episcopal houses. To these palaces, or castles, the Bishops of Winchester resorted in turns, 'living, according to the custom of those times, chiefly upon the produce of their own estates. So great a demand as the bishop had upon his predecessor's executors for dilapidations could not very soon or very easily be brought to an accommodation; however, the account was at last settled between them without proceeding on either side to an action at law. In the first place they delivered to him the standing stock of the bishopric due to him by right and custom: namely, 127 draught horses, 1556 head of black cattle, 3876 wethers, 4777 ewes, 3521 lambs; and afterwards for dilapidations, in cattle, corn, and other goods, to the value of 1662*l.* 10s. sterling.' Before his repairs were accom-

plished, Wykeham had disbursed 20,000 marks of his own revenue.

The building of the college at Oxford, which he called 'St. Mary College of Winchester in Oxford,' was begun in 1380, and was finished in 1386; that of the college at Winchester was begun in 1387, and was finished in 1393. The papal bull confirming the statutes of the college at Oxford is dated 19th July, 1398. As soon as his two colleges were erected, he entered upon another great work, which still remains a monument of his taste and munificence: he resolved to rebuild his cathedral in the greater part of its extent. This undertaking he commenced in 1395, and he just lived to see it brought to a close in about ten years after. His death took place at South Waltham, about eight o'clock on the morning of Saturday, the 27th of September, 1404.

WESTMINSTER COURT OF SEWERS.

On Friday the 13th, a numerously attended special court was held, Captain Bague, R.N., in the chair. Mr. Le Breton moved, and Mr. T. L. Donaldson seconded. "That the following order of court of the 16th of January, 1846, that it is not expedient to invite candidates to apply for the office of surveyor until a trial shall have been made of the fitness of Mr. Phillips for that office, whose form of sewer has been adopted by this court, be rescinded." Carried:—Ayes, 18: Messrs. Allason, Bathurst, Baylis, Branscomb, Cantwell, Crace, Chalmers, T. L. Donaldson, W. L. Donaldson, Gutch, Hawkes, Kendall, Knight, Le Breton, Mayhew, Perry, Willoughby, and John White. Noes, 12: Hon. Philip Bouverie, Hon. Fred. Byng, Messrs. Bidwell, Cole, Cumberlege, Fuller, Godrich, J. Gunter, R. Gunter, Leslie, Willmott, and Wood.

Mr. T. L. Donaldson moved, and Mr. Edward Willoughby seconded, "That a chief surveyor be appointed at a salary of 500*l.* per annum."

An amendment was moved by Mr. Robert Gunter, and seconded by Mr. Baylis, that the salary of chief surveyor be 400*l.* per annum. The amendment was lost, eleven voting for it, twelve against it.

The original motion was then put and lost:—Ayes 11; noes 12.

Notice was given of motions to rescind various other recent orders of court.

LIST OF NEW PATENTS

RELATING TO ARCHITECTURE, ENGINEERING, &c. GRANTED FOR ENGLAND.

Furnished by Mr. A. Prince, of the Office for Patents of Inventions, Lincoln's-inn Fields, London.

[SIX MONTHS FOR ENROLMENT.]

Conrad Haverkam Greënhow, of North Shields, gent., for improvements in the construction of railways and railway carriages. Jan. 6.

Charles Chinnock, of Cook's Grounds, Chelsea, for improvements in the construction and methods of extending and compressing articles of furniture for domestic use, also applicable to cutlery, workmen's tools, windows, blinds, shutters, and similar useful purposes. Jan. 12.

George Tillett, of Snow-hill, ironmonger, for improvements in stoves and fire-places. Jan. 13.

Joseph Maudslay, of the firm of Maudslay and Field, of Lambeth, engineers, for improvements in propelling and propelling machinery. Jan. 13.

Edmund Leahy, of Cork, Ireland, civil engineer, for certain improvements in locomotive carriages intended to be employed on ordinary roads. Jan. 15.

William Benson, of Allerwash House, Haydon-bridge, Northumberland, gent., for certain improvements in machines for the manufacture of tiles and other plastic substances. Jan. 15.

John Braithwaithe, of Bedford-square, civil engineer, for certain improvements in heating, lighting, and ventilating. Jan. 20.

William Malins, of Mansion House-place, London, and West Bromwich, Stafford, iron master, for certain improvements in the construction of buildings. July 20.

John Nott, of Cork, gent., for certain improvements in the means of communicating intelligence from one place to another. Jan. 20.

George Hinton Bovill, of Millwall, engineer, for improvements in the manufacture of iron. Jan. 31.

Andre Etienne, of Hatton-garden, gent., for improvements in the construction of railways, railway-carriages, and in the means of preventing accidents on railways. Jan. 31.

James Pilbrow, of Tottenham, engineer, for certain improvements in propelling on land and water. Jan. 31.

IRELAND.

Furnished by Rich. Telford, Office of Patents, 5, Harcourt-street, Dublin.

William Newton, of the Office for Patents, 66, Chancery-lane, London, engineer, for improvements in machinery, to be employed in the manufacturing of nails, rivets, screws, and pins. December 30, 1845.

Correspondence.

RETURNS RELATING TO THE BUILDINGS ACT.

Sir,—At the present time, while the expediency of revising the new Buildings Act is being generally mooted, I consider it highly desirable that we should have as much official *data* as possible, to assist in guiding us in our reasonings, convictions, and suggestions. With this view, I beg to express a hope, through the medium of your valuable work, that some member of Parliament will move for a return of the working of the Act, commencing with the appointments of the respective officers, and containing accounts of the expenses of each department; the receipts in the shape of grants, fees, contributions, &c.; the total number of awards and modifications made; the number of candidates who have presented themselves for examination, accompanied by the results; and such other information as may enable the profession, as well as the public, to judge more accurately than they can at present of the value of the existing law.

In the event of your taking the same view as myself of the necessity of these returns, I trust that you will use your influence in endeavouring to get them made as early in the session as possible.—I am, Sir, yours, &c.,

Struere.

Miscellanea.

The Church of St. Denis, Paris.—A correspondent of the *Literary Gazette* says, some alarm has been excited by the discovery that one of the towers of the Abbey of St. Denis is in danger of falling in. It was only a few years ago that this splendid and ancient church was restored by his majesty. Any accident happening to it would be deeply lamented by every one of those who, no matter what be their country or their creed, cannot gaze upon a venerable historical monument without emotion. Of all the historical edifices of France, perhaps that of St. Denis is the most interesting. It was one of the very first churches that Christianity caused to be erected in the kingdom of France, and is venerable from its great age alone—a thousand years or more. For centuries it was the burial-place of the kings of France; and their ashes reposed in peace within its walls until scattered to the winds by the fury of the revolution. Even now it contains their tombs, piously restored by the present king. It is remarkable for its architectural beauty, for its old painted glass, and for the chaste elegance of its decorations. It has figured, too, in many important national events. Of course, prompt measures have been taken by the authorities to guard against any danger to so venerable a pile, and it is to be hoped that they will be crowned with success.—We learn since that the tower must be taken down.

Concrete.—We learn from a French paper that the works for the auxiliary port of La Joilette, at Marseilles, are commenced. Immense blocks of concrete, 13 yards cubic measure in size, have been sunk for the foundation, and by the effects of time and submersion will form one solid immovable mass. The cost of each block, with labour of sinking it, is estimated at 300*f.*

Archæological Institute.—At the last meeting of the committee, held on the 13th, for archæological discussion, it was announced that, in consequence of the interest expressed by the members of the Institute in these meetings, and the want of sufficient room to accommodate them, the next meeting would be held at the Institution of Civil Engineers, 25, Great George-street, Westminster.

Society of Antiquaries.—At a recent meeting of the society, Mr. A. J. Kempe communicated an account of the circular encampment which occupies the commanding position at the S.W. angle of Wimbledon Common, considered by Camden as marking the place where the conflict occurred between Ceaulin, King of the West Saxons, and Ethelbert, King of Kent, A.D. 568. In Camden's time, this camp was called Bensbury. Mr. Kempe regarded this fortress as a work of earlier date than the sixth century. The appellation of such ancient fortresses may supply some evidence in regard to the period of their construction, and Mr. Kempe remarked that the British term, Dinas, Dunum, or in more soft pronunciation, Ton or Tune, a fortified elevated post, appears always to indicate a British origin. The camp at Wimbledon has all the characteristics of such British strongholds. At the following meeting Mr. Godwin, on exhibiting a peculiarly long bronze spear-head, lately found in the Fulham-road, took the opportunity to say "that an increasing anxiety is observable amongst all classes of people for the preservation of old relics. Being thrown into contact with labourers, mechanics, and others, in the course of professional practice, I have frequent opportunities of judging on this head, and have lately seen in the class alluded to, instances of liberal feeling and evidences of enlightened views, which would have gained credit for men in higher stations."

Oxford Architectural Society.—A meeting of this society was held on the 11th instant, at their new room, Holywell-street, (late the Music-room), the president in the chair, surrounded by one of the largest attendance of members that has ever been known. The spacious and lofty room is well calculated for the purposes of the society, a large selection of casts of architectural details are chronologically arranged on either side of the room, and the walls facing the entrance are hung with specimens of ancient sepulchral brasses; in the centre of the room is a large cast of the beautiful alabaster tomb in Norbury church, which had been presented to the society by the Earl of Shrewsbury, some time back, but which, from want of space, they had been hitherto unable to exhibit. There is also an extensive library, a large collection of drawings and engravings, which have been arranged by the secretaries, so as to make them available for reference to the architectural student. Nine new members were admitted, and fourteen others announced for election at the next meeting of the society, fixed for Tuesday, the 24th of February. A report from the committee, congratulating the society on being settled in their new abode, was read by Wm. Trevor Parkins, S.C.L., of Merton College, honorary secretary; after which a paper was read by Mr Cox, of Trinity College, on "The Development of Anglican Ecclesiastical Architecture," which he intimated had reached perfection in the period of the decorated style.

A Model Lodging-House for the Poor in London.—Within the last six weeks a model lodging-house for the poor has been opened at No. 27, King-street, Drury-lane. The house has undergone a thorough repair, and is fitted up to accommodate forty single men or boys. Each will have a separate bed, and every means has been taken to ensure the health and comfort of the inmates. The terms are fourpence per night, which include the use of a common kitchen, well supplied with every article requisite to prepare a meal. There is a plentiful and constant supply of hot and cold water; a good fire is kept burning until eleven o'clock at night, and the gas is laid on. We speak from inspection, and are disposed to think that it will not only answer the benevolent object of the gentleman at whose expense the house has been fitted up, but will probably induce others to follow his example.

Plate Glass.—The reduction of the duty upon plate-glass has increased the demand for that material to so great an extent that many months must elapse before the existing orders can be executed. As an indication of the prosperous state of this branch of manufactures, it may be noted, that at a general meeting of the proprietors of the Thames Plate-glass Company, held last week at the Piazzo Hotel, Covent-garden, it was determined to enlarge their works to nearly double their present size, and a dividend of 6 per cent. was declared.

RAILWAY TELL-TALE.—A Mr. W. Constable, of Brighton, has suggested the construction of an instrument to be attached to a railway carriage that shall describe on a chart a line, indicating the various speed of a journey. Such a *tell-tale* would act as a wholsome check on a reckless engine driver, and be the means of preventing some of those accidents which are so injurious in their anticipation, and so horrible in their results.

NAVIGATORS' STRIKE.—Several hundred labourers on the Lancaster and Carlisle Railway, near Kendal, have struck for an advance of wages; they demand 4s. per day and fortnightly payments.

COMPENSATION FOR RAILWAY INJURY.—Sir George Hayter, the artist, who received some bruises owing to the collision at Pensburst in July last, has had a compensation paid him by the South-Eastern directors, it is said, of 2,000*l.*

Messrs. Craven and Sons, the contractors for the Lincoln, Newark, and Nottingham Line, are making rapid progress. The bridge over the Old Witham, leading to the station, near the High-street, is shortly to be commenced.

The Croydon Atmospheric Line is now working daily for ordinary traffic. The London terminus is at the Dartmouth Arms. Trains go up and down once every hour.

MEETINGS OF SCIENTIFIC BODIES.

During the ensuing week.

MONDAY, Feb. 23.—British Architects, 16, Grosvenor-street, 8 P.M.; Geographical, 3, Waterlooplace 8½ P.M.

TUESDAY, 24.—Civil Engineers, 25, Great George-street, 8 P.M.

WEDNESDAY 25.—Geological, Somerset House, 8½ P.M.; Society of Arts, Adelphi, 8 P.M.

THURSDAY, 26.—Royal, Somerset House, 8½ P.M.; Antiquaries, Somerset House, 8 P.M.; R. S. Literature, 4, St. Martin's-place, 4 P.M.

FRIDAY, 27.—Royal Institution, Albemarle-street, 8½ P.M.; Philological (London Library), 12, St. James's-square, 8 P.M.

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For the erection of a public station at Halesworth, Suffolk.

For the erection of a wall on the south side of the union workhouse at Worksop, in length about 15 roods.

For supplying the commissioners for paving the town of Dover with 1000 yards of tooled York paving stone, 2,400 feet of curb, and 300 tons of Guernsey pitchers.

For the erection of a part of the river wall on the Liverpool Dock Estate, being about 300 feet in length, and 40 in height.

For repairing and upholding the hand-posts on several of the roads under the jurisdiction of the Metropolitan Roads Commission.

For supplying the Ipswich and Bury Railway Company with 50 coal waggons, 30 goods' waggons, 12 passengers' luggage vans, &c.

For the execution of three several contracts for the South Wales Railway Company, being a distance of about 14 miles, and comprising tunnels, earthwork, &c.

For supplying the commissioners of the great Dover-road district, Newington, with the best tooled York paving stone, granite pitching, granite curb, labour, mortar, &c.

For the execution of works on the Leeds, Dewsbury and Manchester Railway, being two contracts of the respective lengths of 2½ miles and 3½ miles.

For the execution of two portions of the Edinburgh and Northern Railway, being of the respective lengths of 3 miles and 5 miles.

For the execution of works on the Glasgow and Ayr Railway.

For the supply of 150,000 sleepers to the Midland, Nottingham and Lincoln, and Syston and Peterborough Railway companies.

For executing the foundations of a tower and small church in Kentish Rag Stone, for the Victoria-park Cemetary Company.

For executing the paviers, and masons' work of the south western district of St. Pancras parish.

For the erection of a house at Ryde, Isle of Wight, for the Royal Victoria Yatch Club.

COMPETITION.

The council of the Royal Agricultural College at Cirencester, offer a premium of 10*l.* for the design (with an estimate) of a farm-house and buildings of stone and blue slate, including all fittings. Outlay not to exceed 2,000*l.* Stone on the spot.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At the Carew Arms Inn, Crowcombe, Somerset: 61 maiden oak and 24 maiden ash timber trees, of superior quality and large dimensions.

At the Bear and Ragged Staff, Cumner, near Oxford: upwards of 450 trees, principally elms, some of them large.

At Livermore-park, Suffolk: about 1,300 very superior oak, elm, ash, alder, beech, larch, Scotch spruce, and chesnut trees, and stands, &c.

At the Wortley Inn, Wortley, Yorkshire: 717 oak, ash, alder, birch, elm, asp, sycamore, chesnut, and willow timber trees, and nearly 7,000 oak, ash, birch, and alder poles.

At Little Bentley, Essex: 2,000 very capital larch, fir trees, 500 ash ditto, &c.

At the Red Lion Inn, Worksop: A large quantity of very valuable oak, larch, elm, and beech timber trees, now standing at Clumber and Worksop.

In the Brokers-yard, Brunswick-quay South, Liverpool: 642 logs Cuba mahogany, 30 logs Havana cedar, 1,518 lancewood spars, 16 logs Cuba hardwood, 78 planks Rio rosewood.

At 5, Crown-place, Crown-street, Soho: a large quantity of well-seasoned rosewood, mahogany, zebra, king and satinwood, maple, ebony, coromandel, box, lime-tree, sycamore, dry wainscot, cedar, birch, ash, walnut-tree, beech, brown oak, and pine, in logs, planks, boards and veneers.

At Halstead and Gosfield, Essex: 60 beech and chesnut trees, &c.

At Lowestoft, Suffolk: about 120 tons of superior Swedish bar iron, and 1,500 kegs of best Swedish steel.

TO CORRESPONDENTS.

"A. R. C."—*We do not believe that any person can "teach surveying, levelling, &c. in about a week."*

"X. X. X."—*If the agreement states you are to have "12l. per week clear of expenses," you can charge the latter also.*

"J. B." (Newbury.)—*We will look at the pamphlet.*

"H. A. W."—*The work mentioned contains plans and elevations of the buildings. The same publisher as "The Public Works."*

"Exchange, Blackburn."—*In answer to several inquiries respecting the proposed Exchange at Blackburn, Mr. Ellingthorpe, solicitor of that town, on being addressed will afford every information.*

"R. P. J." (Portsea).—*The work referred to is complete in 150 numbers.*

"T. S. R." (Limehouse.)—*A parapet to external wall is not indispensible. The projecting eaves must be incombustible.*

"F. B."—*Seyssel Asphalte has been sucessfully used for the purpose. Johns' cement would probably be effectual.*

"Fire-proof Buildings."—*To give W. H. I. particulars of the "best method for making an entire building fire-proof," would occupy more time than we can devote to it at this moment. We shall be happy to receive communications on the subject.*

"A Carpenter."—*The hinges may be galvanized after they are made.*

"W. D."—*The date shall be affixed. Proof shall be forwarded. Thanks for the solution, though it came too late.*

"Mr. Cockerell's Lecture."—*We are compelled to postpone the report of the concluding Lecture till next week, when it will appear at considerable length.*

"Subscriber" (Bucks).—*The mixed metal tubing for gas is softer than the tin tubing, and when suspended from a ceiling is liable to "bag." In other situations it seems satisfactory.*

"L. W. C.;" "R. Y.;" "Daniel O'Brien;" "C. Jenkins.;" "R. A. Prior," *have our best thanks.*

"J. R." (Stepney.)—*Outside blinds are permitted by a special modification of the Buildings Act.*

Received.—"C." (Cardiff); "T. A. H.;" "A. 45"; "G. Robins.;" "Budownik.;" "Decorative Art Society.;" "T. H. jun.;" "An Essay on an improved method of construction for viaducts, &c. by Messrs. Blair and Phillips.;" "The fallacies of Building Societies;" "Messrs. Manby's report on the Madrid and Valencia Railway."

*** Correspondents are requested to address all communications to the EDITOR, York-street.

ADVERTISEMENTS.

ROYAL ADELAIDE GALLERY, Lowther Arcade, West Strand.—During the week, the magnificent Tableaux Vivans of Professor Keller, after the works of the greatest Masters both Ancient and Modern, will be continued every Morning and Evening: The New Model of Nickel's Compressed Air Railway, and Pilbrow's Atmospheric Railway, will also be continually exhibited daily; an entirely new entertainment by Mr. J. Russell, entitled an Hour of Table-talk, enlivened with Songs and Anecdotes, will be given every Tuesday, Thursday, and Saturday, during the week; the Concert and Singing every evening, with various other Attractive and Instructive Exhibitions.—Admission One Shilling, Schools Half-price.

ROYAL POLYTECHNIC INSTITUTION.—Lectures on Chemistry, with brilliant experiments, by Dr. Ryan, daily, at half-past-three, and on the evenings of Mondays, Wednesdays, and Fridays at nine o'clock. A Lecture on the Atmospheric Railway, by Professor Bachhoffner, a working Model of which, carrying several persons, is exhibiting daily. The additions to the Opaque Microscope, Dissolving Views, and Chromatrope are very effective. The Physioscope. Submarine Experiments by means of the Diver and Diving Bell. Among the various additions to the Working Models is Coleman's new American Locomotive Engine, for ascending and descending Inclined Planes. A magnificent Collection of Tropical Fruits. Mr. Downe, the celebrated Flute-player, will take part in the Music, conducted by Dr. Wallis. Open from Eleven to half-past Five, and from Seven to half-past Ten in the Evening.—Admittance, One Shilling. Schools, Half-price.

CALIGRAPHIC BLACK LEAD PENCIL.
Manufactured by E. WOLFF and SON, 23, Church-street, Spitalfields, London.

THE CALIGRAPHIC PENCILS have been invented by E. WOLFF and SON, after the expenditure of much time and labour. They are the result of many experiments; and every effort that ingenuity and experience could suggest has been made to ensure the highest degree of excellence, and the profession may rely upon their being all that can be desired. They are perfectly free from grit; and for richness of tone, depth of colour, delicacy of tint, and evenness of texture, they are not to be equalled by the best Cumberland Lead that can be obtained at the present time, and are infinitely superior to every other description of pencil now in use.

The Caligraphic Pencils will also recommend themselves to all who use the Black Lead Pencil as an instrument of professional importance or recreation, by their being little more than half the price of other pencils—

H, HH, HHH, HB, B, BB, F, FF, W* .... 4s. per doz.
BBB, EHB ..... 8s. ,,
BBBB ..... 12s. ,,

* This pencil is particularly recommended for writing and counting-house use.

An Allowance on every Gross purchased by Artists or Teachers.

May be had of all Artists' Colourmen, Stationers, Booksellers, &c.

A single Pencil will be forwarded as a sample, upon the receipt of postage stamps to the amount.

CAUTION.—To prevent imposition a highly finished and embossed protection wrapper, difficult of imitation, is put round each dozen of Pencils. Each Pencil will be stamped on both sides, "Caligraphic Black Lead, E. Wolff and Son, London."

*** The usual trade allowance to stationers, booksellers &c. A Show Box Gratis with an order for a gross of Pencils.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; a boy can use it as well and effectually as the best workmen: it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 20s. per gallon.

STEPHENS'S LIQUID OAK, MAHOGANY, ROSE, and SATIN WOOD STAINS, for Staining various sorts of Inferior Woods, so as to give them the appearance and character of the more costly and ornamental kinds; also for reviving the natural colour of Wood Carvings and Panellings, and other ornamental Wood Work, when such has become faded from age or other causes.

IN THE BUILDING AND DECORATING NEW CHURCHES, where it is desirable to give to the cheaper kind of Woods the appearance of Antique Oak, or to make Deal assume the character of Oak Panelling, whereby the effect of the more costly may be produced by the use of a cheaper material, these Stains will be found more effective than any means hitherto employed.

IN OLD MANSIONS AND HALLS, where the Wood Carvings and Panellings have faded, the application of these Stains will be found to revive and bring back the rich natural colour, and which colour may be varied from the lighter to the deeper shades of the most Antique Oak.

The BIRCH WOOD, which has a fine natural grain, with little colour, is particularly suited to the application of these Stains; and the appearance which it assumes after Staining is so near that of the natural wood, that is is only when the grain and colour of the latter is particularly fine that it is preferred. Beech, Birch, Elm, Ash, and other Woods, English and Foreign, receive the Stains and produce various imitations.

For the exposed Timbers of the inside of the ROOFS of CHURCHES, for which north country Timbers and Deals are generally used, by brushing them over with the Stain, which operation is very rapidly, and of course economically, effected, the appearance of an Oaken Roof will be produced. For colouring the backs of the Seats, Pews, the fronts of Galleries, the Pulpit, &c., it is equally advantageous.

Prepared by HENRY STEPHENS, and may be obtained at 54, Stamford-street; of Mrs. ROWLAND, Painter and Glazier, 3, Broad-street, Golden-square; at the Office of "THE BUILDER," 2, York-street, Covent-garden, and in Manchester, at Crake's Marble Works, Garratt-bridge, David-street, at which places specimens of their application may be seen.

The Builder.

No. CLX.

SATURDAY, FEBRUARY 28, 1846.

AN old friend of ours, when he hears the expression "measure and value," usually exclaims, "Measure and robbery;" and those persons who are acquainted with the subject, and can look at it dispassionately, know that unfortunately, there is ground for the remark. Tradesmen who are working one for another, with the understanding that the work done by each is to be measured and valued, in order to strike the balance, have a coarse but expressive term, which shews their own notion of the system: they call it *blood-work*, and would never think for a moment, under other circumstances, of allowing a builder, to whom they were to pay money, to make out his charge by measure and value. Amongst the community generally, this same feeling extends; and the consequence is, that men will hardly build a pig-stye, or paint two or three doors or windows, without a previous contract on the part of the workman. What should be the most just and proper mode of arriving at an equitable settlement has fallen into disuse, and many builders of the present day have paid severely for undue advantages enjoyed by their predecessors.

It is truly surprising, that so intelligent and powerful a body as the builders are, should allow this state of things to exist. It appears to have been caused by a refinement in the description of details introduced by the early measurers, and the consequent multiplication of items which, when all priced singly, at sums not above the worth of each article or process considered separately, amount in the gross to much more than the real value of the whole work done.

A writer in the first number of "Loudon's Architectural Magazine" (March, 1834), in an article "On the present state of the professions of architect and surveyor," referring to the objections made by employers to admit surveyors to measure works, says:—"Nor can any one be surprised at it, when we witness the extortionate charges made by some surveyors, whom I shall here style *custom* surveyors. This is the manner in which they proceed: two surveyors meet to make out an account of certain works done. We will suppose the account which they have to settle is a plumber's bill. The first article is 18 cwt. of milled lead; the plumber's surveyor requires 25s. per cwt.; the surveyor for the opposite party remonstrates, and points out to him that the prime cost was 15s.; the other replies, that 25s. is the customary price, and that he cannot take less. To convince his opponent, he opens an old measuring-book, and shews that 25s. has been charged in an account that he settled on behalf of Mr. Getall with Mr. Easy, the surveyor, some years before; and he again repeats, that it is the *custom* to charge 25s., and that he cannot deviate from it. In the same way, he charges 1s. per foot for pipe that only costs 4d., and 1s. per foot for solder that only costs 5d.; and so he goes on in the same ratio with all other articles in the bill. After charging so extortionately for all time and materials for making a joint to a pipe, he has the conscience to ask, in addition, 2s. 6d. for that joint, though he cannot tell why he does so, except that it is the *custom*, &c. The consequence of all this is, that the surveyor of the opposite party, if he has any conscience, cannot settle the account, and it is referred to the lawyers." The fault rested more with the system than the men. The result could have been anticipated.

In any alteration of the system that might be attempted, it would not be sufficient to deal with the *prices* to be allowed; reference must be made to the mode of measuring. The prices set forth in the various books annually published on the subject, have been carefully calculated, and for work *done in the best manner*, on ordinary credit, as given by respectable houses to their regular customers, are probably no more in most cases, than will return the tradesman a fair profit for the capital and skill employed.

Unluckily, however, surveyors consider themselves bound to claim for their employers (when there is no agreement), the same prices in all cases alike, without reference to the manner in which the work is executed; and conscientious men are often pained, when called in to "measure and value" work, at being obliged to put a sum for it—say 20 per cent.—higher than that for which they know perfectly well the tradesman, their employer, would gladly undertake a precisely similar job.

Look at the difference in work as executed by different parties. Why, a pair of folding-doors we saw this morning *cost* the maker five and twenty per cent. more than doors of the same size we saw yesterday; and yet if these were to be measured and valued, an asserted custom would force the surveyor to put the same price to the indifferent work as to the very good. In painting and plastering, even a greater difference may constantly be found. The proper *preparation* of work for painting forms an important item in the calculation of prices; and this in execution, in many, many instances, is not attended to at all. If able and upright surveyors would become *really* valuers; if throwing aside in a degree the trammels of a custom which has nearly destroyed itself, they would price the works submitted to them according to their proper value, considering the special circumstances of each case, the actual cost, and the skill exhibited, they would soon gain the confidence of the public, and induce an equitable mode of dealing and great improvement in our operatives.

We approach this subject not without hesitation: we are satisfied that the present system is as injurious to builders as it is unsatisfactory to the public, and we sincerely desire to aid in effecting some salutary alteration.

KENSINGTON PARISH AND THE BUILDINGS ACT.

ON Monday, the 23rd inst., a vestry meeting was held at St. Mary Abbot's, Kensington, to consider what steps should be taken to obtain a repeal or satisfactory revision of the Metropolitan Buildings Act. The churchwarden, Mr. Bellworthy in the chair.

MR. HAWKES briefly introduced the matter to the vestry; he condemned the Act as a piece of arbitrary tyranny; it was objectionable not merely as a tax on the parishioners for unnecessary services, but on account of its continued interference with private rights and comforts; and he called urgently on the parish to exert themselves to obtain its total repeal, or at all events, such a modification of it as might render it less objectionable.

MR. GUNTER addressed the vestry at some length, and gave a humourous account of the difficulties he had found in making a few trifling repairs to farm buildings on his estate, and of the half-guinea fees consequent thereon. In his own residence, where he was making alterations, he wished to enlarge a room by removing a chimney-breast, but the Act said he shouldn't, and for a long time his views were delayed in consequence, though ultimately he effected what was wished. He thought the Act one of the greatest innovations of modern times, and would do all he could to obtain its repeal. Nor could he sit down without making one personal observation, which was, that he thought the clerk of their district surveyor had no business to enter a building without first knocking at the door: if he persisted in doing so, he ought at least to wear some badge, or he might one day be taken for something less honest and treated as such.

MR. STEPHEN BIRD said he had been in Kensington more than forty years, and never knew of a single accident through want of sufficient walls or other bad construction. The houses were all built safely, there had never been a failure, and the Act he thought not wanted there. Many of the provisions were most absurd. The clause which called for 2 feet of brickwork round a chimney-pot if above 4 feet high, and a fee of 10s. 6d. to the surveyor, was one of these, and would force people to put up with smoky chimnies. A pot 4 feet high could be fixed quite safely without the brickwork or the surveyor. No builder was safe in commencing: to understand the Act in parts was impossible: it was a tax on the parish, and a great abomination.

MR. E. NIXON (of Bladon Lodge), was disposed to think the Act altogether objectionable, and that no revision would be so satisfactory as a repeal. Its interference with trifles was most objectionable, and he referred to a "rabbit-hutch" case which had come within his own knowledge. Worse, however, than this, an Englishman's house was no longer his castle. The comfort of a friend's daughter in Kensington, who was seriously ill, had been greatly interfered with by the conduct of the district surveyor's clerk, in respect of a tin tube hastily put up to prevent the chamber chimney from smoking. A petition should be immediately addressed to Parliament.

MR. RYMILL said, a friend, who had recently raised his chimney four courses of bricks, had been called on for 10s. 6d.

MR. GODWIN said he thought it desirable to mention, although many there were probably aware of it, that a speedy revision of the Act was contemplated by the proper parties. That Kensington would be exempted from its control was not at all likely; the better course for the parish would be, to point out what they considered objectionable to the Commissioners of Woods and Works, either through the official referees or otherwise, and there was no doubt due attention would be paid to these objections. There was much that was good in the Act, and repeal could not be anticipated. The great point to be obtained was the protection of the public with as little interference with private rights as possible.*

MR. HANSOM could not see any one good part in the Act. MR. BIRD said he was of the same opinion; it militated against ventilation, for you could not open a window without a fee; it increased the rent of a small house a pound per annum, and it interfered greatly to prevent the exercise of ingenuity.

MR. HAWKES, in closing the discussion, objected to the strictly legal form given to all the proceedings at the referees' office, and the difficulty of obtaining information. The meeting then agreed, that a petition for the total and immediate repeal of the Act, as inquisitorial and unsatisfactory, should be drawn up and presented forthwith. And a committee was appointed to carry out this resolution, and further, to communicate with the Commissioners of Woods and Works.

The vestry then proceeded to discuss the injurious tendency of the window-tax, and resolved to present a petition for its immediate repeal.

* On Wednesday night, in the House of Commons, Mr. Forster asked if it was the intention of Government to bring in any measure this session to amend the Metropolitan Buildings Act, against which there had been so many complaints?—Sir J. Graham said it was the intention of Government to bring in a Bill to amend that part of the Act by which persons who were referees under it, were prevented from following their own profession as surveyors. There would be thenceforth three referees, two of whom would receive only 500*l.* a-year, because they would be allowed their private practice. He did hope that another Bill with more comprehensive amendments would be brought in in the course of the session.

PROFESSOR COCKERELL'S LECTURES ON ARCHITECTURE.

In the sixth and concluding lecture on architecture delivered at the Royal Academy on Thursday, the 12th inst., Mr. Cockerell entered into some comparison of the classical and mediæval styles, and commented upon the imitative system of the present day. He urged the importance of studying the system of each style, in order to treat them effectively, and concluded with some general advice to the students on the principles of composition, and suggestions for the attainment of a distinct and national style.—He said, that he had now laid before them some outline of the various systems or schools of art; these studies they were themselves to carry much further than could be done in a short course of lectures. Originality would arise from the light, in which each individual would view the same subject. There were two errors, which must be carefully eschewed; the excessive love of novelty and originality, and of displaying originality, and on the other side, the exclusive desire for imitation. The first pernicious tendency had existed in Germany during the middle ages, and had been noticed by Albert Durer. We found spires twisted, curved, and pierced, and every caprice in plan and arrangement. In the present day, we were wholly imitative, till at last we were becoming sick of reproduction. He said, that with this desire, we were apt to become partisans, and to believe that we really belonged to the times, in which the particular styles prevailed. Amongst the young especially, these erroneous notions were entertained. True, we did not, like the Germans, stalk about in long beards and caps, or as the French, adopt the Roman toga, and the costume of Francis I., but we had equal eccentricities, such as they were, amongst a people not very much gifted with the love of art. We should therefore endeavour to find what were the real sources of art.—He said, that art was the visible portraiture of the mind from which it emanated, the growth of the times and people from whom it sprang. We must confess, that it was amongst the Greeks, that art was best practised and understood. We found a practical use of the laws of optics in Grecian architecture, which no other system could exhibit. He then alluded to the *scamilli impares* of Vitruvius, the explanation of which had only lately been gained. It had been a tradition amongst barn builders, that unless the line of roof were *hog-backed*, it would appear to bend in the middle. Mr. Penrose had lately found, that the outline of the entasis, in the columns of the Parthenon, was the hyperbolic curve, and no other. In such merits the Gothic style was inferior. In construction, the principle of simple repose, perhaps rendered necessary from the frequency of earthquakes, was the only one followed, that of equipoise was not attempted. The Romans could appreciate the Grecian principles, and, though not equalling their teachers, did something that was still respectable. By the aid of the arch, they produced the magnificent ephebeum of the baths, which the architects of the middle ages knew not how to imitate. The ephebeum of the baths of Caracalla was wider than Westminster Abbey, and Westminster Hall would stand within the basilica of Trajan. These enormous vaults were of solid construction, and therefore there was no relying upon fire-offices and insurance. The professor here exhibited a view of the great ephebeum of Caracalla, restored. Did we turn to the architecture of the middle ages, he continued, we found no conic sections, and none of those refinements, which marked the smallest production of the Grecian chisel. In this comparison, we must be content to be losers.

The professor next alluded to the influence of climate and material, and to the trabeated and arcuated systems. He said, that these two systems should not be mixed together, and that we were apt to carry the trabeated arrangement into our churches, for which it was not adapted. The system of classical architecture turned upon the employment of the largest scantling, whilst that of the middle ages worked with such stuff as a man may carry on his back; what one effected by extension, the other produced by spiring up; in the one the main lines were horizontal, in the other vertical; the forms of one were designed to give shade, of the other to resist wet, and rather to tell by the outline on the sky than in the eternal glitter of sunlight. In classical architecture the doors were of large size, the upper portion often serving for a window to light the edifice, in Gothic architecture they were purposely small. The windows, on the contrary, in classical architecture were small, and of minor importance, whilst in Gothic architecture, they were large and elaborately embellished.—He then said, that after the objections he had made to imitation, he might be asked to recommend a style, and therefore in church architecture he would offer some suggestions. These he could better express in the form of a parable. In this form the monk Colonna had composed his celebrated book, which had become a magazine of art, so much so that designs were carried out from the description.—In what followed, Mr. Cockerell pointed to a plan of a proposed cathedral, with accompanying buildings. Except in the circumstance of their being a spacious chancel, the principal building was in few respects similar to any existing cathedral, ancient or modern. The plan of that part intended for the congregation, was somewhat peculiar, being polygonal in its general outline, but broken by circular projections. Internally, the arrangement was octagonal. A chapter-house occupied the usual position of the lady chapel, and at the opposite end of the church was a large vestibule. These distinct portions were arranged in line, the main front being approached through a cloistered court. This plan, Mr. Cockerell said, he considered as a venture, and he had not attempted to draw out any elevation.

The professor commenced his relation by saying, that he conceived himself standing with a bird's eye view of a great city. Amongst the various buildings, one at once arrested his attention—it was the high church, built in the pointed style of architecture. To it were attached various buildings, the lines of which resolved themselves into great uniformity and symmetry, as though the whole had first appeared to be a confusion, and then resolved itself into a distinct symmetrical plan. The church was covered by a lofty dome, and by a smaller dome; there were also two towers, making in all four terminations. These passed each other, and were grouped in various positions, as they were approached in the windings of the road; he was reminded of the spires of Lichfield, as seen in driving round the city. The smaller dome gave a wonderful magnitude to the larger dome. The vertical lines, contrasted with the curved forms, and, together with the court-yard and the adjoining buildings, the whole shewed "a mighty maze, but not without a plan." The towers, similar in their construction, sometimes looked all solid, and sometimes perforated; they were like Antwerp, but were not bird-cages; the effect was that of the west towers of St. Paul's Cathedral. On a nearer approach he discovered, that the details were not Grecian, but of that cultivated Gothic, which the later ages permitted. The domes terminated in the ogee form, and rose from a base, round which there were projecting buttresses. In this dome, the eternal square and angle, which were the great reproach of medieval architecture, were avoided. The small dome looked like a younger dome:—he was reminded of the Church of Sta. Maria della Salute, at Venice. He was also reminded of St. Mary's, at Oxford, there being buttresses and pinnacles clustering round, which seemed to give honour to one larger termination, that grew out of them. The covering was of tiles, in patterns—recalling the domes of Kairo; but although the ogee form was there, there was nothing Oriental. Such tiles had been used for roof coverings in Germany.

On nearing the west end, he found that it was approached by flights of steps, and through a quadrangular cloistered court; so that by going round, the church might be reached under cover. The cloisters communicated with schools, parochial offices, and other buildings. In these, the depressed or four-centred arch was always employed in depressed positions, as under floors, and the acute arch above, according to the principle of William of Wykeham. In the quadrangle, he noticed the admirable proportion of the plan to give effect to the west front. As Cæsarianus had recommended, the point of view was taken at 3½ times the height of the building. The western doors had three vast arches, similar to those of Amiens Cathedral. Around the principle door were grouped the twelve apostles, rather larger than life, in ample niches, not elbowed, as usual in Gothic buildings, where you wondered how they got in, or how they could get out again, but allowing of the beautiful play of light and shade, which a larger niche admitted of. The doorway had the central pillar, against which was a figure of the Saviour. On the soffit of the arch was carved the root of Jesse. The doors, themselves of bronze, were covered with foliage, and subjects illustrative of the ten commandments; much importance being given to the ninth commandment. The figures of the apostles were so arranged in reference to other adjuncts, that a scale was given to them, as in the case of the sculptures of the Parthenon by the metopes. These figures, not being colossal, that modern mistake was avoided, which sees no other way of representing a great man than by making the man great. In their expression, he was struck by their sincerity and truth; they seemed, as if he had seen them before. There was great variety, and the character of each apostle was given. They were not dressed, as Bernini would have represented them, in draperies of silk, neither were they tattered like beggars, but in all respects their dresses were such as would be worn by labourers worthy of their hire. Near the same place were the patriarchs, the martyrs, Paul and Stephen, and the great reformers, as Luther and Melancthon. We might also observe the parable of the wise and foolish virgins, but no saint or miracle was represented in any part of the building.

On entering the church, he at once saw that it was a Protestant building, and not intended for processions. The first compartment was a vestibule, with pillars on each side. It was lighted by large windows, filled with stained glass, and was decorated in polychromy, the colours, in each case, being so selected as to harmonize with each other. The pillars were long and delicate, and at first there was some fear that they were not secure, but when it was discovered that they were bronze, the mind became reconciled. These pillars had capitals and bases of great projection. In the middle of the vestibule was a font, railed round. In the stained glass there was no quaint drawing, but the figures reminded him of those by Bassano and Titian, and he thought he could there discern the work of some, whom he would forbear to mention. The faults of the old stained glass were avoided; the light was not intercepted, the dark parts were not produced by black shades; the system resembled that in the windows at Munich, and was quite different to that of Sir Joshua Reynolds in the window at Oxford. The subjects represented included the sacraments, the baptism of John, with many moral subjects never before portrayed. This vestibule was used at burials, and for church meetings. The organ was placed at the west end. At right angles, between this vestibule and the church, there were galleries of access for valetudinarians.—On entering the church, he found that it was of large dimensions. It had a spacious chancel, the ceiling of the chapter-house being seen beyond the altar, somewhat after the manner of the Church of St. Giorgio, at Venice, by Palladio. The arrangement was that of the auditorium, required for Protestant uses, and to accommodate so large a congregation, galleries had been found indispensable. The floor of the church was lowered like the pit of a theatre, or as some of the better kind of meeting-houses. The communion-table was long, and fit for twelve, and behind it was an enriched screen. The great objection to many modern churches, arising from the size of the western gallery, was obviated, the architect having thrown up the centre portion for a singing gallery; thus there was an uninterrupted view of the church. The pulpit was attached to one of the piers. The ceiling was coved, and terminated in a ring of stone, near which were the heavenly choir, and groups of cherubim. At the top was a golden Triune. There were other star-like openings in this ceiling, through which light was admitted. Some of the galleries had latticed work, so that those, who went to church for other purposes than to show off new bonnets, could be free from observation. There was another gallery of stone similar to a triforium.—The general character of this building was English and Christian; yet it had not the square and angular outlines of the Gothic. It was evidently the work of no or-

dinary mind, and it was impossible to discover in any of the details, by what system they had been coined. There were to be seen columns of polished granite, English marbles, slabs arranged in the manner of the Roman mosaics, and glass columns and rays. These last were hollow, an iron tube, gilt, being passed through them, and had a very splendid appearance. The basin of the font was of glass, and there were glass points on the pinnacles.

The building had a fine outline, as if the architect had made many studies of it, or as if he had viewed it in a fog. The details had been well considered, and nothing had been done, either in whole or in part, without a model. The system of principles and subordinates had been attended to; there was a dome, and subordinate dome; enrichment, and subordinate enrichment; profile, and subordinate profile. This was the principle in the Propylæa, in the scrolls of Raffaelle's frescos, and in the columns of Palladio's town-house at Vicenza. The architect had deeply studied the purpose of the building, and the nature of the materials. He had carefully attended to the principles of co-mensuration, and of "proportion and proportionality." Indeed, he had thrown over the pedants altogether, so that he was ridiculed in his day, though foreign artists applauded, and trade flourished through his exertions.

Thus, Mr. Cockerell said, he had traced the birth and progress of medieval architecture, on which he had thrown some fresh lights, really new to himself, and had shewn how it was possible to produce new combinations. He recommended them to do the same, for it was, in fact, their business to agitate this subject of architecture, to the study of which they should direct all their energies. In concluding his course of lectures, he sought no reward but their gratitude, because, in the words of an author he had often quoted, we lived for others, and not for ourselves.*

* *

RAILWAYS THROUGH THE SEA.

"Let down your rails, ye nations, near and far;
Yoke your full trains to Steam's triumphal car;
Link town to town; and in these iron bands
Unite the estranged and oft embattled lands."
CHARLES MACKAY.

RESPECTED FRIEND,—The practicability of constructing submarine railways having been pronounced by several scientific individuals, I am induced to crave thy permission to address a few remarks on the subject to the community at large by the medium of thy columns. Being aware that it is only gradually that the human mind can receive any thing greatly foreign to its experience, I presume that I may be excused for attempting to explain that many obstacles which might be supposed to exist against carrying out the plan, may not be of an unsurmountable nature, but such is the power of habit, that although this may be termed the age of inventions, and that in which science guides the car of human affairs, and although man looks with an eye of pity on past ages, he is continually inclined to look with scepticism on things which are proposed to facilitate the development of commerce and civilization, as though science had exhausted her store, and that the time would come when man could no more invent; yet it is probable that the efforts of future ages will prove, that he is now only on the threshold of her temple, and that what man has now in his possession is but as a grain of sand on the sea-shore. Future ages will probably look on the present age as the period when man began to reap the advantages of science, and led the way for infinitely greater results than those which his generation could witness. Science is probably one of the instruments destined to remove many evils which short-sighted man has long considered as inevitable; already she besieges the strongholds of ignorance and superstition. She opens the roads between distant countries by her "handmaid steam,"

"And breaks the barriers that since earth began
Have made mankind a foreigner to man."

But while the rails are laid in almost every country in Europe, while all the important towns of England are connected by these "iron bands," Britain is isolated from the rest of Europe,—twenty miles of sea remain as nature's barrier to universal communication. The traveller from the north reaches Dover, but the train can take him no farther; he retraces his steps, those twenty miles of sea appear to him infinitely more than 100 miles of railway, so that he looks on the continent as a spot which he cannot tread. This may be proved by referring to the small number of persons who cross the channel, compared to the crowds of travellers in the railway trains. May we not then ask the question, can a railway be made from Dover to Calais? Had the question been asked fifty years since, the answer might have been in the shape of a threat to lodge the querist in a lunatic asylum, but in these days of gigantic enterprise the question will appear more plausible, although it will still appear formidable to every one until the subject has been minutely examined.

When an engineer is appointed to examine a country through which a railway must pass, he selects that part which is free from engineering difficulties, that is, he avoids hills and vallies, as far as he can, but when a circuitous track can be avoided, he hesitates not to direct the road to be cut through the highest mountain: now we may examine the nature of the spot between Dover and Calais. If we consult the charts, we shall find that it is a vast level plain, the soil of which though not cultivable, is neither rocky nor mountainous, but there is an obstacle which the engineer has not hitherto surmounted; this plain is covered with water, an element which is too dense for us to feel at home in it; but can it be more difficult to cut a road through the water than through a mountain composed of solid rock? There is a level plain, so that all we have to do is to throw a huge half cylinder of iron on it to prevent the water from obstructing the rails which would be placed under this iron arch, so that to cut the road through the water we have only to pump the water from the tube; when empty, the road would be open, and surely it would be easier to pump water than to cut, and blast, and dig through solid rock, and of course, when completed, the water above could no more interrupt the sub-marine navigation of this road, than the thousand tons of stone on the tunnels of almost every railway on land.

I hope that I have made the plan sufficiently intelligible; now for the details of the work. This immense tube must, of course, be built in separate divisions, perhaps of 1,000 feet in length; in that case only 104 divisions would be required to join the rails of the South Eastern Railway with those of Calais and Paris; now supposing each of these divisions would cost 40,000*l.* the cost of the whole would be 4,160,000*l.*, and if we allow for the expense of throwing them in deep water, of connecting them, of building stations, &c. on a magnificent scale, it will, I believe, be found, that the sum of 8,000,000*l.* sterling would be quite sufficient to complete this sub-marine railway. Perhaps it might be completed at a much less expense, if so, we might even in this age see sub-marine railways constructed in still wider channels; the main things we have to consider is the practicability and economy of the plan. It might be argued that the air would be impure in these buildings, but by means of pipes laid the whole length, and air-pumps worked by steam-engines, the air might be constantly renewed; then by adopting the atmospheric mode of propulsion, the air which would be exhausted from the tube would be almost sufficient to renew the air without other pipes. The building, thus buried in deep water, would be safe from the effects of the storm, and while the sea above would be boiling its waves with fury, the flying train would be rolling with the velocity of the wind, sheltered even more than on land; here wind, frost, or rain could not penetrate, so that the marine passage, instead of being the worse, would be the most agreeable part of the journey. These tunnels would, of course, be lit with gas, and in addition, every carriage might have a lamp on each side, so that each train might be as a moveable hotel.

I suppose that there are very few persons who would not wish to see England joined to the continent by railway; but many more will be inclined to doubt the practicability of the plan: we are so accustomed to question the practicability of any thing with which we are not familiar. The Thames-tunnel was at first considered a desperate undertaking, but at present no one would doubt the possibility of boring under the widest river of England: the immense expense attending the work is the main cause why we do not see the plan generally adopted. But now let us examine whether the construction of sub-marine railways can be more difficult. In boring under the bed of the water, on the latter plan, a considerable depth must be reached previous to excavating under the water; so that engines must be kept constantly at work to pump the water which rushes in torrents in the tunnel; and, in fact, the pumping must be continued until the whole length is bored, and the arch completely built; but for sub-marine railways the work is almost completed on land, so that the work under water is of a comparatively trivial nature: much less then is required to construct bridges and breakwaters. So at present, I may ask, where does the difficulty lie? Not in building the tunnel, for boiler-makers could complete that part of the work; not in sinking it below—we have only to fill it with water, and it would sink by its weight; not in connecting the divisions—this would be the work of only a few hours. Then where is the obstacle? Perhaps in the fears of the timid, that the building, being surrounded by water, would be in a dangerous position. But would it be considered more safe if surrounded by a fluid as dense as oil or tar, or as heavy as quicksilver? Is water more to be dreaded than any other fluid or substance? Yet we are not afraid of venturing in small vessels, and encountering the most violent storms. It is well known that vessels have been entirely embedded in the waves—the mast only being visible above water; and of course during that time the building is battered by the agitated sea as iron on the anvil—the sailors being tied to the rigging not to be washed overboard. I may ask of those who know something of this "pleasant travelling," which would be the safest position—the vessel floating above, and carried over the mountain waves as with the rapidity of lightning, or the tunnel snugly wedged below, where the water is more dense, and where the effects of the storm could not possibly be felt? Very little consideration may suffice to be enabled to answer the question, particularly with those who have conducted sub-marine operations, and who understand the force with which the sea, when agitated by the wind, will batter against a body within reach of its surface.

But if anything was wanted to prove the safety of a building on the bed of the sea, we might refer to the fact of many vessels having remained on the spot where they had sunk, for half a century or more, without having suffered injury beyond that which resulted by the wearing of the wood, the whole of the timbers having remained as firmly fastened together as when they had sunk below; and yet of course no precaution had been taken to prevent their receiving injury. The Royal George is an illustration of this. After having been so long in deep water, when the divers descended on board, they found a quantity of wine in glass bottles uninjured; many a storm had swept over that building since it had foundered, but they had caused no more injury to it than if it had been embedded in solid rock. Again, then, I ask, what is water, that we should dread to construct a road through it, more than if it was as dense as quicksilver, or as hard as diamond? must we be prevented from laying rails on these vast plains, where the soil belongs to no mortal, merely because they are covered with a fluid too dense for us to breathe, while we penetrate through mountains merely to save a gradient, or to shorten a road a few miles! Surely we need not suppose that obstacles can only be overcome on land, where, to construct railways, valleys must be filled up, hills cut through, viaducts and bridges built across rivers, and frequently large houses must be demolished, and parks utterly destroyed; none of these works and ravages are required for constructing sub-marine railways, the only obstacle is the sea, a body over whose serface we are not afraid of gliding, even in the most terrific storms, in a small building which may be under 20 tons burthen, and to which the bursting of a small plank would be certain destruction; the force of habit seems to lead us, unwillingly perhaps, to feel terror at the idea of finding ourselves in a position where it is not common for us to reside, however free from danger it

* Full reports of Professor Cockerell's lectures are given in this and Nos. 154, 155, 156, 157, and 158 of THE BUILDER

may be, while the same force reconciles us to travel through the whirlwind on the ocean some thousands of miles, scarcely aware that there is any danger at all.

To those who are not aware of the facility with which submarine operations are conducted in these days, the work will appear more formidable; thus, by the usual mode of descending in diving-bells, a pipe, communicating with a pump, is required to renew the air; but Dr. Payerne has obviated this inconvenience, having discovered a chemical substance by the decomposition of which he forms air, while another substance absorbs the nitrogen or expirated air, and thus the workmen can remain any length of time below without inconvenience; this would be principally required while boring the bed of the water, for blasting it with gunpowder, as it would be essential to sink the divisions near the shore in the earth, but this operation could be conducted without difficulty. A diver told me more than ten years since, that he had worked for three successive hours in deep water in breaking up a vessel, and ascended above but twice during that time for a few minutes; he said he found himself scarcely more fatigued than if he had worked on land. Since that time considerable improvements have been made in diving-bells, and it is probable that the construction of submarine railways would be the means of suggesting further improvements, which might render the working under water a matter of almost equal facility as on land.

The iron for tunnels should be one inch thick, the plates being made as large as possible, and rivetted together as steam boilers; there should be strong ribs of iron constructed of the shape of the arch, and by placing these sufficiently close, there would be no necessity for having longitudinal ribs, as the plates would bind the whole firmly together, but as an additional security other plates might be rivetted inside; yet this would not probably be required, for if we examine a steam boiler made of iron plates half-an-inch thick, we can hardly conceive what pressure would be able to bend it. So that by using iron one inch thick, we may safely conclude that it would be impossible for it to give way; it would, in fact, be able to bear many a hammering, without receiving injury, for of course it would be infinitely stronger than an arch of brick-work; yet many of these arches have to support much greater weights than iron tunnels could have to sustain, even if a vessel, cargo and all, were to sink on the building; the chances of such an accident must of course be very distant, when we consider the vast extent of the sea, compared with the works of man.

The question which I now submit to the scientific world is,—Can wrought-iron tunnels be used as a medium of railway communication, whether they are suspended between mountains, or placed underground in parks, &c. or imbedded in the water? That many objections may be brought against the plan, I am aware, but objections have been brought against every thing new—objections which have seemed plausible in theory, but which have been found to have no existence in practice. This plan is certainly one of considerable magnitude, and of course a deep consideration is required before coming to any conclusion about it. I may remark that it was not till after having studied the matter in all its bearings, that I ventured to intrude the plan before the public, but I may be mistaken; there is however one circumstance which is perhaps in favour of the plan, it is the fact that several individuals have attempted to claim the invention as their own, and among these several eminent engineers. The name of R. Rettie, C.E. of Glasgow will be familiar with the readers of the THE BUILDER, in connection with attempts to claim the invention. I have been in fact obliged to prove, by the medium of the press, that I was the first who published a plan for constructing iron tunnels, in order to protect myself from the pretensions of many individuals who, whatever they might have projected, evidently required the invention of others,

> To give to airy nothing
> A local habitation and a *name*.

But however varied may be the opinions on the merits of the plan, I presume that there will be but one opinion as to the advantages which would result if it could be carried out. The door of the continent would be open to the mechanic and the artizan, and the different nations of Europe, instead of viewing one another with a jealous eye, would combine their efforts in civilizing the world, for I believe that it will be universally acknowledged, that the principal cause of war between different nations has been by the one being ignorant of the merits of the other. That this ignorance is already disappearing is evident, so that we may safely infer that ere long, the world will be in a different state to what it was when the highest ambition of man was to destroy his fellow man.

I remain respectfully,
JOHN DE LA HAYE.
London-road, Liverpool, 2nd mo., 7th, 1846.

ROYAL INSTITUTE OF ARCHITECTS.

ON Monday evening, the 23rd inst., Mr. Tite, vice-president, in the chair, Mr. T. C. Penrose, associate, read a paper "On the curved lines of the Parthenon," the result of recent personal examination.

Mr. Penrose gave various dimensions, which shewed that the horizontal lines, namely, those of the steps, architrave, frieze, and cornice, were slightly curved, probably to correct the appearance of depression in the middle which perfectly straight horizontal lines of any length always present to the eye. The writer proved that the sides of the shafts of the columns are also curved, and that the curve is a hyperbola, whose axis is 13·23 feet below the upper step, and focal distance twice 30·5 feet, or 61.

The chairman remarked, that the discovery of the law which regulated the *entasis* of the Greeks was exceedingly valuable. We had all learnt to introduce the entasis in forming columns, but he thought the principle should be carried further—for example, in our porticos and ceilings. The French were more careful in minute matters than we; this resulted in part from the great rapidity with which every thing was done in England. They tried the effect of their sculpture and decorations, by models placed at the height at which they were intended to be fixed; and he advised young architects to adopt the practice. He then urged the importance of adopting the decimal system of weights and measures (which had been alluded to by Mr. Penrose), and promised to bring the matter in a more formal way before the Institute.

Mr. Bellamy could not admit that it was desirable to interfere with the horizontal lines, and contended at some length that we should do wrong by rendering them curvilinear. This opinion was not hastily adopted, but was the result of considerable attention to the subject. The actual rise in the centre of the top step of the Parthenon, 101 feet long, was 2¾ inches; might not this be the effect of disruption.

Mr. Penrose said this might account for it in one building, but did not when we found, as was the case, that the same appeared in the temple of Theseus, and numerous others.

Mr. Scoles laid before the meeting some interesting remarks on the Parthenon, in continuation of the subject, and these we shall probably print entire.

Some sketches of the decorations in the *Sainte Chapelle*, at Paris, were exhibited by Mr. J. G. Crace.

Mr. Poynter, the honorary secretary, then read the minutes of the meeting of council, called to consider the designs and essays which had been submitted in competition for the medals. On "The adaptation and modification of the orders of the Greeks by the Romans and moderns," there were two essays; "On the history and manufacture of bricks," seven; and for the Soane medallion offered for the best design for a royal chapel, "with seats for five hundred persons, inclusive of the suite, attendants, and choir;—the building to be detached, and in a classic Roman, or Italian style;" three sets of drawings had been received. Neither of the essays on the "Orders" were considered by the council sufficiently important to deserve the medal.

Of the seven on bricks, the essay marked,

> "Creditur, ex medio quia res arcessit, habere
> Sudoris minimum,"

was entitled to the medal of the Institute; and a second marked "Do not degrade me by comparing me with the pyramids built of stone, which I excel as much as Jupiter excels the other gods," displayed so much ability, that they proposed presenting to the author a medal of the second order of merit.

On opening the letters accompanying the essays, the first was found to be by Mr. Thomas Worthington, of Manchester, and the second by Mr. S. J. Nichol, of 11, Argyll-place, London.

The designs, although they all displayed considerable ability, were not of that high class that the Institute had a right to expect for the Soane medallion: they selected the set marked "Pendent opera interrupta," as the best, and awarded to it a medal of the second order. The name of the author was found to be J. T. Wadmore, Upper Clapton.

It is to be regretted that a want of attention to construction was observable, as well in the selected set as in the others.

Several varieties of improved window-sashes were exhibited by the inventors, amongst them a frame and sashes made by Johnson and Pask, to exemplify Herring's method of hanging sashes, whereby they may be instantly disconnected from the frame without removing the beading. It is exceedingly simple, increases the cost but slightly, and appears to answer the purpose well.

CEMENT FOR CURING DAMP WALLS, KITCHEN FLOORS, &c.

SIR,—As a subscriber to your valuable journal from the commencement, will you oblige me by inserting the following valuable and effectual receipt for curing damp walls, and suitable for use in flooring kitchens, and other purposes where the prevention of wet is necessary. The composition has been successfully used by many persons. Boil two quarts of tar with two ounces of kitchen grease for a quarter of an hour in an iron pot; add some of this tar to a mixture of slaked lime and powdered glass which have passed through a flour sieve, and been dried completely over the fire in an iron pot, in the proportion of two parts of lime and one of glass, till the mixture becomes of the consistence of thin plaster. This cement must be used immediately after being mixed. It is not well to mix more at a time than will coat one square foot of wall, as it quickly becomes too hard for use, and continues to increase its hardness for three weeks. Great care must be taken to prevent any moisture from mixing with the cement.

For a wall which is merely damp, it will be sufficient to lay on one coating of the cement, about one-eighth of an inch thick; but should the wall be more than damp, or wet, it will be necessary to coat it a second time. Plaster made of lime, hair, and plaster of Paris, may be afterwards laid on the cement. This cement, when put in water, will suffer neither an increase nor diminution in its weight.

Should the inquirer, W. H. O., feel inclined to try this receipt, I have not the least hesitation in saying he will find it answer his purpose.

Hoping the above will prove advantageous to some readers of your most useful and widely-circulated journal, I beg to subscribe myself,
JOHN HORSMAN, jun., mason.
Pontypool, Monmouthshire.

ACCIDENTS THROUGH THE BREAKING OF CHAINS.—Two accidents have lately occurred while lifting heavy masses of stone, through the insufficiency of the chains employed. The first took place at Mr. Jackson's at Pimlico, about three weeks since, when one of the workmen was so seriously injured, that for several days his life was despaired of. The other occurred last week at the British Museum while raising a block, weighing nearly eight tons; in its fall, it crushed the hand of a mason named Keller, and nearly caused the death of three others. Both prudence and humanity alike suggest that an occasional inspection and test of chains used in lifting such enormous weights, should take place.

NEW CRIMINAL COURT ADJOINING NEWGATE.—The city authorities have determined upon erecting a third Criminal Court in the Old Bailey. Last week, at a Court of Aldermen, the subject was referred to the committee of general purposes to be carried into effect.

DISFIGUREMENT OF THE NATIONAL GALLERY.

An abominable tin smoke-pipe has recently been placed in the centre of the east end of this unlucky building, immediately over the head of the sitting figure. The *stele* that before formed the termination at the apex is made into a square stone box, probably to comply with the "Buildings Act," which requires tubes above 4 feet high to be fixed 2 feet into brick or stone-work, and from this rises the ugly pipe. It gives all the effect of one of the penny steam-boats, elevated as a sign, with Britannia at the side ruling the waves.

Surely some less objectionable remedy than this, for that disgrace to modern science, a smoky chimney, could be found? If not, the nuisance should be endured within, rather than perpetrate such an enormity as this pipe is, at the head-quarters of the Fine Arts in England.

CHEAPEN AND IMPROVE GAS.

Sir,—I consider you are conferring a great boon to the consumers of gas in drawing attention to the quality of the gas they are at present supplied with, and I trust the period is not far distant when London will be properly lighted. The companies ought to be compelled to use Cannel coal, and then by judicious management the price of gas could immediately be reduced to 5s., or even 4s. This is proved by the fact, that in Liverpool, Cannel coal only is used, which costs about 19s. per ton, from which a small quantity of coke is obtained worth 9s. per ton. The gas produced is about 9,500 cubic feet, of a highly illuminating power; the specific gravity above ·700, the price only 5s. per 1,000 cubic feet; and most likely, a still further reduction will be made.

In London "Pelaw or Pelton Main" (the best coal from Newcastle) is used, the cost of which is from 22s. to 24s. per ton. It produces a very large quantity of good coke, which is worth at the present time 22s. per chaldron. The gas obtained is about 9,000 cubic feet of very weak gas, the specific gravity being very little above ·300, and its illuminating power is less than one-half that of Cannel coal gas. The price is 7s. per 1,000 cubic feet, and if we may judge from the price of the company's shares, and the amount of their dividends, there is no prospect of a reduction.

This ought to open the eyes of the companies: it is to their interest to increase the use of gas, and this would be the case to an enormous extent if the consumers could introduce it to their private apartments. In urging this to one of the officers of a London company, he stated that the reason for not using Cannel coal gas in London was, that *the meters would not then travel so fast.* I think this should have some weight with the consumers, who ought to make the demand to be supplied with gas of a certain illuminating power. Calling upon you to continue your exertions in obtaining this great desideratum,

I am, Sir, &c.,

Feb. 16th. T. A. H.

Purifying Gas.—Mr. H. Phillips, chemist, of Clist Honiton, Devon, has obtained a patent for an improved method of purifying gas. In the purifying of gas by lime, two means are resorted to, called the wet and the dry lime processes; in some works one only of the two processes is used; in other works both processes are used consecutively, and the lime employed for each process (where both are used), is fresh lime. The object of the present invention consists in using for the wet lime process the lime which has been previously used for the dry lime process, by which considerable saving of lime will result. The gas is first passed through the wet lime purifiers: new or fresh lime in the ordinary manner is employed for the dry lime process, and afterwards this lime is used for the wet process, to be immediately mixed with water, in a vat, vessel, or other receiver, to prevent it becoming hard; which lime, by means of additional portions of water, is brought to the proper consistency for the wet lime process in the same manner as if using fresh lime for such purpose; and such mixture of lime is applied in the ordinary apparatus used for the wet lime process.

ARCHITECTS' PROPERTY IN THEIR DESIGNS.

Sir,—Simple occurrences often afford useful and instructive hints, I therefore send you the following short correspondence, that recently took place between a clergyman and an architect, to be dealt with by you as you think fair and due to all classes interested. In a passing conversation between them (for they have ever been, and probably still are, on friendly terms, as far as my informant the architect is aware), the architect received the impression, that the clergyman contemplated using a plan furnished by him, the architect, for the erection of a villa on speculation, to C., a working carpenter, whom the clergyman had employed as his builder, and on duly considering the matter, he sent the following note:—

"Rev. Sir,—I was quite unprepared to hear to-day, that you purposed using C.'s plan (viz. I suppose the one I gave him) for your intended house at ———, because I was not aware you could be ignorant that it was prepared for that special purpose only, and could be therefore at his disposal for no other than the house he is building for himself. However suitable it may be for that peculiar situation, it would be scarcely so for the unconfined spot on which you propose to build; consequently, if followed in your case, while there will be sufficient in its external appearance to induce a belief that I was consulted, its unsuitableness to the spot may prove injurious to my reputation as an architect. I can have not the least objection to your employing any architect you wish, or even none at all; but you must plainly see that I have good reason to object to my designs being used for any other purpose than that for which they were expressly intended; I trust, therefore, you will do me the justice to obviate the objection in any way most convenient to yourself, and for which I shall feel extremely obliged.—I am, Rev. Sir, yours, &c.

———."

To this the clergyman thus replied:—

"Sir,—I consider myself at liberty to copy the design of any house that pleases my taste. Yet you may be at ease on the subject of your note, since I have not copied yours, nor indeed any one's, but C. is building on plans he has prepared under my direction.—I am, Sir, &c.

———."

Some might have thought proper to reply to this last, but the architect thought otherwise, and so there it ended.—I am, Sir, &c.

Feb. 16th. A. 45.

THE BEST SIZED PIPE TO THROW WATER.

Sir,—I beg leave to transmit for insertion (if you think fit) in your valuable journal, the result of some experiments made by Mr. Brunel at Bath, when employed by the Duke of Devonshire in making some improvements in the fountains at Chatsworth. The experiments were tried for the purpose of ascertaining what sized pipe would give a jet of the greatest altitude. The screw-pipe was attached to the main that comes from the castle reservoir. By the annexed it is demonstrated that a bore $\frac{7}{8}$ of an inch in diameter throws the water the highest.

This may be interesting to persons concerned in the operation of fire engines.

I am, Sir, yours, &c.,

An Original Subscriber.

Kensington Gore, Feb. 19th, 1846.

With a pressure of 175 feet of water, the jet rose to the under-stated heights through a hand pipe, with a nozzle of varied sizes:—

Diameter of pipe in inches.	Height of jet.
$\frac{1}{2}$	65 feet 5 inches
$\frac{11}{16}$	91 " 2 "
$\frac{7}{8}$	105 " 6 "
1	92 " 0 "
$1\frac{1}{2}$	94 " 0 "
$1\frac{1}{4}$	89 " 0 "

The Wesleyan College School at Batts, near Bridgewater, is fast approaching completion. Bath and Knapp stone is used in the structure.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

Feb. 18. The treasurer in the chair.—A report was read from Mr. Lower, who is still indefatigably engaged in watching the excavations on the site of Lewes Priory, in which he mentioned the discovery of a marble effigy of a crusader of the thirteenth century, similar to that of Lord De Ros in the Temple Church. It is much mutilated; the head and legs are wanting; the right hand rests upon the breast, while in the left are held a sword and shield; the body is clothed in ring mail, and the legs have evidently been crossed. A leaden seal of Clement VI. was also found.

Mr. John Newman, F.S.A., exhibited an urn of uncommon form, and curiously ornamented, discovered in excavating for the foundations of the new Houses of Parliament. It is of late Roman workmanship.

Mr. Wright read a letter from Mr. J. W. Hugall, of Cheltenham, accompanying drawings of a very elegant leaden font of the twelfth century, ornamented with figures and scroll-work, preserved in a church in Gloucestershire. The beauty of the font is almost concealed by a thick coating of blue and yellow paint; and Mr. Hugall expressed a wish for information on the best manner of clearing away the paint without danger of injuring the font. Mr. Smith said that Mr. Hugall's object would be most effectually obtained by a solution of quicklime and pearlash. Mr. Isaacson remarked that it was a common thing to find beautiful fonts in country churches entirely covered with paint. He instanced the church of Ewell in Surrey, where, some time ago, the churchwarden, who happened to be a market-gardener, had ordered an elegant stone font of the time of Edward III. to be painted green.

Mr. Artis, F.S.A., laid on the table an elegant bronze casket, ornamented with the Vitruvian scroll and other devices; he stated it did not appear to have been cast, as the marks of the tooling were very evident; also a bronze sceptre, 21 inches in length: both these were found at Castor, Northamptonshire, the ancient Durobrivæ.

Mr. Gomonde, of Cheltenham, forwarded drawings of some Saxon remains found in a tumulus near Gloucester, mixed with which were some Samian ware and Roman coins, also a bronze figure of *Bona Dea;* some discussion ensued upon the presence of Roman and Saxon indicia in the same barrow, several instances of which were adduced.

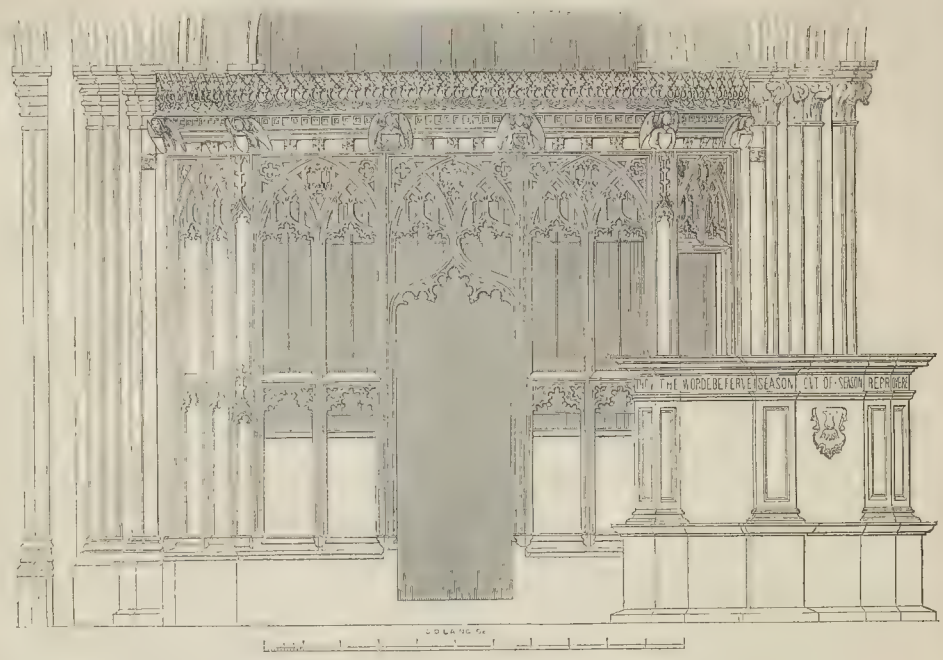
Mr. Chaffers, Jun., communicated some observations, accompanied by extracts from a letter from Mr. Wake Smart, on a very remarkable barrow lately opened at Badbury, in Dorsetshire; it was entirely surrounded by a low wall of unhewn masses of stone rudely constructed.

Letters were received from Messrs. Warne and Barnes requesting the intercession of the Association with the railway proprietors, to prevent the spoliation of the Roman amphitheatre, near Dorchester, in Dorsetshire, the line of which was to run directly through the centre, while by the deviation of a few feet, this interesting monument of antiquity might be spared. It was stated that they were there getting up a petition to the railway directors for its preservation. Mr. Sydenham made some observations on this monument, which he characterised as a "unique relic," and to the remarkable character of which, he said, attention was first called by Sir Christopher Wren, who saw it on his way to Portland to obtain stone for the building of St. Paul's Cathedral. As the property belonged to the Crown, as parcel of the possessions of the duchy of Cornwall, he thought that the Government might easily be prevailed upon to interfere and save it. This threatened case of destruction of ancient monuments led to a discussion, in which many members took part, and ended in a strong recommendation to the committee to take the most efficient steps in its power for its preservation.

Other communications were read, but our limits force us to confine ourselves, in noticing the meetings of either the Association or the Institute, to those matters which relate more immediately to architectural antiquities.

The chairman stated that the general yearly meeting of the Association would take place on Wednesday, the 4th of March. The Rev. J. J. Ellis, F.S.A., and Dr. Copland, are appointed auditors of the accounts.

SUGAR'S CHANTRY.—WELLS CATHEDRAL.



SUGAR'S CHANTRY, WELLS CATHEDRAL.

On the north and south sides of the nave in Wells Cathedral, under the second arches from the transept, are two of those remarkable structures formerly erected and endowed for the purpose of prayer for the soul of the departed. These chantry chapels were essentially distinct edifices, and are to be found in many of our cathedrals, being generally of much later date than the building, in which they are inclosed. The chapel on the north side of the nave at Wells was erected by Bishop Bubwith, who was interred there in 1424. It is an elegant structure, richly decorated.

The chapel immediately opposite to this, of which we now give a beautiful illustration, is by some called Bishop Beckington's, and by others Bishop Knight's, but inaccurately as to both; for Bishop Godwin "expressly states, that it was erected by Hugh Sugar, LL.D., treasurer of Wells (who was one of Beckington's executors), entirely of freestone, in place of a chapel of wood that previously stood there.* This, like Bubwith's, is a sexangular structure, and not dissimilar in its general design; but the tracery of the upper division is more elaborate, and the frieze and crowning ornaments more richly sculptured; the east end, or altar part of the interior, is likewise far more sumptuously profuse in its sculptural decorations than that chapel. Attached to the frieze, both on the north and south, are six demi-angels bearing shields, charged, among other bearings, with the symbols of the five wounds; a cypher or monogram of the builder's initials, viz. H. S., his arms viz., three sugar loaves, surmounted by a doctor's cap! The same cypher and arms are repeated on shields, within quatrefoils and circles, under the canopy in the interior. The eastern façade, above where the altar stood, displays a most elegant series of five niches, separated by clustered buttresses, and crowned by highly enriched turretted canopies, the soffits of which are elegantly groined in divers forms; the pedestals, which are wrought in a corresponding manner, are adorned with foliage. All the eastern part from the doorways is surmounted by a most splendid canopy or vault of stone, overspread with fan-like tracery, a rich central pendant, quatrefoils in circles, and a profusion of other forms and ornaments.

"Adjoining to the above chapel, against the great column, on the western side, is a *Stone Pulpit*, erected in Henry the Eighth's reign by Bishop Knight, who died in 1547; and which, says Godwin, 'hee caused to be built for his tombe.' It consists of a basement, and a superstructure, fronted with pilasters, panelled, surmounted by an entablature; on the frieze of which is the following inscription in Roman Capitals: — PREACHE THOU THE WORDE. BE FERVENT IN SEASON AND OVT OF SEASON. REPROVE, REBVKE, EXHORT, IN ALL LONGE SUFFERYNG & DOCTRYNE. 2 TIMO. In front are the Bishop's arms."* Our engraving shews the principal front of the monument, with the pulpit attached. We shall next week give the plan and section, so as to illustrate completely this elegant little structure.

* "Hugo Sugar, &c. 'legum Doctor, qui Capellam elegantem ex polito lapide suis sumptibus construxit, magno pulpito contiguum, ubi loci lignea jam olim fuerat posita.' 'De Præsulibus,' p. 381. The great pulpit here mentioned was built by Bishop Knight, seventy or eighty years subsequently to the erection of the chapel."

* Britton's Wells Cathedral.

CONSTRUCTION OF BRIDGES.

Sir,—It is my intention in this paper to consider geometrically the principles of the arch, and to lay before the reader its construction, so that he may be enabled to form some idea of the cause of the many repeated failures that have lately occured.

The arch stones 1, 2, 3, &c., fig. 1, of a bridge, are termed the *voussoirs*. The planes *ab*, *cd*, &c., the *bed-joints*, the exterior surface of the arch is the *extrados*, and the interior surface is called the *intrados*.

Now the arch, fig. 1, may be destroyed in two ways, first it may yield from the voussoirs sliding on each other; and secondly, the voussoirs may turn round on some point or points at which the bed-joint intersects the extrados or intrados. We will proceed to shew the conditions of safety on these suppositions, which may be stated in words as follows:—

1. That in no part of the arch must the line representing the line of pressure form an angle with either of the bed-joints less than the complement of the angle of sliding, that is than the complement of the angle at which the voussoirs would begin to slide upon themselves:

2. That the line of pressure in the arch must be confined within the surfaces which bound the upper and under sides of the arch.

Let AF, BH, CI, fig. 2, &c., be a polygonal frame composed of pieces void of weight, and supported by leaning against each other at the planes AE, BF, CH, &c. Draw these planes or bed joints at right angles to the direction of the abutting pieces; that is, make AE perpendicular to BA; BF, perpendicular to CB &c. Let weights be placed at the points at which the bed-joints intersect the exterior surface of the polygonal frame. Then on the conditions which involve the stability of friction; let us first suppose the pieces would slide on each other at the bed-joints by the application of the slightest force, which of course supposed the material incapable of resistance from friction, and therefore all forces in the frame must be applied in the direction of the pieces or at right angles to the bed-joints. From *a* (1), draw the line *ab*, and erect the indefinite perpendicular *abe*, parallel to the pieces AB, BC, CD, draw the lines *ae*, *ad*, *ac*, then will the lines, included within the triangle *aeb*, represent the forces in the frame when it is in equilibrium, that is

bc will represent the weight to be placed at				I.
cd	ditto	ditto	ditto	H.
de	ditto	ditto	ditto	E.

similarly also, and in the same proportion,

ab will represent the pressure on			DI	to which it is perpendicular.
ac	ditto	ditto	CH	ditto.
ad	ditto	ditto	BF	ditto.
ae	ditto	ditto	AE	ditto.

The same observation will apply to the other half of the polygonal frame, and if the whole

ILLUSTRATION OF THE ARCH.

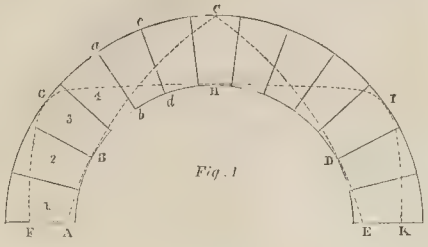


Fig. 1

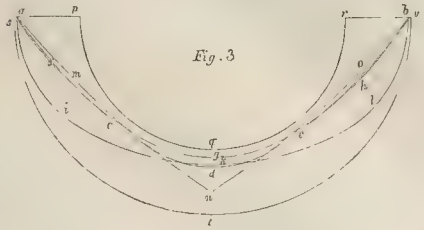


Fig. 3

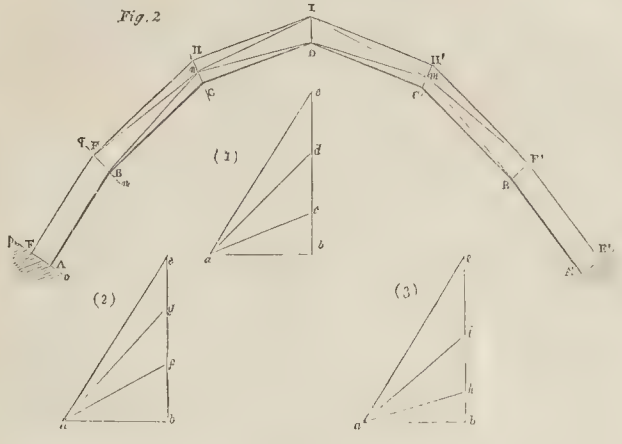


Fig. 2



Fig. 4.

was loaded in the proportions above represented, the frame would be in equilibrium, even though friction did not act.

As no material is in reality perfectly smooth, so the pieces in the frame would in practice require some force to cause them to slide on each other at the bed-joints, and the friction, thus induced, would tend to preserve the equilibrium. If the resistance from friction at the bed-joints be taken into account, the proportions of weight may vary from that exhibited above within certain limits; these limits are defined by the magnitude of the angle of sliding; that is, the angle at which the pieces in the polygon would begin to slide upon each other.

To demonstrate this, let the proportion of weight be altered from that exhibited in (1), and instead, put the increased weight *bf*, (2), at the point I, *fg* at H, and *ge* at F, draw the lines *ab*, *af*, *ag*, and *ae*, and they will be the geometrical representatives of the magnitude and direction of the pressures on the bed-joints. Parallel to these lines, and within (if possible), the boundaries of the polygonal frame, draw the line I*m*, *m*B, BA, and the curve I*m*BA, will represent the line of pressure in one-half of the frame; and the angles at which this line of pressure intersects the bed-joints determines the stability of the structure; for so long as the angles I*m*H, *m*B*q*, BA*p*, are greater than the complement of the angle at which the pieces would begin to slide on each other, the structure is safe; but if I*m*H, *m*B*q*, or BA*p*, is less than the complement of the angle of sliding, then the pieces IC, HB, or FA, would begin to slide in the direction HC, FB, or EA; also if *m*ID is less than the complement of the friction, CI would slide upwards in the direction DI, so that on either of these suppositions, the polygon would be destroyed.

Also within the same limits the proportion of the load may vary by loading the haunches and reducing the weights on the crown, for let *bh* (3) be less than *bc* (1), and *hi* greater than *cd*. Then *bh* will be the weight at I, *hi* the weight at H, and *ie* the weight at F. The haunches of the frame are now loaded with a greater weight in proportion to the crown than they are in (1). From *a* draw *ah*, *ai*, *ae*, and parallel to them, within the polygon, draw the lines D*m*, *m*F and FE, and D*m* FE will be the line of pressure; and D*m*, C*n*, B*n*, and BA*o* will be less than the limiting angle of resistance, beyond which, if either go, the piece would slide on its adjacent bed-joint. Also, if *m*DI is less than the complement of the angle of sliding, the piece H would slide downwards in the direction ID. By the foregoing reasoning, it is shewn that if an arch be loaded at the crown, the line of pressure rises at the crown and descends at the haunches, and if the arch be loaded at the haunches, the line of pressure rises at the haunches and descends at the crown, so that if the load were on the crown, the line of pressure would be ABCDE, and if it were on the haunches it would be FGHIK. In order that in neither of these cases the voussoirs may slide on each other, the line of pressure must not at any point make an angle with either of the bed-joints less than the complement of the angle of sliding.

The second condition of stability is fulfilled so long as the line of pressure does not intersect either the extrados or intrados. When the crown is loaded, we see that the point nearest the extrados is C, and the points nearest the intrados are B and D, and, by increasing the weight, the line of pressure would intersect the boundaries of the voussoirs at one or more of these points, when it did, the consequence would be that the crown would descend and the haunches ascend the arch, being thereby destroyed. Again, if the haunches are loaded, the line of pressure approaches nearest the boundaries at the points GH and I, and if the load is increased the arch would yield at one or more of these points, when the crown would ascend and the haunches descend. These are briefly the geometrical principles of the two conditions necessary for the stability of the arch, from which we will endeavour to deduce some practical observations.

By examining fig. 1, it will be seen that if the arch is intended to support a heavy weight on the vertex, it should be of the *Gothic* or *pointed* form. If it be designed to sustain a load on its haunches, the form of the *ellipse* is

best adapted; and by reasoning equally clear it may be shewn that when the load is equally diffused over the horizontal roadway of the bridge, the form of the arch should be a *parabola*. And, lastly, if the load is diffused equally over the extrados, the curve of the arch should be a *catenary*. At least, such are the forms assumed by the line of pressure under such circumstances. Now in a bridge erected for traffic, the load occasionally occupies the haunches' vertex, or it is equally diffused along the horizontal roadway, so that the line of resistance in the arch must, whilst the load is undergoing these several positions, assume the *ellipse*, *Gothic*, and *parabolic* curve; and as no form can be taken to approximate to the whole of these curves, the engineer takes that which is best adapted to the local circumstances, and constructs the voussoirs of such a depth that there may be no probability of the line of pressure intersecting their boundaries, or forming an angle with the bed-joints less than the complement of the angle of sliding.

We have seen that whatever form of arch may be used in a bridge, it can never in every case be symmetrical with the line of pressure, the nearest approximation being that it is included somewhere within the boundaries of the voussoirs. These conditions, in practice, are again greatly modified both by the workmanship and material. If at any point in the line of pressure the resisting mass be not equal to the pressure, it becomes distorted, and the strength of the arch becomes reduced to the strength of that part. In consequence of this, the bridge would be as effectually weakened or destroyed by the failure or yielding of a single part as from the disturbance of the whole structure. And when we think of this, and of the variety of circumstances above alluded to, some of which cannot with certainty be estimated, can we wonder that the failure of bridges are of so frequent occurrence?

In a viaduct, which consists of a continuous row of similar arches built on the tops of slender piers, the thrust at the springing of one arch is counteracted by the equal and opposite thrust of the adjoining arches;* therefore it is clear, that if one were removed the next, having no counteraction to the horizontal thrust at the springing, would likewise fall, and at the same time the next also, and so on to the end of the viaduct, one arch following the other as fast as the resistances at the base are removed. We have seen that the strength of the arch is reduced to that of the weakest part, and that it would fall with the yielding of a voussoir; then, since the fall of an arch would cause the fall of the whole viaduct, the strength of the whole viaduct is reduced to the weakest part of the weakest arch, and if this at any time should give way, the whole would be destroyed. In a letter to you, dated 8th July, 1845, Mr. Dredge remarks on this subject as follows:—Suppose A*abcde*B, fig. 4, to be a viaduct, consisting of three arches, and A and B the extreme abutment; now, if from defective workmanship or other causes either of these piers was to yield, the whole viaduct would of course be levelled with the ground; or suppose from the mortar not being sufficiently dry at any part, as *yz*, that part was to yield, the whole viaduct would be as effectually destroyed as in the former case, when one of the piers gave way. It remains now to shew how to prove the above by a simple experiment.

The line of pressure in the compression arch is the same as a suspension chain when similarly loaded; so that if we take a chain of uniform weight, and hang it between two fixed points, *ab*, fig. 3, the curve *acdeb* assumed will be a catenary; if the weight be laid uniformly along the roadway, it is a parabola—*afghb*. If the load be at the haunches of the chain, the curve will be similar to an ellipse, *aiklb*; and lastly, if the weight be placed on the curve at the centre, the Gothic, *ammoh*, will be the form of arch. The only difference, therefore, between the curve of the line of pressure in the compression or suspension arch is position; the one curving downwards, and the other upwards, from the horizontal line. In a suspension-bridge, the curve of the chain would be the line of pressure; in a compression arch, the form of curve is positive, and the line of pressure must always be included within its boundaries; so that in the above figure, if a semi-circular arch be used (supposing the diagram reversed, and acting on compression), the boundaries, *pqr* and *stv*, must be drawn so as to include the lines of pressure under every circumstance.

In railway bridges, the voussoirs immediately under the line of rails must have to resist a greater pressure than any other part of the arch.

A BRIDGE BUILDER.

January 31st.

* When the adjoining arches are dissimilarly loaded, the thrust at the springing is not equal, and the resultant of the pressures on the slender piers is not perpendicular; this, when the dissimilarity becomes very great, may overthrow the piers, and so destroy the structure by that means.

ON THE NECESSITY OF A MORE EXTENSIVE KNOWLEDGE OF TRUE LINES,

AS ELEMENTS FOR DESIGN, AND AS THE MEANS OF JUDGING CORRECTLY OF FORMS BY SIGHT.

"Judgment also will I lay to the line."

It was with much pleasure that I read the extracts from Mr. Geo. Wallis's letter in THE BUILDER, page 9, of this year; it exhibits some progress in the right direction. He says: "Clearness, distinctness, and precision being the end sought, as without these, intelligence in drawing" (and designing) "is impossible." This undoubtedly is correct; but in reference to lines, if I may judge from those enumerated, Mr. Wallis must fall very far short of what he aims at, and what ought to be taught in elementary drawing; so that whether designing or sketching from objects, artists should have the most ample stock of materials in the mind to work with, and to enable them to form a *just* judgment of lines by inspection.

Who, for instance, could have, without a correct example, a just notion of the true character of a wave of the development of the elliptic edge of a plain section of a cylinder? Or who could have, without a series of correct examples, a true notion of an extensive gradation of waves of that character?

Further, who can have any accurate knowledge of the orthographical projections, or the perspective representations, at different angles, of that character of wave, without true examples produced from them?

Is it not desirable to have a correct knowledge, under all these circumstances, of this most distinct character of waved lines? Surely this must be the case, and in connection with a perfect knowledge of the ellipse, for the edge of no other curve would develope the same line. Again, who, without correct examples, can have a knowledge, if I may so express it, of the family likeness of many other equally distinct characters of waved lines, and lines of many other forms, and their beautiful and harmonious gradation?

Mr. Wallis's suggestion for directing large drawings to be made by hand and eye from small ones, is just the reverse of what ought to be the practice. The most perfect lines on the most perfect planes, on as large a scale as possible to be convenient, should be the examples in the School of Design, and from such students should sketch to different smaller scales.

I am glad to see that Professor Cockerell is turning his attention to the elementary principles of design. Instead, however, of spending all efforts in research to ascertain what was the ancient practice, and then following that, which is only copying after all, would it not be better to try to discover and investigate new principles, and new applications of geometrical principles?

Had Mr. Stuart, or all those who have followed him to Greece, had the eye previously well tutored with the distinct varieties of true geometrical forms, would it not have facilitated the acquisition, and might it not have extended a knowledge of facts, as to the principles by which Greek architecture has been regulated?

Professor Donaldson has offered several suggestions to Mr. Lucas, who, I have no doubt, if he was familiar with geometrical lines of beauty, would experience great pleasure in discovering them in the most graceful forms, whether of architecture, sculpture, or the human figure, or other natural objects.

Dr. Whewell has expressed himself in a way in reference to the advantage of geometrical over analytical forms of study, which I should be glad if I could do as well, in pointing out the advantage of a much greater extension of the principles of geometry, and especially of a correct knowledge of curved lines that can be easily described and applied to architecture and designs in general. Mr. Hay, of Edinburgh, has, I understand, been directing particular attention to the application of the ellipses; this is well, but why should not mathematical waved lines and lines of contrary flexure of an easy geometrical description be equally considered in reference to other appropriate applications?

If professors would investigate and point out appropriate applications of known curved lines, select as examples instances where they have been, and where they may be used. Point out examples of beautiful geometrical lines, for which they know not the application, and suggest these or parts of them for the consideration of students, as elements for design. By doing this they would direct a host of assistants of active minds, who by inquiring of their teachers would draw from them answers from their experience, which would suggest new applications to designs. The following question, with the answer that would be given, would elicit many other questions.

What curves, or portions of what curves, give distinctive characters to the Ionic capital?

I have watched your reports with some attention, in the hope of finding this subject alluded to by some professor of architecture.

Feb. 16th, 1846. JOSEPH JOPLING.

ARCHITECTURAL NOMENCLATURE—PLINTH.

SIR,—That the nomenclature of architecture is exceedingly vague, meagre, and bad, is not to be disputed. Of its vagueness, a striking instance occurs on the very same page (74), where you make some observations with reference to the term "soffit." What, allow me to ask, are we to understand by the term "plinth," where it is said that the restored model of the Parthenon "shews no traces of the plinth that existed between the lower parts of the columns of the posticum?" By "plinth" is generally understood a plain and narrow, tile-shaped block, placed *beneath* something else, in order to raise it and give it greater stability of footing, as beneath the base of a column, a pedestal, a vase, a statue, &c.; or if it be continued along a wall, it becomes either a *socle* or a *platband*, according to its situation. Yet in the instance alluded to, the *plinth* is spoken of as having been not only between the columns, but *nine feet* and an inch high! If so, it must have formed a screen-wall of that height, between the columns of the posticum, though it seems that the latter was inclosed by a *grille* or palisading of bronze. This needs some explanation, though the description would be intelligible enough, if instead of plinth, we were to read "a screen-wall of masonry" carried up between the columns to the height mentioned, and upon that a *grille* of metal-work filling up the remainder of the inter-columns (not intercolumniations!) as high as the capitals.

It is greatly to be wished (without reference to the article alluded to), that those who write architectural descriptions, would revise them, in order to see whether they are sufficiently explanatory, and in no danger of being misunderstood by those who must form their ideas of the building spoken of from the description given of it; which, by-the-bye, frequently amounts to no description at all. On the other hand, where description accompanies engravings of the buildings spoken of, it is as frequently, sheer impertinence, telling us only what is plainly enough to be seen in the engraving, without further remark of any kind, and without any explanation at all in regard to a variety of particulars which cannot be made out from what is shewn.

BUDOWNIK.

WORKERS IN IRON.—Jabez James, the smith whose work in the new buildings at Lincoln's Inn we had occasion to praise some time ago, has just completed a beautiful model in iron, of a large roof over the ship-building slips in one of the dock-yards. It is made very accurately, to scale; shews every bolt, distinguishes the parts that are of wrought-iron from those of cast, and is altogether greatly to the credit of its ingenious maker.

The Regent's Canal Railway project is abandoned for want of the necessary deposits. Each share is to contribute 7*s.* 6*d.* for expenses.

POLYCHROMATIC DECORATIONS.

At a meeting of the Decorative Art Society, on the 11th inst., a paper was read by Mr. Crabb on "Polychromatic Decorations," illustrated by numerous Oriental and Italian drawings. The writer prefaced his remarks by expressing regret that the Government School of Design had not found ability to take up the subject, the importance of which, at the present time, demanded more extended and immediate consideration than the society might probably bestow upon it. The laws and operations of colours were then briefly described, and followed by an allusion to the mental gratification, distinct from other benefits, which would accompany an extended acquaintance with the principles that have regulated the practice of polychromatic art in past times. It was argued, that, in admitting colour to have a powerful effect upon the mind, exhilarating the animal spirits according to the introduction of brilliant and stimulating hues, or depressing them by quiet and neutralizing tones, it would follow as a great fundamental principle, that for decorative purposes we should adopt a style of colouring tending to induce or promote the peculiar train of sentiment for which the building or apartment is chiefly intended. Mr. Crabb stated, that the purpose of his paper was to elicit some ready means by which to classify the distinct styles of polychromatic art for practical utility, and he proposed an arrangement under *three grand divisions*. The *first*,—applying to Greek and Roman architecture only, would include colouring by the Greeks and Romans, and by the Italians at the Revival to the combination of ornamental with historical art; with sub-divisions to ecclesiastical and palatial edifices, and a distinct appropriation to the particular style of decorative art practised at Venice; the *second* division to embrace early Oriental, Byzantine, and Arabian Art, and the application to Gothic architecture with sub-divisions; the *third* division to comprise the second Revival in Bavaria and France, and its anticipated extension to England. He then observed, that antecedently to the 15th century we find in Roman buildings, as the baths of Titus, the walls of Pompeii, &c., decorations of a light style of Arabesque painting occupying the larger proportion of surface, with brilliant colours introduced as accessories, but kept subordinate in importance to the mythological tableaux. It was said, that these decorations were well-calculated to impart cheerful embellishment to chambers which were imperfectly lighted or of small size, and that they are distinguished for a pleasing proportion of relative parts, and display in many instances the great refinement and elegance of Greek art. Also that, subsequently to the 15th century, the palatial edifices of Italy exhibit the revival of a similar style, at first inferior in proportional design, but afterwards, owing to the extraordinary talent of the artists, greatly superior, as instanced in Raphael's Loggia, the hall of the Villa Madama, the Ducal Palace of Mantua, the Gallery of Cupid and Psyche in the Palace Farnesina, and other great works executed in Milan and Genoa; also that the churches and ecclesiastical buildings were marked by an increased richness of effect, as the magnificent church of St. Maurizio, Milan, and in the church and superb dome of St. Maria del Popoli, Rome.

He then referred to the library of the cathedral of Sienna, where the tableaux assume the importance of histories, and the richest Arabesques upon scarlet, blue, and golden grounds, are assisted by exquisite stuccos and a connecting series of paintings of the history of Pope Pius II., and yet further, in the Campo Santa at Pisa; and in the Capella Sistina, Rome, which, as it is considered one of the most exalted efforts of fine arts, so it is strictly a work of decorative art. Descriptions were then given of several Italian details. In reference to the *second* division, it was said that Hindostanee, Persian, early and late, Byzantine, Arabian, and Moresque, ought to be classed as of one family, differing only in individuality. The distinction between the use of colours on flat surfaces and that of rendering the ornaments in coloured mosaics,—no more changing the character of the style than did the introduction of stuccos affect the Italian. Mr. Crabb next described the ancient and magnificent Hindoo Temple at Ajmer, with its superb screen of Saracenic *coloured* architecture; also that fine specimen of Arabian art, the great Mosque of Cordova, with its coloured enrichments; noticing especially the gate of the Koran, whose intrados in mosaics of gold, blue, red, and green was of singular beauty, corresponding with similar works at Damascus and Bagdad; and it was observed, that the ceiling of wood exhibits colouring analogous to what is subsequently found in Gothic architecture. The grand palace of the Alhambra was noticed; also the polychromic peculiarities of several buildings at Agra and Delhi, making reference to elaborate coloured drawings. The Court of the Taj was said to be 950 by 320 feet; its two mosques and grand gateway being of *red* sandstone, enriched by cast stuccos, white and blue; the central immense mausoleum being of *white* marble and gold, with coloured enrichments. The magnificent structure, forming Actmed Ab Doulah's tomb within its towers, were said to be of white marble, richly illuminated, both exterior and interior, and rising from a terrace of *red* sandstone. Mr. Crabb, in commenting upon the ornamental details, stated that religious precepts forbade the representation of animal life, and that the enrichments were composed of flowers, bands, and combined convolutions of forms perfectly conventional, and designed to express colour. The profusion of ornaments was said to be distinguished by great variety and singular delicacy of execution; also that painting and sculpture were odious to the first Moslems, but that, subsequently, both western and eastern Caliphs evaded this prohibition of the Mahommedan law.

WESTMINSTER COURT OF SEWERS.

On Friday a very numerous Court of Sewers was held, when Mr. Leslie was chosen chairman. The cash balance at the treasurer's was declared to be 12,269*l.* 16s. 8d.; and several small accounts were paid. Mr. Cumberlege called the attention of the Court to the extraordinary fact that the premises had never been insured against fire. Messrs. Allason and Mayhew immediately examined the building, and reported to the Court; whereupon an insurance was effected, during the sitting of the Court, for 4,000*l.*, in the Westminster Fire Office.

A special Court was ordered for Tuesday, the 24th inst., at 12 o'clock, to consider the steps necessary to be taken by the commissioners, in consequence of the contemplated interference with the sewers by the many projected schemes of sewage and railway companies before Parliament.

An immense number of petitions for new sewers and drains was then disposed of in favour of the petitioners.

A very important decision was come to by the Court in the case of Clarke and Manning. The former being possessed of two houses in Bell-street, Paddington, wished permission to enter drains into the sewer for one house only. The latter refusing to allow him without paying a frontage of 15s. a foot. The Court thought it reasonable that both of the adjoining houses should be drained at once, and determined that Mr. Clarke should be at liberty to drain them on payment of 10s. per foot frontage. Mr. Clarke then tendered the sum, which Mr. Manning refused; and the Court ordered Mr. Clarke to enter the drains of the two houses into the sewer.

On the motion of Mr. T. L. Donaldson, seconded by Mr. George Knight, 100 feet was the maximum length to be allowed for No. 3 sewer, on summit levels and confined localities.

The attention of the Court was called to the filthy condition of a sewer in Charles-court, Strand, in which it was stated the soil had accumulated to within six inches of the top of it.

Messrs. Stunt, Poupart, and Thompson appeared to their summons; and Mr. Gunter, from his place, stated that the injury to the bank of the Kensington Canal, which was complained of as being weakened by default, neglect, or commission of the parties or their servants, and likely to be of most serious damage to their lands and the public, was caused by the acts of the commissioners themselves. The Court ordered its powers to be set in motion, through its solicitor, to compel the parties to secure the bank complained of.

It was resolved, that a second special court in the ensuing week be held on Friday, the 27th inst., at 12 o'clock precisely, to consider certain motions of which notice had been given.

The remaining business on the paper was then proceeded with, and Mr. Doull, the assistant surveyor, having presented a return of the actual expenditure upon works under 50*l.* for the six weeks from Christmas 1845, to the 5th February, 1846, from which it appeared that the total expense of those works was as follows:—

Eastern division	£61	1	8¾
Western division	102	9	7¾
Ranelagh district	77	11	9
Counters Creek district	18	17	2¾
General disbursements	19	0	3
	279	0	7¾

The Court ordered the return to be printed.

On Tuesday, the Metropolitan and the London Sewage Manure Company's Bills were considered, and it was agreed that a clause drawn up by the solicitors of the commission, should form the basis of an application to Parliament *against*, but not hostilely to, the projects.

REPORT OF THE GAUGE COMMISSIONERS.

This report, to which we have frequently referred during the past six months, has at length made its appearance. The commissioners were Sir J. M. F. Smith and Professors Airy and Barlow. Their inquiries were directed to three points:—first, whether a uniform gauge should be compulsory on all future railways; secondly, whether it is possible to obviate or mitigate the evil arising from want of uniformity; thirdly, whether it is expedient or practicable to effect a uniformity in railways already constructed, or in process of construction. In considering these questions, it became necessary to decide a fourth, as arising immediately out of the third, viz.: which of the gauges is preferable for general purposes.

On the first point, involving the more abstract advantage of uniformity, one decision only could have been anticipated. The commissioners considered it under the following heads:—as applying to fast trains, to ordinary trains, to goods' trains, and to the conveyance of troops. With regard to the first head, they do not think the inconvenience of a break of gauge of sufficient importance to call for legislative interference. With regard to the second and third, they pronounce the break an intolerable evil, imperatively demanding remedial measures; and with regard to the fourth, they are of opinion that it might expose the country to serious danger. On the second point, after considering in detail the various plans suggested of mingling the broad and narrow gauges by double lines of rails, or of adapting the carriages to fit either gauge by shifting wheels or placing them on trucks, they pronounce them severally to be impossible or dangerous, and arrive at the conclusion that none of them are calculated to remedy in any important degree the inconveniences attending a break of gauge. The third point, which they justly deem the most important, and have investigated with great minuteness, is treated in conjunction with the fourth, and is indeed merged in it.

The question of the comparative merits of the broad and narrow gauges is examined under four divisions:—safety, accommodation and convenience for passengers and goods, speed, and economy. We extract the opinions of the commissioners in their own words:—

"1. As regards the safety, accommodation and convenience of the passengers, no decided preference is due to either gauge, but on the broad gauge the motion is generally more easy at high velocities.

2. In respect of speed, we consider the advantages are with the broad gauge, but we think the public safety would be endangered in employing the greater capabilities of the broad gauge much beyond their present use, except on roads more consolidated, and more substantially and perfectly formed, than those of the existing lines.

3. In the commercial case of the transport of goods, we believe the narrow gauge to possess the greater convenience, and to be the more suited to the general traffic of the country.

4. The broad gauge involves the greater outlay, and we have not been able to discover, either in the maintenance of the way, in the cost of the locomotive power, or in the other annual expenses, any adequate reduction to compensate for the additional first cost."

From these opinions, the conclusion is of course irresistible, that the narrow gauge is on the whole to be preferred, and that its uniformity is to be imperative, and if an alteration is to be made, it should be from the broad to the narrow. This conclusion is greatly strengthened by the fact, that there are of the former only 274 miles at present in work to 1,901 of the latter; and whilst the whole cost of the one alteration, including every possible expense, would not much exceed a million of money, the capital required for the other would be incalculably greater. To adapt the broad lines to the narrow gauge would be nothing more than to approximate the rails; but to convert the narrow into the broad would be to build new bridges and new tunnels, and, in short, to reconstruct the entire road.

RAILWAY JOTTINGS.

Mr. Robert Stephenson has laid before the directors of the Chester and Holyhead line, a report upon the practicability of erecting a railway communication over the Menai Straits. It appears, that he has availed himself of the assistance of Mr. Fairburn and Mr. Hodgkinson; the former so well known for his thorough practical knowledge in such matters, and the latter distinguished as the first scientific authority in the strength of iron beams. The result is a conviction that a *rectangular tube*, 450 feet long, supported on stone pillars at both ends, will prove the safest and most economical structure to meet the difficulty.——The works of the new tunnel, which is to extend from just above the Edgehill station to the north end of Liverpool, are in progress, and will be completed with all possible dispatch.——The Post Office has accepted the offer of the Brighton company to carry a bag of letters by every train *gratis*. The South-Eastern has followed the example thus set, and doubtless will meet with a similar result.——Mr. Locke, in his report to the directors of the Richmond line, states that the viaduct across the Wandle is more than half built, and more than one-half of the excavation of the entire line has been removed. Several over-bridges between Putney and Barnes Common have been built, and the lighter earthwork and bridges are proceeding as rapidly as is needful. The only part not begun is at the Richmond end, but here the line will be formed nearly on the surface of the ground, and a few months will suffice for completing it after possession of the land is obtained. The line may be completed by June next.——The directors of the Newcastle and North Shields state, that since the opening of their new line, 5,289,000 passengers have travelled on it without receiving a single accident.——For a long time past, apprehensions have existed as to the security of the viaduct on the line of railway from Chippenham towards Corsham, and several workmen have lately been employed in propping and repairing the supports of the embankment near the station, in the hope of preventing any mishap. On Saturday last repeated creakings were heard throughout the day, and about seven o'clock in the evening the wing wall and part of the embankment under the up-line gave way with a loud crash. Fortunately, no personal accident occurred. Another slip has also occurred near Wootton Bassett, but it was much less considerable than that near Chippenham.——A few days since, the chairman of the Colchester, Stour Valley, Sudbury, and Halstead Railway committee, referring to the non-attendance of two witnesses who had been summoned to give evidence, but whose employer, a Mr. Sarjent, would not allow them to appear, said that in the event of their not presenting themselves the following day, the Speaker's warrant would be issued against them all. This threat, which involves very heavy fines and imprisonment, had the desired effect.——A serious and savage affray has recently taken place between the English and Irish labourers employed on the Lancaster and Carlisle line. It is well known, that such outbreaks can be prevented by the contractor or his subordinates; such being the case, the greatest surprise and dissatisfaction has been felt at the neglect evinced on this occasion.

ART-SAYINGS—AFTER GOETHE.

What is art-work? You look at it—you gaze, observe, examine! Criticism may arise; but you soon find *yourself* in fault—not the artist. One beauty—one harmony starts after the other; beauty *is* harmony. You view the work from a hundred sides, from a hundred views, you combine these different radii—*they* all combine, unite, centre in one focus, one thought, one mind-thought. Wherever and however you probe, analyse, scrutinise—the artist has done all the same before you—for you. There is no getting at him—behind him; the best you find, after all, is to follow after him.

What is "not" Art-work?—What *would* be something—and, in reality, is nothing, absolutely no-thing. You look at it! At every point and corner it offends you, pinches you, disheartens you. You endeavour to lay some plan, some harmony in *any* part of it. It will not do—nothing will ever tally with any thing; every thing contradicts itself and every thing around. If, in the former case, the idea seems to have sprung from heavenly brains—all perfection all unity; it is here, as if some *infernal* power had *toiled* and *toiled* hard; still, to no purpose. It is a work of toil, and pain, and deceit and conceit—but the divine is not in it.—*Genius nascitur—tandem fit.*

DUTY OF A MASTER TO HIS APPRENTICES.

On the 16th instant, an action was brought in the Court of Common Pleas, by the trustees of Marsh, who is the apprentice of the defendant Emmerton, for the breach of covenant in his indenture of apprenticeship, in not teaching him his trade as bricklayer and builder. It appeared that he had paid a premium of 25*l.* and that after being three years and a half at his trade he was quite ignorant of its more advanced arts and mysteries, whereupon his trustees demanded that he should either be properly taught, or that his premium should be refunded. This latter demand was refused, and the present action was therefore brought. Evidence was gone into to shew the ignorance of the boy in different branches of his trade. On the other side witnesses were called to shew, that he had every fair opportunity of learning his trade given to him, and that his ignorance of it was to be attributed to his own neglect and fault.

The jury found a verdict for the defendant.

Correspondence.

WESTMINSTER ABBEY—CONTEMPLATED IMPROVEMENTS.

Sir,—There is a passage in your correspondent's letter, signed □ (p. 47), relative to the proposed alterations, which I think requires notice. It is the one in which he applies the term beautiful to those outrageous abortions, the oak screens inclosing this beautiful choir.

As they are to be removed, I trust the dean and chapter will not allow them to be refixed, to detract any longer from the grandeur of one of the finest interiors we possess.

I am, Sir, &c. Samuel Field.

Beaufort-buildings.

Glass Saloon.—The Manchester Botanical and Horticultural Society propose to erect a new saloon in the gardens of Old Trafford, of sufficient size to receive the usual exhibition of flowers, plants, and fruit, and all the promenaders, and to be also available for lectures on botany, vegetable physiology, vegetable chemistry, &c. It is to be 150 feet by 45 feet; and 22 feet in height to the centre of the dome, or 32 feet to the centre of the dome ventilator. The whole of the front of this saloon is to be made of glass, and moveable, so that it may be removed in bright, hot weather. In short, the new saloon will have a back wall and two end walls, while the other side, and the whole of the domed roof will be of glass, covering an iron framework. Possessing an area of 6,750 square feet, or about 740 square yards, it will accommodate nearly 2,000 persons.—*Manchester Guardian.*

The new Wet-dock at Troon, Ayrshire, was opened for the admission of vessels last week.

Miscellanea.

Formation of Portland Vase.—At a meeting of the Society of Arts on 18th February, the discussion on the Portland Vase was resumed. Mr. Doubleday, of the British Museum, who has repaired the Portland Vase, exhibited a number of specimens of ancient glass manufactures as illustrative of the theory which he deduces as the true principle of its construction. He imagines the blue body of the vase to have been first made, and then covered with a thin coating of semi-transparent white glass, by dipping it into that material while in a state of fusion. The vase, he supposes, was next placed in the hands of the artist, who by a process similar to cameo cutting or gem engraving, produced the beautiful designs in relief which now adorn its surface. He also stated in confirmation of his idea of the mode in which the vase was constructed, that while engaged in repairing it, he observed that there existed a coat of white glass underneath the handles, at the points at which they are united to the vase. Mr. Pellatt and Mr. Christie, who were present, and who are practically acquainted with the manufacture and working of glass, addressed the meeting, and quite concurred with Mr. Doubleday in the view he had taken of its construction; but from their statements it would appear, that after all, the great merit of the work rests with the artist, as there is no difficulty at the present day, in manufacturing similar materials. Mr. Doubleday stated, that the bottom of the vase did not originally belong to it, and from the style in which it is executed, he should consider that there is a difference of 200 years in the date of their execution.

St. Mary-le-bone Bank for Savings.—The sixteenth annual general meeting of this institution was held on Thursday, the 12th of this month, at the office No. 76, Welbeck-street, Cavendish-square. The Rev. J. H. Spry, D.D., in the chair. It appeared from the several reports read to the meeting, that the progress of this bank continues to be of a very favourable description, no less than 2,418 new deposits having been made in the last year, 16,201 deposit accounts remained open on the 20th November last, of which no less than 10,628 held balances averaging less than 4*l.* 7*s.* each. Upwards of 356,954*l.* was then invested with the commissioners for the reduction of the national debt. The continued evidence thus afforded of the strong and growing disposition of the working classes to provide against the casualties of life, will prove a source of gratification to all reflecting minds; and it may indeed be hoped that this provident disposition has its influence in improving the character and conduct, this class of workmen being the last to be discharged whenever establishments are reduced from scarcity of work.

Lord Northampton's Soirees to the Royal Society.—The first for the present session, held on Saturday evening last, was one of the most brilliant meetings that can be imagined. Men of all ranks and parties,—statesmen, philosophers, men of letters, and artists, thronged the rooms, and formed such an assemblage as is seldom seen. Prince Albert arrived soon after ten o'clock, and remained until half-past eleven. Parsey's compressed air-engine, some magnificent specimens of "coated glass" of British manufacture, specimens of carving by machinery (two modes), and a nice model of the Temple of Jupiter Olympus, were amongst the most noticable matters exhibited. To give a list of the men of mark who were there, would fill several of our columns.

New Houses of Parliament, &c.—On the motion of Sir R. H. Inglis, a select committee of the House of Commons has been appointed to consider "the present state of Westminster-bridge and of the new palace at Westminster, particularly with reference to the reception and accommodation of this House in the same."

New Churches. — At a meeting of the Incorporated Society for Promoting the Enlarging, Building, and Repairing of Churches, held last week, grants were voted in aid of the erection of new churches at Westleigh, near Manchester; Macclesfield Common, Northend, near Penrith; and Walcombe, near Bath; also for enlarging churches at Stort, near Devizes; Bicford, near Driffield; and St. Edwin's, near Haverfordwest.

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For the execution of three contracts on the South Wales Railway, being a distance of about 14 miles.

For removing a large quantity of Brick Earth from the neighbourhood of Euston-square.

For building a sewer in George-street, Harwood-street, Hampstead-road, to the extent of 422 feet, and another in Upper Southampton-street, Pentonville, for a length of 180 feet, for the Holborn and Finsbury Commissioners of Sewers.

For supplying Her Majesty's several Dock-yards with Riga fir timber, Dantzic deck deals, fir timber, and Norway spars.

For supplying the Ipswich and Bury St. Edmund's Railway with coal, goods, and ox waggons, passengers, luggage-vans, &c.

For erecting the new market, butchers' shops, &c., and pulling down some old buildings, in the borough of Dorchester.

For the supplying, erecting, and working (ten hours daily) a portable steam-engine and boiler for the Southampton sewerage commissioners.

For building the foundations of a tower and nave of Kentish rag stone for the directors of the Victoria-park cemetery.

For the execution of two portions of the Edinburgh and Northern Railway, being of the respective lengths of 3 and 5 miles.

For the execution of works on the Leeds, Dewsbury, and Manchester Railway, being a length of about 3½ miles,

For the execution of works on the Dundee and Perth Railway.

For works to be done in making additions to the Rectory House, in the parish of All Saints, Poplar.

COMPETITIONS.

The Building Committee of the Walworth Literary Institution are desirous of obtaining plans and elevations for a building suited to the purposes of the society.

The Directors of the Hull General Cemetery Company are ready to receive designs for laying out and ornamenting their grounds, and for a suitable chapel, entrance lodge, &c. A premium of twenty guineas is offered for the design most approved of, and another of ten guineas for the next best.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

In Twickenham Park, near Richmond Bridge: 137 prime oak, elm, ash, lime, fir, chestnut, and other trees.

At the Beaufort Arms Inn, Monmouth: 51 oak timber trees, of superior quality.

At the Fleur-de-Lis Inn, Lowsonford, near Warwick: 68 capital oak, elm, ash, alder, fir, and pear trees, mostly of superior growth and large dimensions.

At the Plymouth Arms Hotel, Tardebigg: 540 superior oak timber trees.

At the Cock Inn, Monks Kirby, near Rugby: 79 oak, 129 ash, 55 elm, 8 fir, and 1 beech trees, of long lengths, large dimensions, and very excellent quality.

At the White Horse Inn, Romsey, Hants: upwards of 3,000 superior oak timber trees, chiefly from 15 to 60 feet metings.

On the North Lodge Estate, Enfield, Middlesex: 780 oak timber trees, felled last spring.

At Walroad's-park Farm-house, Isle Bremers, Somerset: 198 prime elm, 52 oak, and 3 ash timber trees.

TO CORRESPONDENTS.

"C. J."—*We doubt if the custom alluded to is binding in law, but a tenant from year to year is liable for all dilapidations arising from negligence, avoidable accident, or wilful damage.*

"G."—*Our own opinion of Bath stone is not sufficiently favourable to allow the insertion of his letter. Any remarks on points to be attended to in the selection of the stone would receive consideration.*

"Practical Man."—*Bernan's work on Warming, &c., is the most comprehensive. Bell, Fleet-street, is the publisher.*

"G. A. C." *will find title-page and index to third volume in first number for present year.*

"T. L."—*Either Laxton's, Crosby's, or Skyring's price book may be obtained through any bookseller.*

"Gradients."—*A correspondent wishes to know what is the greatest rise that can be given to a railway for locomotive engines, and what for atmospheric.*

"Depretor."—*A correspondent asks which is the best way to do "depretor," that is, plastering done to represent* tooled *stone; it is the* marking *of the plastering that I am at a loss for. Is there any particular tool used?*

"B. N."—*The architect is the proper person to be applied to.*

"J. B." Ollerton.—*The second volume of* THE BUILDER *can be had complete of the Publisher: the first volume can also be had, minus a few numbers, and these may probably be obtained by advertising for them.*

"J. A. P."—*Thanks: he shall hear from us.*

"W. J." (Llanidloes).—*The application of soap and alum to exclude moisture from external walls was first proposed by Mr. Sylvester. Mr. Ferrey tested it, and found it successful. We should be disposed to try it in the present case.*

"Constant Subscriber."—*We decline recommending.*

"R. D."—*Messrs Manby, the engineers.*

"E. J. P."—*Our arrangements will not allow us to comply at this moment.*

Received.—"Carbon," "J. K.," "W. Ford," "Mr. Spencer," "W. H. J. T."

ADVERTISEMENTS.

MESSRS. BECKWITH AND CO.'S MARCH LIST OF INVESTMENTS. The attention of Proprietors of House and Landed Property wishing to sell is invited to the advantage of having them inserted in the March list about to be published. This forms a means of giving publicity to the nature of the investment without making public the exact whereabouts of the property, so that all undue notoriety is avoided.

The list within a few days of its publication will be in the hands of at least 500 genuine buyers, giving a facility for sale by private treaty altogether unprecedented. No charge whatever is made until a sale is effected. BECKWITH AND CO., Estate Agents, 25, Bucklesbury.

TO BUILDERS, PLUMBERS, ENGINEERS, AND IRONMONGERS.

BEST PAN WATER-CLOSETS, with round Valve, complete, 30s. each.

Plumbers' Bib, Ball, and Stop Cocks, ½ in., 20s.; ¾ in., 28s.; 1 in., 36s. per doz.

Lifting Force Pumps on Planks, 2½ in., 4*l.*; 3 in., 4*l.* 15s.

Washing Coppers, 1s. 1d. per pound.

Water Balls, ¾ in., 15s. per doz.

Gun Metal Steam Cocks, Safety Valves, &c., and every description of Brass and Copper Work equally low, at A. McGLASHAN and Co. Brassfounders and Coppersmiths, 16, Long-acre.—N.B. Every article warranted.

HERRING'S PATENT SELF-ACTING WINDOW SASH. This important invention was exhibited before the whole body of British Architects, at the Royal Institute, Grosvenor-street, Bond-street, 23rd Feb., 1846, Wm. Tite, Esq., in the chair; after a most searching investigation as to its real merits, it was universally approved and recommended for general adoption, effectually to prevent those dreadful accidents and loss of life so frequent in cleaning windows. Builders and others in the Country will have a full-sized window (not Glazed) forwarded on receiving an order and reference, and taken back if returned free within eight days. It is a mere trifle for extra labour in applying this patent to a new window or to those now in use. The sashes are instantly taken out for all purposes without disturbing the beads, and as easily replaced by the meanest capacity. Looking at the great evils this will obviate, and the many advantages to be gained, no respectable family should be without it. To be seen daily from 12 to 3, and Licences granted by the Patentee, 14, Kingsgate-street, London. It was remarked, that Builders would be considered nothing less than insane to put in windows upon the old plan, and that no family would risk the lives of their servants and workmen when a preventative can be had at a trivial expense.

CALIGRAPHIC BLACK LEAD PENCIL.

Manufactured by E. WOLFF and SON, 23, Church-street, Spitalfields, London.

THE CALIGRAPHIC PENCILS have been invented by E. WOLFF and SON, after the expenditure of much time and labour. They are the result of many experiments; and every effort that ingenuity and experience could suggest has been made to ensure the highest degree of excellence, and the profession may rely upon their being all that can be desired. They are perfectly free from grit; and for richness of tone, depth of colour, delicacy of tint, and evenness of texture, they are not to be equalled by the best Cumberland Lead that can be obtained at the present time, and are infinitely superior to every other description of pencil now in use.

The Caligraphic Pencils will also recommend themselves to all who use the Black Lead Pencil as an instrument of professional importance or recreation, by their being little more than half the price of other pencils—

H, HH, HHH, HB, B, BB, F, FF, W* .... 4s. per doz.
BBB, EHB ..... 8s. ,,
BBBB ..... 12s. ,,

* This pencil is particularly recommended for writing and counting-house use.

An Allowance on every Gross purchased by Artists or Teachers.

May be had of all Artists' Colourmen, Stationers, Booksellers, &c.

A single Pencil will be forwarded as a sample, upon the receipt of postage stamps to the amount.

CAUTION.—To prevent imposition a highly finished and embossed protection wrapper, difficult of imitation, is put round each dozen of Pencils. Each Pencil will be stamped on both sides, "Caligraphic Black Lead, E. Wolff and Son, London."

*** The usual trade allowance to stationers, booksellers, &c. A Show Box Gratis with an order for a gross of Pencils.

ATKINSON'S CEMENT.—The public is respectfully informed, that the price of this very excellent Cement, which has now been in use for Architectural and Engineering works upwards of thirty years, is reduced to 2s. 3d. per burhel, and may be had in any quantity at Wyatt, Parker, and Co.'s Wharf, Holland-street, Surrey side of Blackfriars-bridge.

N.B.—This Cement being of a light colour, requires no artificial colouring or painting, and may be used for stucco with three parts its own quantity of sand.

PORTLAND CEMENT, which does not vegetate, and requires no colouring, is perfectly hydraulic, and resists the action of Frost. The cost of the material and of working it is about the same as Atkinson's Cement, Manufactured by J. B. WHITE and SONS, Milbank-street, Westminster, and sold at their Warehouses:—

Druce's Wharf, Chelsea,
Bell's Wharf, Paddington,
Earl-street, Blackfriars,
Albion Wharf, Deptford-bridge,
by Salmon and Co., Dublin,
and at 36, Seel-street, Liverpool.

ROMAN CEMENT, &c.

REMOVAL.

THOMAS JOHN CROGGON

Begs to inform the Trade that he has removed to 8, LAWRENCE POUNTNEY-HILL and THREE CRANES WHARF, 69, Upper Thames-street.

Orders addressed to either place for ROMAN CEMENT of genuine quality will be executed with promptitude and the strictest regard to quality and economy.

KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Milbank-street, Westminster,

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.

2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.

3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. Sold by all of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations,

PREPARED FLOORING BOARDS.

AS REDUCED PRICES.

ALWAYS ON SALE, a LARGE ASSORTMENT of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¼ inch to 1¼ inch thick. Rough Boarding for Flats.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Smith-street, Westminster.

PREPARED FLOORING BOARDS.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, and Old-Barge-Wharf, Upper Ground-street, Blackfriars, a very large stock of well-seasoned Floor Boards of every variety.

A. R., in calling the attention of builders and consumers, confidently presumes on his being able to supply them on such advantageous terms, as will ensure and merit their favours and approbation.

MUIR'S PATENT PLANING MACHINERY.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

THE GENERAL WOOD CUTTING COMPANY, TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.—SAWING in all its branches executed with the greatest precision and despatch. PLANING by the most approved Machinery, reducing the Boards to a parallel width and thickness, and grooving or matching with undeviating accuracy. The operation economizes time, money, and material.

SIR WILLIAM BURNETT'S PATENT for the Preservation of Timber, Canvas, Cordage, Cotton, Woollen, &c., from Decay.

TESTIMONIALS.

From THOMAS GRAHAM, Esq., M.A., F.R.S., L. and E., Professor of Chemistry, University College, London.

"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.

"The wood appears to be fully and deeply penetrated by the metallic salt; I have found it in the centre of a large prepared paving block.

"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not crystallize to the surface of the wood by efflorescence, like the crystallizable salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.

"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Teplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotised principles it contains, by entering into chemical combination with them.

(Signed) "THOMAS GRAHAM."

"University College, 25th October, 1845.

From Professors BRANDE and COOPER.

"London, 4th November, 1845.

"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.

"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.

"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.

"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.—(Signed) "WILLIAM THOMAS BRANDE,

"JOHN THOMAS COOPER."

"To Sir William Burnett, K.C.H., F.R.S., &c. &c."

Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 53, King William-street, London-bridge,

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above.

N.B.—A weighbridge on the premises.

PAYNE'S PATENT PROCESS FOR THE PRESERVATION AND IMPROVEMENT OF TIMBER, &c.

PAYNE and LODER beg to invite the attention of Engineers, Railway Companies, Architects, and others to the above process, and to state that they are prepared to erect the necessary apparatus in any part of the United Kingdom where the quantity is sufficiently large to cover the outlay of its removal.

Further particulars can be obtained at Whitehall-Wharf Cannon-row, Westminster, or at their other stations, Fleetwood-on-Wyre, Lancashire; Wisbeach, Cambridgeshire; Union-Wharf, Southampton; and Guildford, Surrey.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

REDUCTION IN THE PRICE OF
BUNNETT AND CORPE'S
PATENT REVOLVING IRON SHUTTERS.

THE validity of this Patent being completely established, the Patentees have much pleasure in stating that the very extensive demand, and the employment of improved machinery in the manufacture, have given them an opportunity (of which they gratefully avail themselves) of making a considerable reduction in the price of this well-knownand tried invention, thereby rendering them the cheapest as well as the best iron shutters in use. Every improvement suggested by practical skill and most extensive application has been adopted, and no effective REVOLVING IRON SHUTTER can be constructed without infringing B. and C.'s patent. The worm and wheel, as patented by them, being the only safe, durable, and efficient mode of raising and lowering such shutters, these shutters can be applied horizontally, either above or below the window, or vertically, as introduced by BUNNETT and CORPE, in some of the largest establishments: they are made with bent or corrugated laths, if required.

BUNNETT and CORPE also manufacture

REVOLVING WOOD SHUTTERS,

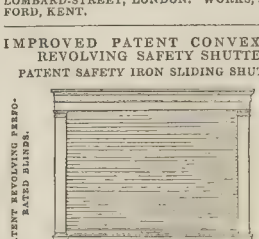
with their patent raising machinery, or with counterbalance weights, and with proper metallic hinges, without which no shutters can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop Fronts fitted in a superior manner with Iron Shutters, Patent Brass or Zinc Sashes, Moulded Engraved Stall Board Plates, best Plate Glass, and internal Brass Fittings of all kinds, on the most advantageous terms. Estimates given and contracts taken in Town or Country.—All kinds of metal-works executed to any design. Metal Drawing, Rolling, and Stamping for the Trade. OFFICE, 26, LOMBARD-STREET, LONDON. WORKS, at DEPTFORD, KENT.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.

PATENT SAFETY IRON SLIDING SHUTTERS.



The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 115, Old Street, London; or at the Licensees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using BENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licences Granted.

HEATING by WARM WATER.—An improved method of HEATING by the CIRCULATION of HOT WATER may be seen in operation daily at J. L. BENHAM and SONS, Stove Grate Manufactory, 10, Wigmore-street, Cavendish-square. Estimates given for warming churches and other public or private buildings in town or country. A great variety of warm-air stoves of every description, from fifteen shillings to twenty pounds.—10, Wigmore-street, Cavendish-square.

HOT WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories, and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises. BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

MR. ALLEN, Patentee and Manufacturer of the SELF-ACTING WORM STOVE, begs to inform scientific persons and the public generally, that having received the most gratifying encomiums on his invention, has now a variety ready for inspection, and he feels confident from their efficiency of action for all requisite purposes where heat and ventilation becomes a desideratum, they will recommend themselves to public patronage. It may be proper to observe, that the principles of the Worm Stove facilitates the method of heating by steam or hot water.—21 and 22, Worship-street, Finsbury.

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Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3l. 6s.	3l. 13s.	3l. 16s.	4l.	4l. 10s.

Henly's Patent improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5l.	5l. 15s.	6l. 5s.	6l. 10s.	7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.

Do. Elliptic do., at 8½d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

RAIN WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from 1½ in. to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, and No. 6, Bankside, Southwark.

MESSRS. NEILSON AND MITCHELL

BEG to inform Builders that they have always on hand, at their premises, 15, Wharf-road, City-road,

A LARGE ASSORTMENT OF R. W. PIPES, GUTTERING, SASH-WEIGHTS, &c.,

which they are disposing of at very low prices. Castings of every description done to order.—BALLUSTERS.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—Wyatt, Parker, and Co., Agents. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

HIP TILES to suit slate roofs in colour; Ridges, with plain or rebated joints, roll tops, and vertical ornaments; drains, many sizes, with plain or socket joints; paving in squares, hexagons, octagons, &c., different colours; roofing, in Grecian or Italian styles, other devices also, or plain; conduits, which do not injure pure water; fire-bricks and tiles; clinkers, and out-door paving; sundry wall-coping, garden-borders, chimney-tops; also tubular and other flues of peculiar material. No agent, but a depôt at 2, WHITEFRIARS-STREET, FLEET-STREET, LONDON, under Mr. PEAKE'S personal care, to supply genuine TERRO-METALLIC goods at fair prices as per quality; also, additional Stock at No. 4 Wharf, Macclesfield-street, South, City Basin.

The TILERIES, TUNSTALL, STAFFORDSHIRE, are near the centre of England, whence boats are sent direct to any inland place; or to the Mersey for the coasts, the colonies, and elsewhere.

WM. BANGHAM,
FURNISHING UNDERTAKER,

NO. 7, Stockbridge-terrace, corner of Vauxhall and Pimlico roads, begs to inform the Trade they can be supplied with every article requisite for funerals at the lowest furnishing prices, and a liberal credit if required.

For the convenience of the trade every facility is studied. LEADEN COFFINS may be obtained full trimmed in an hour, and every other article on the shortest notice. Cambric and Satin Shrouds, Winding Sheets, &c. Horses, Coaches, Feathers, Velvets, Heraldry, &c. Country orders punctually attended. No extra charge for delivering large coffins within ten miles.

BY LETTERS PATENT.

PATENT LINING FOR WALLS OF HOUSES, &c. This patent offers the only satisfactory remedy for damp, whether saline or otherwise, in walls of houses. It is also a finished surface for every method of decoration. It is employed by some of the principal building and decorative firms in London. Made to fit compartments, it can be attached by country workmen. The Patented Invisible Join of the Patent Lining applied with unrivalled effect to Velvets, Satins, &c. &c.

Specimens at the patentees, Mr. JOHN COLLARD DRAKE, 19, Elm Tree-road, St. John's-wood; or at the Office of "The Builder."

The Builder.

No. CLXI.

SATURDAY, MARCH 7, 1846.

THE conclusion that the drains we are in the habit of forming are much too large, and that we may render our houses much more healthful by spending less money in this respect than is generally thought necessary, appears to be gradually forcing its way. It is not our fault that this truth has remained so long unrecognized, nor will we relax our endeavours to obtain a better system of drainage, and induce a more general adoption of it, until these most important ends be achieved. The absurdity, the dangerous device of forming a cesspool (a disease-propagating pit it might be called), somewhere in the course of the drain, even where there was a sewer, as at one time was always done, is now seldom perpetrated; and it is innocently thought by many, that the refuse-matter of their houses is at once hurried away to the common outlet, and that all fear of the deadly emanations from decomposing filth is entirely removed.

What is the actual state of the case? Open what would be called a capital drain, in a first-rate house, and judge for yourselves.

It is perhaps a 15 in. gun-barrel drain, or more probably (and much worse), a square drain four courses high, covered with old stone, the inside rough and ragged. In either case, unless it be an exception to the general rule, it is half full of fetid black matter, and is in fact, as we have said many of the main sewers of the metropolis are, an elongated cesspool, constantly dispensing an injurious, even if imperceptible, influence throughout the house and neighbourhood.

Let us do what we may with the public sewers, if the private drains be not also radically improved, the mischief will be but half cured.

The mistake is, apart from the badness of the construction ordinarily, that they are much too large to be thoroughly washed out by the water which they have to carry off. The quantity of water which, through a drain of one-sixth the area, would be immediately discharged, and carry with it, *unavoidably*, all the matter that might be hanging about such a drain, would spread sluggishly over the bottom of the large and ill-formed channel, and deposit the greater part of its solid contents before it reached the outlet.

Mr. Dyce Guthrie, when pointing out the evil of large drains before the Health of Towns Commission, said, that for an ordinary tenement, a drain of from 3 to 6 inches in diameter was sufficiently large. Last August, Mr. James Simpson of Edinburgh, acting on this suggestion, filled up the drain and cesspool that were in his house, and placed in their stead a cast-iron pipe *only two inches and a half in diameter*. In a letter on the subject that he addressed to the editor of *The Scotsman*, containing a report of a severe trial to which the pipe had been subjected, he says:—

A larger would have defeated the purpose, because no head of water at my command could have cleansed it by *full* flushing and hydraulic pressure. It ought to be kept in mind that this is the very essence of tubular sewerage. Never employ a larger pipe, on the mistaken notion of greater safety, than you have water to flush *full*. The difference of cleansing power when water fills, or only partially fills the pipe, can be calculated; it is very great. This applies to main street pipe sewers too. Mr. Dyce Guthrie startled the royal commissioners, before whom he was examined, when he talked of a foot diameter for a main drain, instead of a built conduit in which a man can walk upright. The pipe which traverses the basement story of my house, with its branches from kitchen, water-closets, &c., being a close metal tube, without even a chink of opening from end to end, sets my mind at ease about poisonous emanations, even were there black mud in it, as the appended report will shew there is, and can be none. At present it discharges into an end of the old private sewer in the front area, *which part* refuses to carry off the filth that the pipe supplies; an instructive contrast. Of course, I mean to remedy this forthwith, by carrying the tube at once into the street drain.

This is a matter of so much consequence, and interests, or ought to interest so many persons, that we think it right to give the report in full, premising that its accuracy is attested by Mr. Guthrie, who was present, and Mr. David Bryce, the architect.

Edinburgh, December 8th, 1845.

SIR,—Agreeably to your request, I have this day made an inspection of the tubular drain put in by me in your house, No. 33, Northumberland-street, in the month of August last, executed according to the plans and under the direction of Mr. William Dyce Guthrie. The drain consists of a cast-iron pipe, 2¼ inches in diameter, laid through the under flat of the house, from the back to the front area, in length 60 feet, having a declivity of 12 inches in that length. The whole of the former drainage of the house, being of the usual construction (box drain 12 inches square), was carefully filled up, and the 2¼-inch pipe substituted; consequently, the whole of the surface water from the back area ground, the rain water from the roof of the house, the foul water from the kitchen sink, the soil and water of water-closets, baths, &c., are all conducted into this 2¼-inch pipe, by their respective branch pipes.

Care was taken to have the drain tube flushed once every week for two months, after being laid down, which was effected by the simultaneous discharge from two or more of the cisterns through the ordinary channels of communication, the water closets, &c., and the pipe was *quite full*. It was, however, deemed expedient to discontinue the flushing, and ascertain the effect of one month's use, with the ordinary discharges, such as had been used with the old drain. The tubular sewer being terminated in the front area of your house (the continuation of the sewer from that point was by the old drain to the common sewer in the street), by lifting a stone the end of the tubular drain was exposed, and an opportunity afforded of contrasting the state of the old with the new plan of sewerage. As the old drain was effectually cleaned out when the new tubular drain was inserted into it, of course any deposit made in the time could thus be ascertained; it amounted to two inches in depth; in fact, it would appear that the soil from the house drain in the space of three months was deposited, and had accumulated there. To determine the actual state of the tubular sewer, a portion of water from the cistern in the back ground was allowed to discharge itself into the area, and find its way to the opening for the surface water, when it was seen to flow from the exposed end of the tubular sewer perfectly free and clear, proving that not the smallest deposit or obstruction had taken place throughout its whole length. A similar trial was made by discharges from the sink in the kitchen, and also from the water-closets, and with the same effect. It is thus demonstrated that a 2¼ inch tube or pipe is competent for the drainage of your house, even with the flushing afforded by the ordinary and moderate discharges of the common water-closets and sinks, while a striking example of the superiority of this system of sewerage over the old, was seen in the accumulations of matter having occurred in the old drain only, while the new continues perfectly free from any thing like obstruction or deposit.—I am, &c.,

WILLIAM KIRKWOOD, Plumber.

We commend this statement to the serious consideration of our readers. The great obstacle in the way of general drainage is the expense. Hundreds of houses contiguous to sewers have no communication with them, simply because of this cost; and inasmuch as it is of the utmost consequence to the community at large, that *every house* should be efficiently drained, it follows that all are interested in obtaining the greatest possible reduction in the expense. The use of pipes made of the cheapest material, consistent with sufficient strength to resist pressure from *within* and without, should be permitted, and every facility afforded to parties willing to improve their drainage.

As regards new houses in the metropolis, the first step should be to obtain the modification of schedule H, in the Buildings Act, which unwisely provides, that "the inside of the main drains under and from every building, for carrying off soil, must be in transverse section at the least equal to a circular area of at least *nine* inches in diameter;" and to obtain power to use other materials for drains besides "brick, stone, or slate."

How slowly do we get a knowledge of what is *best*.

THE HOLBORN AND FINSBURY SEWERS.

THE surveyor's annual report, just now published, gives the following particulars of the new works executed during the year 1845, and asserts the success of the system of *flushing* adopted in these districts.

New sewers of the first class....	7,217 feet.	
Ditto	second do. ..	13,148 ,,
Ditto	third do.....	4,101 ,,
	Making a total of..	24,466 ,,

New gullyholes and shoots	10,457 feet.
Number of houses drained by petition,	1,962
Houses to which the drains have been lowered	640

There are now 73 miles of sewers periodically washed out, namely, 43 miles of old sewers, and 30 miles of comparatively new sewers.

In the portion of old sewers kept free from deposit by flushing during the past year (on which the expense of fixing gates, &c. had been previously incurred), the present cost is 577*l.* less than the former yearly average cost for the same sewers.

There have been, during the last year, ten side entrances and flushing-gates placed on a length of 7¼ miles of sewers, from which the foul deposit has been washed away; and the difference of expense between the flushing and the old method of cleansing, leaves a sum of 420*l.* in favour of the commission.

The saving arising from the adoption of other improvements, during the last year, is as follows, viz.:—In 11,198 feet of first and third-class sewers, 2,687*l.*; by the introduction of side entrances in lieu of manholes, to 13,377 feet of sewers built by contract, 1,447*l.*, and from the same cause the sum of 938*l.* has been saved in 11,060 feet of sewers built by individuals; in 470 gullyholes, and 10,457 feet of gullyshoots, 1,504*l.*; in 562 gullygrates, 344*l.* The expenditure of 238*l.* has been avoided by the present method adopted for cleansing gullyholes and shoots.

The total saving in the year 1845, by the adoption of these several improvements, is 8,155*l.* which, added to the sum of 22,461*l.* (reported up to December, 1844), makes a total of 30,616*l.* saved to the commission in rather more than four years.

A LIBERAL ARCHITECT.—Mr. Henderson, who has finished for the Scotch Free Church upwards of one hundred plans of churches, without any remuneration whatever, was lately presented, in the name of the congregations alluded to, with a richly chased silver tea-service and salver, bearing a suitable inscription, together with a copy of the Encylopædia Britannica, elegantly bound, in 21 volumes.

THE DECORATION OF THE NEW HOUSES OF PARLIAMENT.

The fifth report of the commissioners appointed for the promotion of the fine arts in England, contains nothing but what is already known. The appendix, like a lady's postscript, is the most valuable part of the document. The commissioners adhere to the original recommendation that the six arched compartments in the House of Lords should be decorated with fresco-paintings.

"We are, however, of opinion that it would be desirable to proceed gradually with the execution of the fresco paintings, and that one should be completed before others are commenced; there would thus be an opportunity of judging of the finished work.

We propose that the execution of the first fresco-painting should be committed to William Dyce, A.R.A., and that the subject selected should be that of the cartoon exhibited by him, viz.: "The Baptism of Ethelbert," with any alterations in the details that may appear to Mr. Dyce advisable.

Meanwhile, being desirous to afford opportunities for the further practice of fresco-painting, and for the cultivation of the style of design which is fitted for it, we propose that a hall in your Majesty's Palace at Westminster, called the upper waiting hall, should be decorated with fresco-paintings; provided the architectural arrangements and the light should, on the completion of the apartment, be found to be adapted for the purpose; and we propose that the subjects of such paintings should have reference to the general character of decoration intended for the locality. We beg leave to commit the execution of five of the said works to Charles West Cope, A.R.A., John Callcott Horsley, John Rogers Herbert, A.R.A., Joseph Severn, and John Tenniel, junior, who, we consider, have distinguished themselves as designers or as fresco-painters in one or more of the various exhibitions that have taken place with reference to the decoration of the Palace at Westminster."

The twelve windows in the House of Lords, each with eight compartments for figures, will contain illustrations in stained glass of the Royal line.

The competition in oil-painting will take place in June, 1847, when "three premiums of 500*l.* each, three premiums of 300*l.* each, and three premiums of 200*l.* each, will be given to the artists who shall furnish oil-paintings, which shall be deemed worthy of one or other of the said premiums by judges to be appointed to decide on the relative merit of the works."

Mr. Eastlake supplies a paper fourteen pages in length, on the "Styles and Methods of Painting suited to the Decoration of Public Buildings."

"The materials and dimensions of works of art," says Mr. Eastlake, "and the situations and lights for which they may be intended, are termed *external conditions*, as distinguished from the character of subjects, the aims of individual artists, the tendencies of general taste and similar influences. The former class only, as affording definite grounds for investigation and as suggesting practical inferences, can here be considered.* Whatever be the external conditions, it is essential that the visible impression of the work should, under the circumstances, be as complete as possible. To insure this, not only the executive means, but the qualities to be represented still require to be adapted or selected accordingly as conditions vary. Such methods and resources constitute, in each case, a specific and appropriate *style*; the criterion of which is, that the amount of excellence resulting from it is unattainable in the same degree by any other means. The question respecting the relation of painting to external conditions is not unimportant in considering the tendencies and claims of different schools. In general, the great masters seem to have inquired what the outward resources at their command could best effect. Such a habit, instead of confining, was rather calculated to enlarge their invention and to vary its forms. The result of their labours is the sufficient ground of the world's admiration; but their docility cannot be duly appreciated without a reference to the local circumstances under which they worked."

When inquiring into the principles which regulate the varieties of style, causes of *indistinctness*, and distinctness are treated of. "It may be sometimes requisite even for persons of cultivated judgment to bear in mind that the excellences on which the highest reputation of great artists is founded are to be sought not so much in the beauty of parts as in the grand or tasteful arrangement of the combined work, in the harmonious relation of entire masses, and the grace of entire forms. These qualities, which suppose the labour of the mind because they have reference to a whole, have ever constituted the worthiest criterions of merit, in the practice of the arts.

The influence of conditions, similar to those in question, on every department of painting, may be traced in the works of great artists; for, from whatever cause the sense of vision is imperfectly addressed, the selection both of qualities in nature and of the technical means fitted to represent them, will be influenced accordingly. But before pursuing the inquiry, it may be desirable to state the elementary facts connected with visible distinctness, since these, though familiar in reference to nature, are more complex in relation to works of art when seen under particular circumstances. They have been defined as follows: an object in nature can only be apparent, by differing in its visible attributes from what surrounds it. The chief causes of this distinctness are—difference of position; of mere magnitude; of light and shade; of form; and of colour. Accordingly these attributes constitute the general resources of the artist; but it will be for him to inquire which of those means are more especially calculated, under any extraordinary conditions, to produce a result which shall satisfy the eye."

"The instances are rare, and not always successful, in which extensive surfaces, whether on canvass or on walls, have been covered with masses of low half light and deep shade. Such masses, as is well known, are especially ill adapted for fresco, on account of its tendency to reflect light only from its surface."

"The unfitness of masses of extreme shade in paintings of considerable dimensions (without reference to the material) is explained by the fact that the distance at which the work requires to be viewed tends to obliterate the fainter lights and reflections in such masses, thus changing depth to flat obscurity.* In subjects which require gloom, it is still essential that the indistinctness should be felt to be intentional, and not to be the result of such distance. The size of the work should admit of the spectator being so placed as to see all that the artist intended to be seen."

"Next to the great requisite that each mode of representation should rest chiefly on its own resources, the works of great artists teach the principle, that the noblest object of imitation should always be the nearest to nature. In sculpture, and in painting when employed to represent human actors, this noblest object is life, with its attributes of action and thought. When the field for displaying this quality is even confined to a head, it is still required that no circumstance represented should surpass it in completeness of imitation. Rarely in the works of the best Greek sculptors or in those of the excellent modern painters does an inanimate object exceed in truth the representation of the living surface. The contrivances with a view to insure this subordination are, necessarily, most daring in sculpture, in which certain qualities are in danger of being confounded with reality. It will generally be found that the employment of conventional methods (as opposed to the more direct truth of representation) increases in proportion as objects are easily imitable, and, consequently, in danger of interfering with the higher aim."

We close our extracts from the report with the following prescription for using caoutchouc on walls, so as to prevent the possibility of damp or saline impurities reaching fresco paintings, or other decorations on walls, submitted by Mr. J. Collard Drake:—

"Cover or float the brick wall proposed to be decorated with *compo* or cement. When this is set—and in fine weather it will become sufficiently so in a week—varnish or paint it over with two substantial coats of caoutchouc dissolved in naptha. On this surface, and with the same solution of caoutchouc, attach a coarsely-woven rope fabric, varnished at the back in the same manner. This material will, instead of the surface of bricks or lath, be the recipient for the first or rough coat of plaster."

* It has not been thought necessary again to consider the question of the adaptation of style in painting to that of the architecture of the new Houses of Parliament. It may be sufficient to repeat that the Tudor style in England is coeval with the best examples of Italian art, and that if Raphael had accepted the invitation of Henry VIII. to visit this country, edifices erected during or before the reign of that monarch might have been adorned with the great artist's works. Second Report, p. 65. Compare First Report, p. 19.

* It has been before observed, that although an object may be increased in magnitude to any extent, in proportion to its distance, and in order to accommodate the spectator, yet its force of light and shade cannot be increased beyond a certain point, and that point is supposed to be already attained in pictures requiring to be seen near. Not only is force not to be increased in proportion as distance increases, it is unavoidably diminished by it, in consequence of interposed air.

ARCHITECTURE AND BUILDING IN SOUTH AUSTRALIA.

Looking through a file of Australian papers (*South Australian Register*, and the *Adelaide Observer*), we extracted a few notes on our own subjects, which may interest some of our readers.

"It is useless to conceal the fact that most of the old cottages *existing* about Adelaide have become ruinous; indeed, nearly the whole of the early erections are destined to decay within the limits of the leases, short as they confessedly are. There are many self-evident reasons for this state of things. Most of the old erections were built of that most dirty and contemptible of all the colonial inventions, "pisè," or rammed earth. There never was in this city more than one good house of such material, and that must have cost as much to make it what it is, and to preserve it, as would have paid for more durable materials. However, "*de mortuis nil nisi bonum.*" The practice is now extinct here, never (it is to be hoped) to be revived.

The earlier brick houses were very little better, the bricks being of a pale, half-burnt description. They were, as a chemist would say, "soluble in water;" and the walls soon ceased to afford any support to the doors and window frames, or interior fittings; and the majority of them are, as might be expected, in a very unsatisfactory state. In short, every smart gale diminishes the number even of these "tenements of brick." In earlier days, as well as recently, much better bricks might have been made; but there are few London or Cowley brickmakers here, and such makers alone seem to possess the art of making hard and durable bricks in perfection. The practice of the art may be simple enough—but it must be acquired.

Few of the wooden houses sent out from Britain answered the expectations of the importers or fulfilled the promises of the builders; and many of those which still survive and are inhabited are also infested, being very complete and convenient repositories for many of the noxious and *innocuous* tribes. The matched linings of some of the houses secure the free tenantry from every act of ejectment short of pulling down, and defy the endeavours of the most clever and industrious scourers.

Few of the early stone-built-houses will pass the scrutiny of the surveyor without prompt condemnation, built as they were of round, rubbly lime stone, and with untempered mortar, and badly founded. There is no dependance to be placed upon such erections. There are houses enough of this genus still extant, to make one rejoice that matters have at length undergone a change for the benefit of the rising generation. The use of squared stone and better bricks and mortar has now become general, and houses are being built generally that will survive a twenty-one years' lease, if not from generation to generation. Indeed, under the present superintendence of practical and professional men, buildings are being put up which would do credit to English cities.

But speaking of professional superintendence, it must excite a little surprise that one of the best buildings yet put up in Adelaide should have been designed and executed without the aid of a professed architect. The South Australian Bank also exhibits a specimen unrivalled in beauty and simplicity. St. John's Church, with its noble roof and beautifully carved arches in the Gothic style, is admirable both in plan and execution. There is, in short, a superabundance of talent both for design and execution; and it cannot be doubted that a superior style of building will henceforth become general."

Endeavours are being made to obtain better

residences for the operatives. One writer says:—The building of small cottages, of a simple and substantial description, would, I think, offer a fair return for landholders or those who have money to invest in erections; and I would recommend as a commencement, the building (upon a uniform plan), by one or more proprietors, ten or twelve plain residences of two or three rooms, with a small allotment of land to each, securely walled in with stone (wood fences soon decay, or are allowed to be carried away). Ten such houses, or perhaps more, might be built upon the frontage of an acre of town land, and a ground rent of less than 1*l.* for each house would satisfy many a holder now-a-day. The buildings need not exceed 25*l.* each, which, at twelve per cent., would amount to about 3*l.* per annum; in all, 4*l.* per annum; but such houses would readily let at 6*l.* 10s. per annum, or 2s. 6d. per week; and for want of such, many deserving and industrious men, with wives and families, are compelled to put up with dwellings which are a disgrace to any civilized community, and utterly incompatible with health, decency, morality, or contentment, to those who have not forgotten "an humble," but healthful, "cottage in Britain."

The most economic material for walls appears to me to be the compact stone found near the Brown Hill Creek. The cost of walls of such a material would not much, if at all, exceed, for 18-inch work, complete, 4s. per yard. The walls of a cottage, 12 feet by 15, and 7 feet high (40 yards) would cost 8*l.*; shingled roof and ceiling, with whitewashed and stopped walls, three doors, two windows, and fastenings, 10*l.*; slate floor, 20 yards at 3s. 3*l.*; chimneys and partition, 4*l.* The garden wall would be an extra; but surely a garden well secured, is as well worth a remunerative rental here as elsewhere, and the garden walls might be built cheaply of the limestone obtainable beneath the surface of the same land itself in most parts of Adelaide, which would do still better if coped with suitable stone.

Concerning roofs generally, South Australia is well supplied with good as well as cheap material for covering. I allude particularly to shingles, paling, &c.; as for the Willunga slate, it cannot be concealed that it is a tender and fragile article at present; the quarries may improve as they get deeper; but now, it is a matter of some delicacy to cover "hips," or do anything on a roof covered with them. You might as safely tread on a sky-light. But the same quarries afford excellent flagging and slabs. It is held generally that good broad paling or two feet shingles laid carefully, make the soundest roof; although small shingles look better. By-the-bye, would it not be worth while to try a venture of palings, shingles, and laths to the Cape? I have known shingles brought thither from America. There is not a single forest tree in the whole Cape Colony that will bear comparison with the noble stringy-bark of Australia, for splitting purposes. The roofs of Cape Town were, in former times, covered with thatch; but many accidents by fire having occurred, the use of it was forbidden in the town; and the moderns have generally formed their roofs with wrought joists laid level, covered with boards (the under side planed), and covered on the upper surface with tons of bricks and waggon loads of mortar, composed of shell-lime, sand, &c.; and after all, the roofs are very imperfect, becoming cracked in all directions, and requiring continual repairs. I am not aware what improvements may have been made since the large influx of English emigrants there; but I believe the palings, shingles, &c., of this colony, if introduced, would find a ready sale. They thatch the roofs in the country with a small round rush in a beautifully smooth, neat, and compact manner, far beyond what I have seen of English thatching, in appearance.

There is one improvement which I think might be borrowed from them with advantage, in the construction of their chimneys, or rather the tops of them. I do not remember to have noticed it elsewhere. It is this:—the upper end of the flue (which is here finished square, and in London with chimney pots) is at the Cape, carried up in the form of a spiral or archimedean screw, by a particular mode of laying the bricks. It is a simple operation, but requires a diagram to explain it properly. But the result of this method of topping the chimneys, is that none such ever occasion the smoke to be driven back into the house—a very desirable point (in South Australia especially), and they have quite an ornamental appearance.

There is one mode by which the thin slabs of Willunga slate might be made to form a cheap and very substantial roof, that is, by cutting the slabs to a certain size, say 20 inches wide, and 2 feet 6 inches, or 3 feet long, and laying them on the rafters, placed at a proper distance apart to receive them. There is a good method of fastening them, and giving sufficient overlap. They would thus form a cheap and substantial roof, at about fivepence per square foot, for covering the rafters. They are not laid double, as common slating is.

The white ants are very destructive to woodwork in this colony. It was some time before I saw any of these funny little gentlemen; but I have now seen enough of them and their works—and no mistake. There are several plans of keeping them clear of woodwork. I believe they attack all kinds of timber except cedar; but they devour only one part of it, namely, the albuminous portion, which is exposed to fungus or dry rot. It lies between the real grain or annular rings of the tree, and may be preserved from ants by the same means which are used for protection against dry rot, namely, saturating it with some metallic salt. I believe the cottages lately sold in Emigration-square were not touched either by rot, or white ants. The timber of which they were constructed had been kyanized, but a less expensive process would answer equally well.

Water gutters, or spouts should be provided, and a reservoir made, where good water is wanted. It could be cheaply managed. About nineteen inches of rain, I believe, falls yearly in this place, the whole of which is suffered to be a nuisance round our houses, instead of being drained off for future use. I believe the water from the Government-house roof alone, is systematically preserved.

SPECIAL COURT OF SEWERS FOR WESTMINSTER.

On Friday, the 27th ult., a court was specially held. Captain Bague in the chair. The first business was a motion by Mr. Mayhew, seconded by Mr. Knight:—"That the order of court relative to works under 50*l.* be rescinded, and that steps be taken forthwith for the appointment of builders to execute such works."

Mr. Mayhew regretted exceedingly that there was so small a court. He thought the confusion in the court was mainly attributable to the new way in which the works under 50*l.* were executed. He thought it perfectly inconsistent that a commission like this should become jobbing bricklayers. Now, he was bound to state to the court, that he did not wish to interfere with Mr. Leslie's plan any further than, that a builder should be appointed for each district to do the jobbing work, and that there should be a contract for each material. That plan he thought would be far better than the present. He felt bound to say, that Mr. Leslie was entitled to infinite credit, and he should be extremely sorry to take away one inch of that credit from the honourable commissioner; he (Mr. Mayhew) had not the slightest doubt that the money saving from the plan was very great, but he did not like the commission to become jobbing bricklayers. He had gone over the accounts, and was satisfied that the saving was very great. The returns he had by him shewed that fact, while under the old system the jobbing works had cost annually about 6,566*l.*; under Mr. Leslie's new plan he thought they would not cost more than 3,000*l.* The paper presented at the last court would also evidence that. The gross expenditure since the new plan began was about 568*l.*, or about 44*l.* a week, against about 118*l.* on the old system. After the motion was read by the chairman,—

Mr. Leslie rose and said, that it was at all times attended with inconvenience to public bodies to rescind their orders; and it never should be done without some urgent necessity. Nothing could be more gentlemanly than the manner in which Mr. Mayhew had stated his case for inducing the court to rescind an order of court; which upon his own shewing, was working most advantageously in a pecuniary sense for the rate-payers; but the great point of his argument was, that it was derogatory to the court, as holding a commission from the crown, to become what he termed jobbing bricklayers. When the plan for doing the works under 50*l.* by the surveyor's clerks of the works and workmen employed by the court, which he had the honour to submit, was carried by two Courts of Sewers in October last, and which plan was to commence and did commence on the 8th of November last, what was the course that was adopted, at a time when more assistance was required, inasmuch as all these small works were to be done without a contractor? Subsequent courts had resolved that the whole surveyors' department was inefficient. Mr. Dowley was shelved under the title of consulting surveyor; and, poor man, for many weeks he had been confined to his bed, and had never been near the office at all. Mr. Doull, the assistant surveyor, had been virtually discharged, and consequently being here only until the 25th of March, he could not be expected under the system by which he had been harassed, to feel much interest or take any unnecessary responsibility about a new system which so many of the professional commissioners were anxious should fail; and the court had refused to appoint a surveyor, or even to allow Mr. Phillips, their very able clerk of the works, to fill up the gap made by these dismissals, and to test his abilities for conducting the works by a six months' trial at a small salary. Mr. Leslie begged the court distinctly to understand, that these facts were mentioned by him not as any apology for the system he had had the honour to propose, and which had now been in operation in the two largest districts since the 8th of November last, and in the whole four districts since the 5th December, and with the most triumphant results in spite of all the obstacles that had been thrown in the way of working the new system. What were the results? Mr. Leslie then proceeded to detail, that from the 8th of November, 1845, to the 19th February, 1846, the expenditure had been—

On the eastern division	£142 9s. 11¾d.
,, western division	287 8s. 6¼d.

From the 5th December, 1845, to the 19th February, 1846, the expenditure had been:—

On the Ranelagh division	£119 15s. 10½d.
,, Counters Creek division ..	23 10s. 1¼d.
General disbursements over the two periods	38 12s. 10¾d.
Total expenditure..	£611 17s. 4¼d.
From this gross sum there were two deductions to be made of 31*l.* 7s. 1¼d. and 22*l.* for half a week's more works than the return relating to the old system..	53 7s. 1¼d.
	£557 10s. 3¾d.
The return of the periods of the old system shews the expense	£590 0s. 2d.

The speaker then proceeded to detail to the court, that for less money a vastly increased amount of works had been done, and much better done than during the contract system. The excess of pages in the complaint-book under the same period of the new system had been 21 per cent.: the excess in number of complaints had been 34 per cent., and the excess in the number of gully-drains cleansed and repaired had been 42 per cent.: under the given periods of the old system the number was 337, and under the new system 478. But how had this great excess of work in cleansing and repairing gully-drains been executed? Under the new system, by an entire cleansing from the street right down into the sewer, and the reparations had also been complete. All the officers of the court had informed him, viz.: Messrs. Bell, Phillips, Webber, Morton, and Budd, that this cleansing of gully-drains had never been done so completely and effectually as under the new system. In conclusion, he hoped the court would stand by its former order, and continue a system which, in spite of so many obstacles, had produced such important results.

Mr. Cumberlege thought it would only weaken the effect of the statements of Mr. Leslie of the results of the new system, were he to occupy much of the time of the court. The statements of the honourable commissioner had indeed been the most expressive rhetoric of facts. He felt bound to say that

he dissented *in toto* from the argument of Mr. Mayhew, that there was any thing derogatory to the commission in executing the works in the most economical and effectual way, and which, as public trustees, they were bound to do; many noblemen carried out their own works in the same manner. He was satisfied that there must be something inherently good in the new system, which had produced such results amid such constant and violent opposition.

Mr. Fuller thought that Mr. Mayhew's was the most extraordinary mode of reasoning he had ever heard. He had commenced by acknowledging that the saving under the new plan would be very great, but then on account of it being so derogatory to a commission appointed by the crown, he wished that immense saving not to go into the pockets of the rate-payers, but into the pockets of builders whom he was anxious to see appointed.

Mr. Robert Gunter was greatly surprised by the minuteness of Mr. Leslie's details of the works under 50*l.*, and thought great credit was due to him for laying before the court so full and so complete an exposition of the advantages which the public had derived from the working of his new system, amid so many difficulties and such continual opposition. He considered there was nothing in Mr. Mayhew's argument about its being derogatory to the court to adopt a system which was so beneficial to the rate-payers. He had done the same thing himself as to sewers on his own land, which the court had very properly ordered him to build, as they would not allow him to drain that property through the back of his premises, but required him to make a new sewer in front of them. He employed his own excavators; he purchased the materials, and had the works executed by the workmen he employed, and he saved a great deal of money, and he could not imagine there was anything derogatory in so doing.

The Hon. Frederick Byng said, he came to the court to defend the new system of doing the works under 50*l.* But he had no conception that Mr. Leslie could have presented to the court such a mass of facts, shewing that that system was working so advantageously for the public. His regret was, that his friend Mr. Mayhew, should have been the person to lead the attack. As to its being derogatory to the court, he might instance many noblemen who were doing large works on their own estates, and employing workmen and labourers. The Duke of Bedford was paying 460*l.* a week in that manner. He would vote against Mr. Mayhew.

Mr. Frederick Crace regretted very much that he did not arrive in court in time to hear Mr. Leslie's statements of the results of his system. There was one great principle he wished to instil into the mind of the court, that it was a court of justice and record, and he cared nothing about the pecuniary saving to the public. He maintained, that it was derogatory to the court to employ its officers and labourers in doing the works, Such a new system was perfectly unconstitutional. The Government did not adopt such a system, and therefore this court ought not.

Mr. Mayhew being called on for a reply, merely urged, that although he was bound to admit the saving was very great from the adoption of the new plan, he still thought the court should not be mere jobbing bricklayers, but employ some regular builders to do such works, and he thought that they would do so for an additional 5 per cent. The division then took place, and Mr. Mayhew's motion was lost, six voting for it, ten against it.

The court then refused to rescind another order of the 14th of November last, and Mr. John White's notice of motion to re-arrange the office of surveyor fell to the ground, he being absent. Mr. Le Breton's notice of motion, "That steps be taken to invite candidates for the office of chief surveyor, at a salary of 500*l.* per annum" was overruled by the chairman on the ground of informality, inasmuch as it was to give validity to the vote of a minority at the last court.

Several notices of motion were handed up to the chairman and read, and they were ordered to be considered at a court on Friday, the 6th instant, at two o'clock, in the following manner:—

7. Mr. Le Breton to move, at two o'clock, "That all the orders of the court of the 13th February, 1846, as to the surveyor's salary be rescinded, and that the salary of such surveyor be 500*l.* per annum, and that steps be taken to invite candidates for such office."

Mr. Mayhew to move, "That steps for the appointment of a surveyor be taken forthwith, at a salary to be now fixed."

Mr. Cumberlege to move, as an amendment upon the above motion, "That Mr. Phillips be forthwith appointed, at a salary of 250*l.* per annum, to the office of chief surveyor, on a trial of six months, on account of the vacancy which has so long subsisted in that office, and that all orders of court which interfere with this appointment be rescinded."

Mr. Kendall to move, "That Mr. Hawkins, the late surveyor, be appointed as the chief surveyor, at a salary of 450*l.* per annum."

Mr. Mayhew begged to inform the court, that he would not lend himself to any factious opposition to the new plan. That having been fairly beaten to-day, he would give every assistance in his power to carry it out, and, further, that he would support by his vote the immediate appointment of Mr. Phillips to the office of surveyor to the court. The court then adjourned to the 6th of March.

FOREIGN ARCHITECTURAL AND COLLATERAL INTELLIGENCE.

Further Industrial Legislating in France.—The Upper House have, of late, discussed the subject of the *Law of Patents*. Victor Hugo and Gay Lussac were amongst the debaters. Government are anxious to *facilitate*, as much as possible, the obtaining of patents, which, in those branches of *industry*, which approach the *arts*, are of great importance to the discoverer. It was stated in the House of Peers, that one of the chief brass-founders in France, had established a collection of models at the cost of 500,000 francs (20,000*l.*). In this, and similar cases, patents of *thirty* years' duration were considered nothing but equitable. The third paragraph of the bill is important. "No subject derived from a design, picture, or sculpture, can be embodied in a model or design of manufacture, without entitling the artist to the benefits, enacted by law of 19th July, 1793." A sliding scale of patents, viz. those of five, ten, and fifteen, or thirty years duration, as proposed in the bill, seems to meet all wishes.—*Siècle.*

The Fire-brigade at Paris.—For the last few days, a lantern with red glass has been lighted before the Home Office, close to a station of the fire-brigade, with the inscription in white: "*Sapeurs Pompiers.*" It is intended to place similar lanterns at the sixty or seventy fire-brigade stations of the French Metropolis, that persons searching for aid in case of fire, may see them at a great distance. (Fas est immo—ab *amico* discere.)

The Astronomical Observatory at Athens—founded by the liberality of the Vienna banker, Mr. Sina, has been completed. The building is situate on the so-called hill of the Nymphs, erected in the antique Greek style, and presents an altogether monumental appearance. The main entrance will be ornamented by two colossal candelabra, after the designs of Profs. Schauber and Hansen, who are also the architects. The candelabra will be executed in Pentelic marble by Mr. Siegel, to whom is owing the colossal bronze lion erected at Pronia, near Nauplia.

Museum of National Antiquities at Cairo.—Ali Pasha seems willing to follow the example of his colleague at Constantinople, and H. H. has ordered to disencumber the Temple of Esneeh at his expense. Such administrative precautions have become necessary even in Egypt, where nature and men (since Cambyses) have combined to destroy every thing as much as they could. Egyptian monuments, after having been used for the construction of other miserable patch buildings—have been, altogether used as quarries, for making lime, &c. Complaints against travellers, also, have become pretty numerous of late, and it is stated, that a German traveller has committed savage mutilations in the sepulchres of Biban and Moluk.—*Jour. des Débats.*

The new Mole at Venice.—That structure, which begins on the south point of the Austrian *Littorale*, and extends 6,700 feet straight into the sea, was first constructed, by immense blocks of rock (conveyed thither in vessels from Istria) being sunk in the sea, the basis of which construction was ninety feet broad, and thirty-eight feet high. Several millions of lire had been already expended, and many more seemed to be necessary, for making this dike secure, in the midst, as it were, of the Adriatic, and the floods actuated by the *Sirocco*—which had already, during the progress of the work, destroyed part thereof. At this period, however, *Nature* came to the aid of Art, and formed, on the north side of the so far completed foundation, a sand-bank, which, by-and-by, attained that extent and solidity, that it completely removed any further apprehension on the safety of the work. On the south side of the breakwater also, where a canal for the entering of the harbour was to be dug, the stream of water had so much strengthened, that it not only made unnecessary a second projected dike, to run parallel to the first, but has done the work of the most powerful steam-*baggers*, and has, already, swept away the sand so far, as to deepen the passage of the canal to the extent of four feet. Thus, the brig *Venezia* was the first, which, of late, entered the harbour close to the breakwater, without being obliged to make those, formerly required, circuits. Shortly, therefore, this gigantic structure will be completed, vieing with the Murazzi, which, indeed, it may be said to surpass. The latter were backed by the shore, which served them as an indistructible support and foundation, while the new breakwater rises up from the very bottom of the sea, with nothing but its own intrinsic support.—*Binzer's Venedig.*

Project of a Railway Society in Germany.—This idea has been of late started at Stuttgard by the editors of the railway gazette (*Eisenbahn Zeitung*), Messrs. Etzel and Klein, and one of their late numbers calls upon all persons interested in German railways, to join and aid that undertaking. The aim of the society to be, "advancement of the science of railroads by the exchange of ideas, observations, and experiments." An annual meeting at a place previously fixed, is intended to accomplish the same object, as similar societies for the improvement of other branches of science.

Large Public Baths at Vienna.—Last month a building was opened in the Austrian metropolis, which besides its ornamental features, will be a great accommodation to the mass of the people. It consists of a huge hall, which, according to the seasons, can be used as a tepid bath, a cold swimming bath, or as a dancing place, able to accommodate a company of 1,500 persons. When used in the former capacity, a huge tank of cast-iron, capable of containing 18,000 barrels of water (from the Danube) has been provided for. The architects are Messrs. Sicard and Van der Null—who have also, jointly, made an extensive tour in Italy; the latter being author of the work, "Ideas on the Art-relation of the Ornament to the Main Form." Another similar establishment is projected at Baden; warm thermal baths near Vienna. It will be an open public bath, into which the water of the therms will be introduced, keeping it at a constant temperature of 19° Réaumur.—*Allg. Zeit.*

New Picture Gallery at Dresden.—The project of this structure, mentioned in a former number of this journal, has been adopted by the Saxon chambers, and 300,000 dollars voted for that purpose. The building will (very judiciously) form the fourth unfinished wing of the splendid *Zwinger*, at a distance of 150 yards both from the royal palace and the theatre. The houses of the so-called Italian village will be removed, and Dresden thus possess a splendid square, on which its most prominent buildings will be combined. J. L——y.

WINDSOR CASTLE.—As we anticipated, much inconvenience has been caused by not empowering some person in Windsor to issue tickets of admission to view the state apartments. There is reason to expect this will shortly be done. "A Companion through the State Apartments of Windsor" has been prepared by the directions of Prince Albert, and is sold for one penny!—expressly at this price, as some say, at his Royal Highness's desire.

NEW DISTRICT SURVEYOR.—Mr. Robert Warton has been appointed by the magistrates of Middlesex to the district-surveyorship of Shoreditch and Norton Folgate.

HOUSE OF COMMONS AND THE BUILDINGS ACT.

On Wednesday night Sir J. Graham moved for leave to bring in a bill to amend the 7th and 8th of Vict. c. 84, for regulating the construction and use of buildings in the metropolis and its neighbourhood, by authorizing the appointment of a third referee. This addition to the number of the referees would not increase the expense, because one of the present referees, each of whom received 1,000*l.* a year, having declined to act, it was proposed to divide his salary between the one to be appointed in his place and the third referee, giving them 500*l.* a year each, and allowing them at the same time to pursue their professional avocations, which they would be disqualified from doing under the present law.

Mr. Hawes said, that if this proposed bill was to be passed into law, there should be a distinct understanding that some other measure would also be brought forward by the Government to remove the multitudinous defects of the Metropolitan Buildings Act. He had received complaints respecting it from every quarter, and all the parties seemed to think that there was only one remedy, and that was to repeal the Act. He had a book in his hand relative to the business transacted by the official referee, and he might shew the house many instances of the vexatious and trifling interference which had taken place. One man wanted to alter his pigeon-house; this was disputed by the district surveyor, and the opinion of the referees had to be taken to know whether a pigeon-house came within the meaning of the Act! All these cases, when they came before the referees, had to be decided on the payment of very large fees; which must be paid by the appellant, though the decision should be in his favour. The best plan would be to repeal this Act altogether, and to take up the old Building Act, which, with a few amendments, would accomplish all the objects aimed at by the existing Act.

Mr. Hume assured the right hon. baronet that of all the Acts passed by Parliament he never knew one so fruitful of complaints, impositions, and charges, as the one which had been referred to by the hon. member who last spoke. He agreed with that hon. member that the simplest mode of dealing with the subject would be to repeal that Act altogether. It had been productive of unmixed evil, and he should say that not a particle of benefit had been derived from it.

Mr. R. Hodgson, Sir C. T. D'Eyncourt, Mr. Forster, and Mr. Henley, also spoke against the bill.

Sir J. Graham in reply, said he was extremely sorry to find that the measure which passed the House last year should have met with such general condemnation. The House would bear in mind that the Government had endeavoured to make that measure as perfect as possible. The bill underwent much discussion, and he had hoped, therefore, that the Bill, as amended, would have given satisfaction; but he was sorry to say, from what he had heard from both sides of the house, and from what he had heard in private, that there was great dissatisfaction with the measure as it now stood. He had therefore resolved to bring in an amended Bill, which was in a great state of preparation, and hoped to bring it under the consideration of the House at no distant day. If brought forward too rapidly, however, he was afraid sufficient attention would not be paid to the details. In regard to the particular Bill under consideration, unless the operation of the law as it now stood was to be altogether abandoned, that Bill was indispensable. By the measure of last session there were two official referees at a salary of 1,000*l.* a year. One of those referees had declined to discharge the duty, and it was now proposed to divide the salary, to appoint two referees at 500*l.* each, and to remove the disqualification by which they were prevented from acting as surveyors. He thought the disqualification was of no value to the public, and if it was removed there would be no difficulty in finding persons of eminence to undertake the duty. A third referee was absolutely necessary, because, so long as there were only two, there was no one to decide upon any question on which they might be divided in opinion.

Leave was then given to bring in the Bill, which was subsequently introduced, and read.

RAILWAY JOTTINGS.

A dreadful explosion of gunpower, on the South-Eastern Railway, took place last week. Thirteen men, who were employed in constructing a sea-wall at the Rounddown Cliff, near Dover, were at dinner, between 12 and 1 o'clock, when a shower of rain came on; and to protect themselves from the wet, one of the men forced open the door of a cave in the chalk cliff, which, being used as a store for gunpowder, had been kept locked. One of the men, after lighting his pipe, threw down the match, when the powder exploded, and left but two survivors to tell the tale. Whether any blame can attach to the parties in charge of the powder is at present unknown. An inquest is now sitting on the unfortunate sufferers.——Above 200 labourers are again employed on the works of the Waterford and Limerick Railway terminus, and the company have excluded those who caused the recent strike on the line. The country labourers eagerly accepted the terms, which they never had before, viz. 1s. 6d. a day. Seven cargoes of railway iron have already arrived from Cardiff.——Operations have been commenced in Bradford by workmen pulling down houses in Dunkirk-street, and carting away the rubbish preparatory to the erection of the station in connection with the Leeds and Bradford line. ——Mr. John Aughton, builder, of Preston, has contracted for the erection of electric telegraphs on the lines of railway from York to Newcastle and Hull.——Last week, during the progress of the Rugby and Huntingdon line before the House of Commons' sub-committee No. 1, proceedings were brought to a stand owing to certain witnesses not being in attendance. The chairman, in consequence, announced that for the future, if parties did not choose to have their witnesses ready in attendance, the committee would proceed with the case, and declare the standing orders not complied with, and let the parties take upon themselves the consequences of the expense and trouble of proving their case before the Standing Orders' Committee.——The following is the gross summary of work executed up to the present time on the Eastern Union line:—1,350,000 cube yards earthwork removed; 12 miles single permanent road laid; 35 miles single fencing set, including bridge approaches; 26 bridges, 2 viaducts, and 30 culverts completed. The stations and sheds at Manningtree, Ardleigh, and Bentley are contracted for, and also the temporary station and sheds at Ipswich, which are being erected.——The contracts connected with the Ely and Huntingdon line will be advertised in a short time; the delay is occasioned by the Bedford level corporation.——The resolution come to a few days since by the shareholders of the Metropolitan Junction Railway Company to put the law in force civilly and criminally against the provisional committee, has excited much interest, for if successful, the example will doubtless be followed in many similar cases.——The plan of attaching a second-class carriage to each train for the special use of those who like to indulge in a cigar while travelling, is again being mooted. The practice is carried on to a great extent in spite of penalties, and as frequently as otherwise, to the great inconvenience of fellow-passengers, who, nevertheless, decline preferring a complaint.——The works near Penhill, on the Taw Vale line, are progressing rapidly, a considerable portion of the excavation through the point having been made, and the embankment formed upwards of a quarter of a mile in length. During the recent unprecedented high tides, not the slightest damage was done to the bank, although almost every embankment along the Taw and Torridge suffered from the same cause.——The works which had been commenced at the Huddersfield end of the line from that town to Manchester have been nearly at a stand, for several days, in consequence of the masonry having been pulled down by the orders of the inspectors of the works, on account of bad materials used and inferior workmanship. ——The Lords of the Admiraly having had plans of the proposed walls under the Trent, in connection with the Manchester, Huddersfield, and Great Grimsby line, submitted to them by Mr. Billington, C.E., have, on the application of the solicitor to the company, not only granted permission to the company, but approve of their project of driving a clean hole under the Trent at the proposed point of tunnelling at Butterwick, which is thirty feet below the bed of the river.——The directors of the Grand Junction line have agreed to establish a morning as well as an evening express train between London and Liverpool. It will thus be possible to pass the previous night at Liverpool, to spend four or five hours in London, and again to reach Liverpool the same evening. The distance travelled will not be less than 420 miles. Twenty years ago it was considered a feat to go from Liverpool to Manchester, transact business and return the same day, although the distance travelled over was only 72 miles.——A station for passengers and goods will be erected near the wharf of the canal company at Coventry for the Oxford Coventry, and Burton line, and not, as has been reported, at the top of Bishop's-street. ——Tenders will in a few days be advertised for by the Newcastle and Berwick Railway Company for the construction of a bridge across the Tweed. According to the present design, the bridge and the continuing viaduct will be formed of 128 arches, the 11 larger, over the river, to be 66 feet in span each, those of the viaduct gradually diminishing to a span of 25 feet. The estimated cost is nearly 200,000*l.*

GAS FITTINGS.

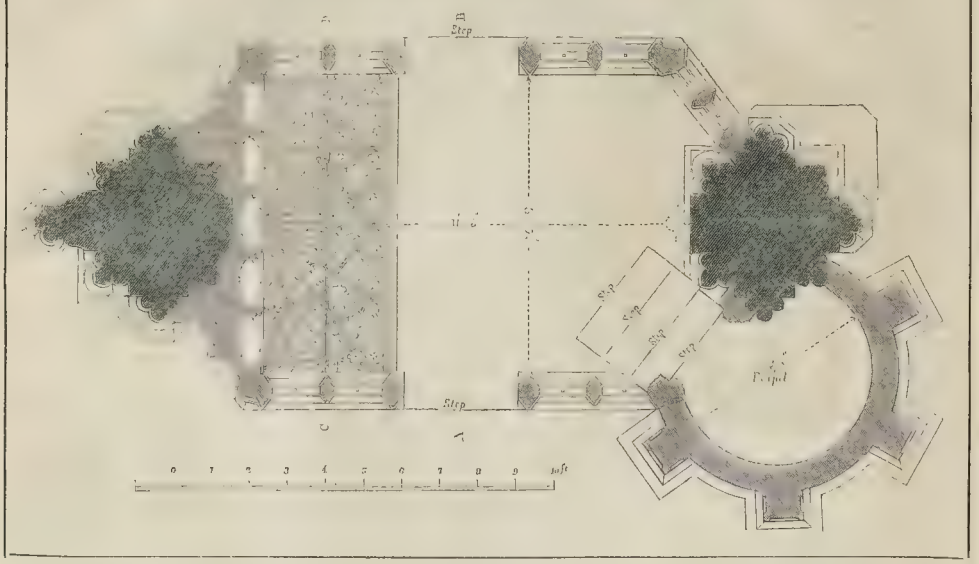
Sir,—Goodness of the fittings is absolutely necessary to obtain perfect lighting, yet this subject has been the most neglected, and serious loss and inconvenience have been the result to the companies as well as consumers. It is a matter of surprise, that the engineers of the companies have not turned their attention to this very essential subject for their own credit; for it matters not how well and economically they may carry on their operations at the works, if they have to send their gas into defective and badly arranged fittings. Until very lately, the gas fitters were, with few exceptions, a most ignorant set of men, who, being tinmen and able to make joints, fancied themselves competent to become gas fitters: thus a majority of the present fittings are put up without care or judgment. The consumers, not knowing better, have to pay a higher price for bad materials and worse workmanship, and the companies, who ought to have seen to the proper execution of the work, have left it entirely unnoticed.

The companies, instead of being in the hands of the fitters, ought to exercise the powers they have to controul their operations, and not allow improper parties to be employed, who are the cause of the great prejudice existing in the minds of many against gas. There are plenty of men in London who have paid great attention to this subject, and whose respectability and standing are a guarantee that the work would be well done; and I hope that the engineers of the companies will at once see the necessity of paying attention to this important branch of their profession, as also the architects of public buildings, who, I am sure, must be much annoyed at the ignorance too often displayed in carrying out their views as regards the requisite fittings for the proper distribution of the lights.

In Liverpool, the gas companies execute their own fittings at cost price, and keep them in repair free of expense; and this system works well: the consumers have good and cheap fittings. The companies obtain an increased rental, and are able to supply gas at a low price, and have not to work at *the enormous pressures required in London*. I do not imagine this system could be brought to bear in London; but the companies might see that the work was properly done, and that *their* customers were not imposed upon by being charged three times what they ought to be; for I know of no greater drawback to the introduction of gas than the high price of fittings. Indeed, I am not sure that it would not be to the interest of the companies to fit up the houses free of cost, and charge a rental for the use of the fittings: the original outlay would soon be repaid to them by a great accession of business.—I am, Sir, &c., Carbon.

University College Hospital.—The committee have determined to complete the hospital by erecting the north wing. The first stone will be laid by Lord Brougham on Wednesday, May 20th.

SUGAR'S CHANTRY CHAPEL, WELLS CATHEDRAL.—(PLAN.)



WELLS CATHEDRAL—RESTORATION.

THE last number of THE BUILDER contains an elaborate engraving, from a drawing by Mr. F. T. Dollman, of the front of Sugar's Chantry Chapel; an elaborate and interesting example of the perpendicular style, which stands on the south side of the nave in Wells Cathedral. The annexed engravings give the plan and section of the structure. The plan shews the position of the chapel between the columns of the nave, one portion of the groined ceiling, and the pulpit. There is a piscina on the south side of the chapel.

Wells Cathedral is said to have been founded in the 10th century, and was substantially repaired or rather rebuilt in King Stephen's reign. The present church is said "to derive its origin from the munificence of Bishop Joceline de Welles, in the early part of the reign of King Henry III."* "He pulled down the greatest part of it to witte, al at the west end, built it a new from the very foundation, and hallowed or dedicated it Oct. 23, 1239." Shortly after this, the whole of the more eastern part was completed. The upper part of the south-west tower was built in the reign of Richard II. before the year 1386, and the corresponding part of the north-west, it is supposed, at the commencement of the following century.†

The west front, with its ranges of niches and statues, stands quite alone as an example of medieval sculpture, and should be seen by all students.

The restorations now going forward at the cathedral, though important, are not so extensive as many people imagine. It is to be wished, that the funds, which now barely amount to 4,000*l.* altogether, were considerably larger, for the sake of what is *proposed*, but which it will be impossible to accomplish with such limited means. The parts already restored, or nearly so, are the Ladye's Chapel; the encaustic tile flooring being now in course of preparation. The stone flooring has been decorated in colour by Willement, and the east window restored also by him. The Purbeck marble shafts have been brought to view by the removal of the yellow wash formerly disfiguring them. The entire nave, aisles, transept, and centre tower have been scraped, and the coloured decorations restored. The rood screen, now organ screen, which was *paired* down, has been wholly restored. The organ is to be removed, and to be placed within the substance of the stone screen, so as to give an uninterrupted view of the whole building from west to east.

The Charles II. painted and discordant woodwork about the stalls is to be removed; canopies to be put to the stalls suitable to the beautiful decorated seats, &c., and the whole choir to be put to rights, if the funds can be obtained. There is a sad apathy in the country which cannot at present be overcome. There is no building or repairing fund of any consequence belonging to the dean and chapter, so that the prosecution of the works must depend upon public feeling and contribution.

The choir is certainly much in want of alteration, and perhaps justly claims the application of the remaining money subscribed; and we urge all who feel interested in the preservation of our architectural monuments, to raise fresh funds.

The *unrivalled* west front is in a most lamentable state of decay. The chapter annually expend what they have, and a good deal also from individual purses, to do what they can, but unless some considerable sum be raised, say 3,000*l.* or 4,000*l.*, in a very few years this front will be in a state almost *ruinous*.

There ought at *once* to be accurate models made of all the statues, which, owing to the bad stone of which they are formed, are *daily* crumbling away. They have been cited as the best works of mediæval art by Flaxman, and truly some of the figures are very fine, but in a short time they will have perished.

Many members of the chapter feel the force of this appeal, but they have no *money*, and we are doing our duty by calling public attention to the subject. We must not omit to mention the great liberality of Archdeacon Brymer in connection with this building, to whose exertions much is owing. The late dean, Dr. Goodenough, was also very active and liberal.

We contemplate an early visit to the cathedral, and shall be able to give an opinion on the manner in which the works are carried on, and describe more fully what has been done, and what requires doing.

* Britton's "History, &c."
† Britton *ut supra*.

HONOUR TO ARTISTS.—Mr. Henning, the sculptor, known by his restoration of the frieze of the Parthenon, which has been distributed all over Europe, with little pecuniary advantage to himself, was entertained a short time ago at Paisley, his native town, by 150 of his townsmen, who assembled to do him honour.

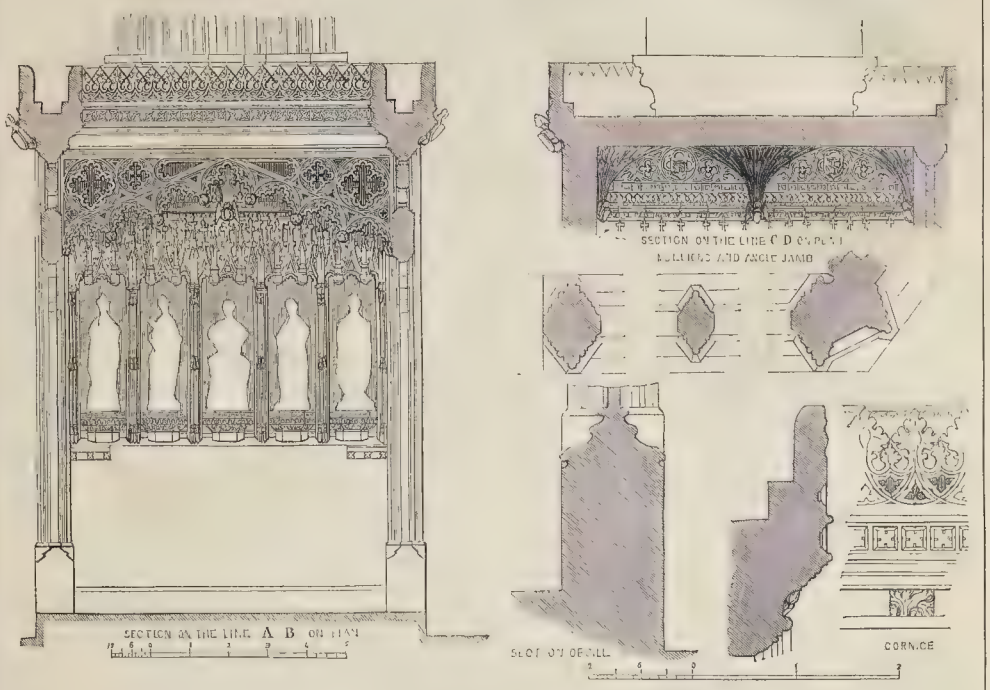
ARCHITECTURAL SPIRIT OF THE JOURNALS.

THE increasing attention to architectural topics, and to those of art in general, is strikingly exhibited in the space they occupy in the pages of contemporary journals. It is also to be noted, that they are always introduced in new periodicals, shewing that the projectors of these undertakings deem such subjects matters of general interest. This growing taste is aided by the facilities of illustration, which wood engraving affords. It appears desirable that THE BUILDER should give some notice of all such papers, and we have therefore arranged to do so in future numbers, in order that every event or subject of criticism may receive its proper notice, if only as an index to the places where particular subjects are treated of. Any extended criticism we shall not find room for, except in subjects of more than ordinary moment. Under a similar head, we propose to give occasional comments on matters connected with public improvement or architectural practice.

The third number of the *Freemasons' Journal* is announced with an illustration of "the celebrated candlesticks" presented by Sir Christopher Wren to the "Lodge of Antiquity."—The *Union Magazine* contains "An Appeal for National Art."—*Fraser* gives an article on Modern Painters, a review of the book written some time since by a Graduate of Oxford. The description of the "Common Lodging House," which forms the subject of a paper in the same journal, is well given, and cannot fail to suggest to many the great importance of a better arrangement in such receptacles. The improvement of the dwellings of the poor is a subject to which we have often directed attention, and it would be well if a little more energy were exhibited by societies and individuals who have charged themselves with the duty of improvement. What may be done at a trifling expense is seen in the lodging-house noticed in the last number of THE BUILDER, which though well ventilated, clean, and, compared with other such places, comfortable, is yet very far from what might be effected in a house built for the purpose. That such undertakings, if well contrived, would pay, we entertain no doubt, indeed at present many of the proprietors make sums of considerable amount, annually. We shall return to this subject shortly.

The *Pictorial Times* of Saturday contains a beautiful wood engraving of the chancel of Cobham Church, Kent, drawn by Mackenzie. It appears, that the piscina and sedilia have

SUGAR'S CHANTRY CHAPEL, WELLS CATHEDRAL.—(Section and Details.)



lately undergone a renovation, which has also extended to that fine collection of brasses, for which the edifice is celebrated.—The *New Monthly* has "A glimpse at the Decorations of the Opera House." To these we shall devote some space shortly.—*Tait's Edinburgh* contains the conclusion of a critique, by Thomas de Quincey, on the Antigone of Sophocles, as lately performed at Edinburgh, in which are some clever remarks on the scenic accessories of the ancient Greek theatre. The *Athenæum* quotes one of the Duke of Marlborough's letters, written during the siege of Tournay, shewing that the great general exerted himself to prevent any injury to the cathedral from the cannon shot.

The *Ecclesiologist* devotes much of its space this month to matters but slightly connected with architecture. It contains a paper on communion plate, a notice of the Abbey Church of St. Gall during the 9th century, illustrated by a plan, and notices of new churches and restorations.—*The Civil Engineers' Journal*, gives an abstract of the report made by Mr. Stephenson on the proposed tubular bridge. From this, it appears that the masonry will be commenced forthwith, and that the tube will be of wrought-iron, 450 feet long, 15 feet wide, and 30 feet high. The plates are assumed to be 1 inch in thickness. The experiments shewed, that the rectangular form was stronger than the circular section, or the elliptical, and that in such tubes the power of wrought-iron to resist compression was much less than its power to resist tension, being exactly the reverse of that which holds with cast-iron. The result will therefore be, that the greatest strength of this beam will be given to the upper side. Mr. Hodgkinson had shewn some time since, that the ⊥ form was the best for cast-iron, and it was, we believe, generally assumed that wrought-iron required a similar section, but the late experiments prove the reverse. It has not yet been decided whether any supporting chains will be used, but if they are, they will be disposed in a very different manner to that of the ordinary suspension-bridge, which had been proved, by the failure of one on the Stockton and Darlington line, to be deficient in the requisite rigidity. The journal also contains "An idea of the façade of the British Museum," which may be considered to be an improvement upon the present building. There are also a paper on architectural deceptions, and some notices of new churches.

The *Art-Union*, amongst other matter, has a paper on the subject of key handles, illustrated from drawings by Mr. Fairholt. The writer well remarks, that the handle is susceptible of decoration, which would also greatly improve the form for holding. Many very beautiful forms of this article may be seen in old cabinets in the shops of dealers, and we have ourselves in the hands of the engraver a drawing of a key, which we shall shortly publish. We further learn, from the same journal, that the portal of the Cathedral of Spire, in Rhenish Bavaria, is to be removed, and that two lofty towers will be erected. "The Illustrated Tour in the Manufacturing Districts" continues the notice of Birmingham, and is illustrated with drawings of bedsteads. The porcelain manufactories of Worcester are also noticed.

The romance of "Old St. Paul's," in *Ainsworth's Magazine*, is here and there interspersed with notices of London antiquities. Respecting the cross in Cheapside, "then standing a little to the east of Wood-street," Mr. Ainsworth says, "This cross, which was of great antiquity, and had undergone many mutilations and alterations since its erection in 1486, when it boasted, amongst other embellishments, images of the Virgin and St. Edward the Confessor, was still not without some pretensions to architectural beauty. In form it was hexagonal, and composed of three tiers, rising from one another like the divisions of a telescope, each angle being supported by a pillar surmounted by a statue, while the intervening niches were filled up with sculptures, intended to represent some of the sovereigns of England. The structure was of considerable height, and crowned by a large gilt cross. Its base was protected by a strong wooden railing. About a hundred yards to the east, there stood a smaller hexagonal tower, likewise ornamented with carvings, and having a figure on its conical summit blowing a horn. This was the Conduit." The old cathedral is frequently mentioned, so that a very good idea of its architecture can be gained. We quote the following:—"Bestowing a momentary glance upon the matchless choir, with its groined roof, its clerestory windows, its arched openings, its carved stalls, and its gorgeous rose window, Leonard followed his conductor through a small doorway on the left of the southern transept, and descending a flight of stone steps, entered a dark and extensive vault, for such it seemed. The feeble light of the lantern fell upon ranks of short heavy pillars, supporting a ponderous arched roof. 'You are now in St. Faith's,' observed the verger, 'and above you is the choir of St. Paul's.' Leonard took no notice of the remark, but silently crossing the nave of this beautiful subterranean church, part of which still exists, traversed its northern aisle. At length the verger stopped before the entrance of a small chapel."

In the *Gentleman's Magazine*, we find a letter respecting some errors in the translation of Dean Aldrich's "Elements of Architecture." The author, in describing the proper site for a villa, advises that the neighbourhood of all still and stagnant water be avoided, especially if it "breed leeches." For the two last words the translator had written "frequented by swallows." Mr. Britton furnishes a drawing by Carter, of an ancient seat in Clerkenwell Church, probably of the date 1534. Mr. Britton possesses also, amongst other volumes of sketches by Carter, one made in 1787, in which are a plan of the above church, views of the exterior and interior of the Nunnery, the Cloisters, and the monuments. There is also a drawing of a brass, and of the font. "The History of Clerkenwell," by Cromwell, may be consulted. Mr. French, of Bolton, gives a drawing of a dossel of tapestry, still preserved at the church at Denbigh; the date is 1530. The ground is dark blue, and the stars are of gold, with the monogram IHS in red. The inscription on scrolls is SPES MEA IN DEO EST. The original dimensions were 13

feet by 4½ feet. Mr. French makes mention of a desecrated chapel, now used as a malt kiln.—The *Literary Gazette* gives a letter respecting the proposal of Mr. Vaux as a Fellow of the Society of Antiquaries, after he had been black-balled a short time previous, in which the writer states, that the candidate had been employed in an underhanded way at Winchester, in prejudicing the people of the town against the Archæological Association.

NOTES IN THE PROVINCES.

The Bristol Dock Company's works and the banks of the river have been damaged by the late floods to the extent of from 8,000*l.* to 10,000*l.* It will require the labour of 400 men to the end of July to affect the company's repairs.——Eight hundred pounds have been raised by voluntary contributions for enlarging the parish church of Huffulme, near Collumpton.——The first pile of the Nore viaduct, at Kilbricken, on the Great Southern and Western Railway, was driven yesterday week. A great multitude assembled to witness the operation. ——The Lords of the Admiralty require that a portion of the projected new bridge over the Medway, at Rochester, shall form a swing-bridge, fifty feet in width, so as to admit vessels of large burden to pass up the river. The announcement has caused the greatest consternation throughout the neighbourhood.—— The great success which has attended the reduction in the price of gas at Liverpool to 4s. 6d. per 1,000 feet, has rendered an enlargment of the company's works necessary. At a meeting of the proprietors held last week, it was determined to purchase sites in distant parts of the town for two new manufactories, one to be at the north end, the other in Toxteth-park, between Harrington-street and Grafton-street. The profits of the company admit of a dividend being declared of 10 per cent., irrespective of the income tax.——The site selected for the Hull Cemetery is at a short distance beyond the Zoological Gardens; commencing at Newland Toft, it extends in a line towards Spring-head, for about two thousand five hundred feet, having Spring-bank for the southern boundary.——The foundation-stone of the engine-house and tower connected with the Green-lane Water Works, Liverpool, was laid last week by Mr. John Holmes. The contractors are Messrs. John Johnson and Son.——The improvements in Holyrood-park, which have been for years in contemplation, are at last commenced. The Earl of Haddington has received 30,674*l.* 1s. 8d. for the loss of his interest. It is intended to lay out such carriage-drives and convenient footpaths, as may with reference to the different points of access from Edinburgh and its environs, open a complete circuit-drive of the whole park, and present convenient means to the public of visiting it.——The Yarmouth Church Restoration Fund has lately been increased by a donation of 30*l.* from the Queen Dowager. —— The directors of the West Ham Gas Company are in treaty for a plot of ground situate in Angle-lane, Stratford, and contiguous to the Eastern Counties Railway Station, for the erection of their works.——The *Bridgwater Times* states that Mr. John Gregory, architect and builder (?) has contributed 84*l.* towards the erection of Emanuel Church, Weston-super-Mare, and that it is intended to lay the foundation-stone on Monday next.——A new Unitarian Chapel is about to be erected at Gee Cross, near Hyde, at a cost of 6,000*l.* The architects are Messrs. Weightman and Hadfield of Sheffield.—— The barracks at Pembroke-dock are now perfectly completed. The fortification is in form an irregular octagon, including an area of 6,000 square yards. The building, comprising the quarters for the officers and men, magazines, stores, canteen, hospital, &c., is two stories high, with basement throughout, composed of limestone obtained in the immediate vicinity, hammer dressed, and laid in courses. The extensive faces are prepared with 430 loop-holes for musketry, the whole protected by spacious bastions mounting 16 pieces of artillery, having a ditch 16 feet by 40 all round. —— A large water-wheel has lately been erected at the Field Mill, near Mansfield, by Mr. Kirkland, for the Duke of Portland. It measures 40 feet in diameter, and is 11 feet broad; and the weight of metal used in its construction was about seventy tons. The water is laid on at two levels, conducted in large iron pipes, and the power is computed to be equal to that of fifty horses, and the amount of expenditure upwards of 2,000*l.*—— The new church at Dodworth, in the diocese of Ripon, was opened by licence last Sunday week. It is spoken of as being neat, substantial, well finished and commodious. It contains about 500 sittings, and is lighted by thirteen solar lamps of brass suspended from the beam-work by ornamental iron rods.——Great exertions are being made by the clergy and gentry in the neighbourhood of Chelmsford, to collect a sum sufficient to defray the cost of enlarging considerably St. John's Chapel at Moulsham. ——On Monday last, Prince Albert laid the foundation-stone of the Royal Victoria Yacht Club-house at Ryde, Isle of Wight. There were present several thousands of spectators, including many of the nobility and gentry, and a large body of naval and military officers from Portsmouth. In answer to a loyal address presented on the occasion by Dr. Lind, his royal highness said, "I beg to return you my best thanks for the kind expressions contained in your address. It affords the Queen great pleasure to give her patronage to such a useful undertaking as the building of this club-house. I am proud of the work of laying the first stone of your edifice. May your society increase in numbers, and enjoy that continued prosperity which I am sure it well deserves."

RAILWAY TOWNS—CREWE.

Only a few years ago, the site of Crewe was a boggy and neglected piece of land, forming part of what was called Oak Farm; and when it was purchased by an attorney, at the rate of 33*l.* per acre, neighbours shrugged up their shoulders, and thought his usual wit had deserted him, especially when they afterwards found he had bought other land adjoining, to the extent, in the whole, of 100 acres. Very soon afterwards, the Grand Junction Railway was projected, and as it passed through Oak Farm, the lawyer obtained for a small portion more than he had paid for the whole. Other lines must need come there too; more profit accrued to the owner, and ultimately the Grand Junction Company determined on making this a central position, and the lucky lawyer received 500*l.* per acre for all that was left.

The town of Crewe has risen within the last six years, and now comprises 2,000 inhabitants. We avail ourselves of an article in the *Liverpool Journal* for the following information:—

The buildings are all new designs by Mr. Cunningham, and erected by Messrs. Samuel and James Holmes. Elaborate decoration was not required; but art revealed itself in imparting beauty to dwellings of labourers; and an endless variety gives a pleasing appearance to houses, which less cultivated judgment would have rendered sombre, because uniform.

The dwelling-houses arrange themselves in four classes: first, the villa style lodges the superior officers; next, a kind of ornamental Gothic constitutes the houses of the next in authority; the engineers are domiciled in detached mansions, which accommodate four families, with gardens and separate entrances; and last, the labourer delights in neat cottages of four apartments, the entrances within ancient porches. The first, second, and third, have all gardens and yards; the fourth has also gardens; and, to the credit of the labourers, one of them, at the recent floral show, carried away the prize.

The rooms are all capacious: the ground-floors are tiled, and, as the back and front are open, ventilation is perfect. Each house is supplied with gas; the water is always on at present in the street, but is to be immediately introduced into the houses. The engineers, &c. pay 3s. 6d. a week, the labourers 2s. For water there is no charge, but for gas they pay in winter twopence per week for each burner. The fittings cost them nothing. There are baths, play-ground, news-room, library, schools, and assembly-room. They pay one penny each for a bath when they use it, subscribe for papers and books, and pay twopence a week for each child's schooling. The company provide clergymen—one of the church of England, one of the church of Scotland—and pays 50*l.* a year to the surgeon, Mr. Edwards, who contracts with the community at threepence a week for each family, medicine included; and the wisdom of the arrangement is implied in the fact, that since his appointment, there has not been a single death in the town—previously there were several.

A new church is on the point of completion. It is built with blue or variegated brick, in the style of early Norman, with tower, transept, &c. and is most comfortably fitted up inside. It occupies the centre of an open space, and on the left are the boys' school, the girls' school, and the infants' school. In the boys' school we saw lads under twelve drawing most careful and accurate outlines of locomotives.

The workshops cover no less than 30 acres, in the more acute portion of the angle. On the right, you turn into a large apartment fitted up for building new waggons; it opens into another still larger, and here waggons are repaired. Further on is the forge, where the iron work of Mr. Owen's department is executed. The fan is used instead of the bellows; but here, as in all other smithies, bellows are erected in the event of the fan failing. Turning round from the waggon department, you enter the coach-building room, in continuation of which are the repairing shop and smithy attached. You see here the process of coach-making, from the first frame to cunning device in heraldry, which finishes the vehicle with an aristocratic attribute.

The next great wing of the building is devoted to the locomotive department. It presents the aspect of a vast polytechnic institution: all the implements of engineering science seem gathered together here. Planing machines of all forms and sizes fill up the centre, connected with endless straps to a power-transmitting drum; while on either side were lathes, punching, shearing, and cutting machines. All were in motion, certainly not noiselessly; but they seemed almost instinct with life, for they did, unbidden, their various duties. In the extreme wing is the brass foundry and brass work, where men with 'patient touches of ingenious art' fashion metal into forms of beauty."

STONE CHAIR IN LENHAM CHURCH.

Sir,—To the inquiries of your correspondent "C.," at p. 90 *ante*, in reference to the stone chair, I would refer him to the paper of Mr. Wells, an extract from which is quoted at p. 640, Vol. II. of your journal. No authority can be cited in support of the opinion of a confessional being placed *in the chancel*.

The views of your correspondent as regards the chair are much the same as that of Mr. Wells. He, however, appears to be mistaken as to the small stone at the side of the chair, "described as the kneeling stone," which he says "may have served for a seat to one of the officiating chorister boys." On looking to the plan and perspective views given in Vol. II., it is obvious this stone could not be conveniently used as a seat, because the lower part is only about 6 inches from the floor, and the upper part (next the chair), is scarcely 7 inches wide, whilst the part before the wall does not exceed 3 inches.

It is well known, at least to Roman Catholics, that after the celebration of mass, the priest retires to one side of the altar to pray in silence with his face towards the east, and there is no reason to doubt that the so-called small seat or kneeling stone was appropriated for that use.—I am, Sir, &c.

Gorey, Feb. 23rd, 1846. J. R.

THE MIDDLESEX NEW PRISON.

The first stone of the new building, to be called "The Middlesex House of Detention," will be laid during the course of the ensuing month. The prison inspectors have furnished the designs. A correspondent informs us that Mr. Grimsdell, of Sun-street, Bishopsgate, is the builder, and that his contract amounts to 30,000*l.*, independent of the old building materials, which are calculated to be of the value of from 10,000*l.* to 12,000*l.* The builder is under terms to complete the prison in eighteen months from the present time.

The old prison, which has been demolished, was erected in the reign of James II.

GENERAL MEETING OF BRITISH ARCHÆOLOGICAL ASSOCIATION.

The general meeting of members was held on Wednesday evening last in the theatre of the Western Literary Institution. Mr. Pettigrew, the treasurer, on taking the chair, said he was authorized by their noble president, Lord Albert Conyngham, to convey to the meeting expressions of regret, that ill-health again prevented him from attending the meeting, and to assure them that his lordship continued to feel the deepest interest in the welfare of the association.

The balance-sheet, verified in more than usually strong terms by Dr. Copeland and the Rev. J. Ellis, auditors, shewed that the receipts from the foundation of the association, in 1843, amounted to 839*l.* 7*s.* and the expenditure to 724*l.* 12*s.* 10½*d.*, shewing a balance in favour of the society of 114*l.* 14*s.* 1½*d.*

The chairman said, considering the cost of printing and illustrating works, and that the expenditure just stated, included the expense of the journal, it must be a matter of surprise that so much had been done with little money. This could not have been effected but for the general good feeling of the contributors, and he must say, that they were especially indebted to their artist, Mr. Fairholt.

Warm votes of thanks were passed to the president, the treasurer, the honorary secretaries (Mr. Croker and Mr. Roach Smith), Mr. Fairholt, Mr. Wright, and the contributors to journal; Mr. Isaacson, Mr. Britton, Mr. Arden, Mr. Jerdan, Mr. Menzies, Mr. Lott, Mr. Rosser, in addition to the gentlemen named, taking part in the proceedings. Officers for the ensuing year were ballotted for, and a code of laws submitted.

INSTITUTION OF CIVIL ENGINEERS.

VIADUCTS—RAILS AND SLEEPERS—INCRUSTATION OF BOILERS.

Feb. 24th, 1846.—Sir John Rennie, president, in the chair. The first paper read was a "Description of the Dinting Vale Viaduct, on the line of the Sheffield and Manchester Railway," by A. S. Jee, member. This viaduct consists of sixteen arches, five of which are of timber, and eleven of brick. The whole of the large piers, wings, outside spandrils and parapets are built of stone from the quarries in the neighbourhood. The five large arches, which are each of 125 feet span, and 25 feet versed sine, are built of Memel timber; the main ribs of these arches are composed of planking three inches thick, bent and laid longitudinally, and fastened together with oak trenails, and firmly stayed by means of wrought-iron tie rods. The smaller semi-circular arches, situated at each end of the viaduct, are built of brick, with stone quoins. They are of 50 feet in the span, and three feet in thickness, and are built in a curve of forty chains radius, the piers being wedge-shaped, to suit the curve, leaving the faces parallel with each other. The entire cost of the viaduct (which was given in its various details in the paper) was stated to be 35,250*l.* 6*s.* 5*d.*, its total length 484 yards, and its greatest height about 125 feet above the water-course. It was commenced early in 1843, and was opened on the 8th of August, 1844. The average cost of construction was calculated to be about 2*l.* 14*s.* per superficial yard, and 6*s.* 9*d.* per cubic yard, the viaduct being eight yards wide.

The paper by Mr. G. W. Hemans, member, described the system invented by Sir John MacNeill, and employed on the Dublin and Drogheda Railway for preparing the transverse sleepers, and fastening the rails upon them. The sleepers are half baulks, 12 inches by 6 inches at the junction of the rails, and intermediately, half trees of larch, with the bark on, not less than 8 inches by 4 inches, are placed with the round side upwards, at an average distance of 2 feet 6 inches apart. These sleepers are prepared for bearing the rails by fixing twelve at a time on a sliding table similar to that of a planing machine; they are moved forward by steam power beneath two circular cutters, set at the given distance of the gauge apart, and revolving very rapidly, and which pass through the whole series of sleepers, cutting at a given inclination the seats for the rails. A slight stoppage of the table takes place as each sleeper is cut, in order to afford time for four drills to descend simultaneously, and to pierce the holes for the pins or trenails for holding down the rails. An engine of six-horse power suffices for working two of these machines, by which one thousand sleepers can be finished complete in twenty-four hours, at an expense of about one penny each, instead of twopence-halfpenny each, which they formerly cost by manual labour. The sleepers, thus prepared, are used transversely beneath rails of the bridge, from which the sides are slightly pinched inwards in finishing, so as to form a dovetail, with a joint plate with a raised rib, which is laid at each junction, and which, by using a screw-pin and plate at one end, and a collar-headed pin at the other, holds the rail very fast, preventing lateral and vertical motion, but permitting longitudinal action in expansion and contraction. These rails weigh eighty-three pounds per yard. The total cost per mile of the double line, including rails, sleepers, pins, spikes, joint chairs, &c., laid complete, is stated at 3,470*l.* 2*s.* 8*d.*, when the rails cost 7*l.* 5*s.* per ton.

The paper by Mr. W. Vanderkiete, Assoc. described a very useful arrangement of machinery for working the diving bell used in setting the masonry, at a depth of about 8 feet, below the level of extraordinary spring tides, in the extension of the pier at Kilrush in the river Shannon, under the direction of Mr. T. Rhodes, the chief engineer of the Shannon commissioners. Upon a series of piles and longitudinal timbers a railway was laid, upon which two travelling platforms were constructed, with winches, &c. One of them brought the stone nearly over its intended position and lowered it into the sea; the other then brought the diving bell over it, and by means of a chain and purchase the stone was lifted and placed properly in its place by the men in the bell. This work was continued through all the seasons, and with the utmost regularity, and the work so constructed was as solid as if built on dry land. The drawings accompanying the paper gave all the details of the machinery.

March 3.—Sir John Rennie, president, in the chair. The discussion upon the incrustation of boilers was renewed, and it was attempted to be shewn, that, viewed chemically, the muriate of ammonia might act prejudiciously upon the copper and iron of boilers; that the two metals, in combination with a saline solution, would induce a powerful galvanic effect, and, if aided by the unequal action of heat on the different parts of the boiler, producing a thermo-galvanic circuit, considerable deterioration of the boiler would ensue. It was instanced, that on applying a small quantity of the muriate of ammonia in a locomotive boiler, the incrustation was immediately removed from the tubes; hence it was argued, that a chemical action upon the metal must have taken place. On the other hand, after contesting the correctness of the chemical view assumed, it was asserted, that from the small quantity of muriate of ammonia used, no perceptible chemical action could ensue, and that in practice, after several severe trials of long duration in locomotive and marine boilers, when the water was subjected to the most delicate tests, no traces of metal could be discovered. It appeared that the action of the muriate of ammonia upon the corbonate of lime forming the incrustation, was merely to disintegrate it, and render it soft and easy to be removed, for that after a given weight of incrustation had been boiled in a solution of muriate of ammonia for several hours, although it was rendered soft and pulverulent, the same weight still remained; thus proving that no sensible chemical combination had taken place. Numerous practical instances were given of the full success of Dr. Ritterbandt's invention, and the general opinion appeared to be, that by the introduction of the system he had conferred a great benefit upon the engineering world, and most particularly upon railways, where the incrustation of the tubes of the locomotives was a source not only of great expense, but not unfrequently the cause of accidents, as by reducing the production of steam, the power was diminished, the speed could not be maintained, and collisions ensued. This process of keeping the boilers free from incrustation was therefore of great importance.

On the subject of the permanent way of the Dublin and Drogheda Railway, it was argued, that although, if taken at weight for weight, there could be no doubt of the superior strength of the double T shaped rail over the bridge shaped rail, yet that in practice the travelling on the Dublin and Drogheda Railway was remarkably smooth and equable, which it was contended resulted from the firmness of the attachment of the bridge rail direct upon the sleepers, and from the general perfection of the laying of the line of rails.

On the other hand, it was shewn that a lighter double T shaped rail with good cast-iron chairs and wooden trenails for fastenings, and fixed upon triangular sleepers as on the South-Eastern Railway, would, if the same machinery had been used in the preparation, and the same amount of attention had been given to the laying down, hence produced a better line. It was admitted, that the great points in establishing a railway were to have heavier rails and stronger chairs, laid with great accuracy and constantly attended to; but that even then, unless the carriages were well constructed and adapted for their loads, no smoothness or uniformity could be insured.

The discussions were extended to such a length as to preclude the reading of any papers.

After the meeting, Dr. Paltrineri exhibited to the members in the library, his ingenious instruments for illustrating a system for obtaining the maximum of effect of all motive powers, by using the power of reaction as well as that of action.

At the monthly ballot, the following candidates were elected:—Mr. Alfred Giles, as a member; Messrs. F. Pollock, W. Harding, C. R. Sibley, J. Van Norden Bazalgette, T. R. Crampson, John Gastineau, and Allen Ransome, as associates.

FALL OF A HOUSE, WITH FATAL RESULT.

A lamentable occurrence took place at Chelmsford last week, when two persons met their deaths under the following circumstances:—Mr. Grave, his wife, and son, slept in one bed, in a room upon the ceiling of which lay a vast quantity of mortar, rubbish, and tiles, the latter having been two days previously stripped from the roof, in order to raise it and give height for another floor. The work was contracted for by Messrs. Sorrell, but Mr. Grave, anxious that it should be expedited as much as possible, desired that the tiles should remain packed upon the ceiling joists, to be convenient for replacing upon the heightened roof. A weight, it is estimated of nearly three tons, was, in consequence, placed upon the beam and joists, and about 3 A.M. on Monday, the whole fell in with a tremendous crash upon the bed in which the three persons above named were sleeping. There appears to be but little doubt, that Mr. Grave and his son met with instant death; Mrs. Grave escaped unhurt owing to one of the beams having fallen in such a manner as to entirely protect her from the superincumbent materials. At the inquest, the coroner in addressing the jury, took occasion to say, that the question they had to decide was, whether the deaths were the result of accident, or arose from a want of care and caution on the part of the builder. Every man in his calling was bound to use due care—if death was caused through his neglect, he was held criminally responsible; and he (the coroner) did not hesitate to say, that if Mr. Sorrell, being employed on this job, had had the tiles laid there without the order and direction of Mr. Grave, it would have been his duty to tell them that he was criminally responsible for the deaths, and not only him, but Guiver, who placed them there. After some consultation, the jury returned a verdict of "Accidental Death," adding —"And the jury regret that the builder did not, by personal inspection, satisfy himself as to the strength of the floor to carry the superincumbent weight."

Institute of the Fine Arts.—A general meeting of this body was held on Saturday evening last, in the great room of the Society of Arts, Adelphi. Mr. G. Foggo in the chair. A communication from Mr. Wornum was read, on the art of portrait painting in ancient Greece and Rome. Another paper was read, relative to the fine arts, and the royal patronage extended to them in Bavaria.

OXFORD ARCHITECTURAL SOCIETY.

The second meeting of the Architectural Society for this term took place on the 27th ult.; the Rev. the President of Trinity College in the chair. Fourteen new members were admitted, and seventeen candidates proposed.

The Rev. J. L. Petit read a paper "On the Principles of Gothic Archtiecture as applied to ordinary Parish Churches." Mr. Petit contrasted the heavy richness of the classic style of architecture, giving evidence of its durability from its great size, while our medieval architects designed means for diminishing the weight, and at the same time adding to the beauty and strength of the building. The classical arch was marked by the keystone, which gave weight; the Gothic arch by the point, which certainly gave lightness; the horizontal line, so necessary for effect, was marked in the classic style by the heavy cornice; in the Gothic by the light string-course. Classic towers appeared durable from their massiveness; Gothic, a firm basis, growing up into light pinnacles, surmounted by a spire, as the beautiful one of St. Mary's, Oxford, gave an idea not only of durability, but of great beauty. He preferred Gothic for its catholicity, by that he meant its suitability to all climes, ages, and materials. In regard to the latter, he spoke of classical architecture as requiring necessarily large blocks of stone, not always attainable, while the beauty of Gothic often consisted in the small pieces with which it was worked. After alluding to the uncertainty of a rule for the size of chancels, instancing various proportions (from no external appearance of any, to the one at Shotesbrook, where it was larger than the nave), Mr. Petit concluded by asserting that our old parish churches would never be found models of larger churches or cathedrals in miniature.

BUILDING OPERATIONS IN GLASGOW.

The *Glasgow Herald* says:—So near as can be ascertained, it appears that in the city and its suburbs, there have been built during the past year, 1845, or are still in progress of erection, 155 dwelling-house tenements. In Scottish towns, as is well understood, the "self-contained" domicile is little known, at least when compared with its very extensive adoption in England; for here, a tenement means an erection which will accommodate from one to sixteen separate families, or tenants—the latter of course finding access to their respective lodgings by means of common stairs. We take it that, on the average, each tenement provides accommodation for nine tenants, or that the 155 houses accommodate 1,395 families in the whole; and averaging the number of inmates in each family at six individuals, we have accommodation provided, or in the course of being provided, for 8,370 individuals. The cost of erection of each tenement varies, of course, according to the situation, the style of architecture and finishing, and the class of tenants for whom it is intended. But we are instructed, varying as the cost does from 1,000*l.* up to 2,500*l.*, that the average cost for the erection of each tenement, exclusive of the price of the site, will not be less than 1,570*l.* This will give a total of 243,350*l.* The above estimate, however, does not include anything for the erection of churches, counting-houses, manufactories, stores, public works, or for business purposes generally. It refers to dwelling-houses alone. But for the accommodation of commerce and manufactures, there is good reason to assume that during the period which we have already instanced, the sum expended amounts to from 120,000*l.* or 150,000*l.* Indeed, one block of building for business purposes is at present in course of erection, in the centre of the city, which will not cost less than 20,000*l.* Then we have to add to these the price of the ground, which forms a most important part of the aggregate charge, and cannot be set down at less than 100,000*l.*, although it is generally converted into a feu duty, or ground annual, at about 5 per cent. Thus, at any rate, in one branch of industry or production, we have in Glasgow and its suburbs, a sum operated upon, during a period short of 18 months, of no less than 450,000*l.*

Hanwell Lunatic Asylum.—A new building for the reception of pauper lunatics is to be erected at Hanwell.

Correspondence.

ERRONEOUS ESTIMATES.

Sir,—I shall feel greatly obliged by the insertion of the following:—

Tenders delivered to the trustees of Hinde[illegible] street chapel for sundry works in the schoo room; Messrs. Corderoy, surveyors.

Monson	£119
Hanson	120
Brown	117
Norton and Son	93

Shewing a difference of 56*l.* between highest and lowest in this trifling amount. Employers ought to look into the matter when such preposterous difference occurs.

I am, Sir, &c. A Regular Subscriber.

THE CARPENTERS AND JOINERS OF NOTTINGHAM.

Sir,—On Monday, March 2nd, a public meeting of the operative carpenters and joiners was held at the News House, St. James's-street, Nottingham, when the large room was crowded to excess. The chair having been taken, several resolutions were advanced, and unanimously agreed to, shewing the necessity of being united together as a trade to obtain protection in cases of emergency. The question why we, the operative carpenters and joiners of Nottingham, are not worthy of the same remuneration for our labours as the operatives of other districts will be brought forward at no very distant period. It is equally advantageous to the masters to keep the trade respectable, as to the men, so that an operative may live honestly and justly by the fruits of his labour. Also that a proper understanding be maintained between the masters and men, as it respects the rules of the trade. The meeting was so well conducted, and the feelings of every man appeared so to harmonize, as to give reasons to believe that a unity of spirit is now existing amongst us, which we trust will benefit the trade in general.

An Operative.

Miscellanea.

Proposed Masonic Hall in Liverpool.—The want of a suitable place of meeting for the freemasons in Liverpool having been felt, proposals have been issued for erecting a building to supply the want. The sum required for the edifice, and for the purchase of land is 13,000*l.*, which is to be raised by 500 shares of 26*l.* each. The prospectus says, "To aid in the architectural decoration of the town, which has recently occupied much of the attention of the local government and private enterprise, and to multiply the beautiful edifices which have recently sprung up in Liverpool, must be the fervent desire of all freemasons, as with them the art of raising superstructures, perfect in all their parts and honourable to the builder, originated; an elegant building cannot be viewed even by the most ignorant without leading to admiration and reflection, which are sure to be productive of good results in softening the mind and purifying the soul."

Public Works in Ireland.—An interesting return in reference to the several measures now before Parliament for the improvement of Ireland has been issued in the shape of a statement (obtained on the motion of Mr. Hamilton, the member for the University of Dublin) of the loans and grants to each county in Ireland by the Commissioners of Public Works. The total amount of loans sanctioned was 1,051,525*l.* 8s. 9d. The total issues were 967,755*l.* 15s.; the total sum paid as interest, 178,238*l.* 15s.; the total re-payments on account of principal, 557,521*l.* 1s.; and the total balances of principal remaining due in December last amounted to 411,397*l.* 15s. The purposes for which the loans were made are set forth; they were for turnpike-roads, railways, harbours, canals, bridges, mines, wide street commissioners, ecclesiastical commissioners, drainage commissioners, Roman Catholic chapels, and to private individuals.

Sculpture in Zinc.—The pediment of the new opera-house in Berlin is ornamented with figures representing Opera and Dance, in cast zinc.

Norwich Cathedral.—Mr. J. Adey Repton, in a letter to Mr. Roach Smith, published in the journal of the Archæological Association, makes the following observation on Norwich cathedral:—It is more than fifty years since I made many drawings in Norwich, and having been lately through the cathedral, I found great improvements which do much credit to the dean and chapter, particularly in restoring the old dark oak in the stalls in the choir, by taking away the white paint. The beautiful bronze pelican has been taken out of the lumber-room, and restored to the choir as a reading-desk, but the nest is missing. The beautiful oak door which had been taken away from the rood-loft is again restored to its place. Lofty stone spires have lately been added to the towers at the west end of the nave, and great alterations have also been made in the south transept and in the cloisters, where a few new heads were added to the figures in the bosses—particularly to Saint Denis, who holds his head in his hands; he has now another head placed between his shoulders, which verifies the old proverb, that "Two heads are better than one!" I find that all the iron bars which used to be placed over the columns are entirely gone; I well remembered those bars, that they had grooves to receive the glass, while the lower parts, between the columns, are always opened to the weather. Perhaps it is not generally known, that the earth on the north-side of the nave is at least five feet above the pavement within, which is evidently the case, as one of the bases of the columns was discovered, which proves that the original surface was much lower when the cathedral was erected; and in consequence of this accumulation of the soil, the beautiful Norman arcade appears much injured from dampness.

Little Maplestead Church.—The same gentleman says:—During a professional visit to Hedingham Castle, I went to see the curious church of Little Maplestead, and was much surprised to find it in such a disgraceful state. It is completely choaked up by the lofty pews (perhaps to protect the congregation from having the ear-ache), which very much disfigure the beautiful church; the door-post of one of the pews is placed against the middle of the font. At the west end is an old timber porch of the time of Henry VII or VIII, which is much injured by being converted into a school-room, and disfigured by a modern chimney. Surely it would be very desirable to restore this porch to its original state, and to build a new school (which, I believe, is only eighteen feet by twelve), somewhere else. It would not be attended with much expense, and could easily be done by a voluntary subscription from those who may be anxious to preserve this curious building. The grass, on the outside, round the church, should be cleared away from the building. The church of Great Maplestead may be worthy of the notice of the antiquary; it is probably a Saxon building, as the masonry of the north door is composed of long and short stones placed alternately.

Lukium, or Turkish Plaster.—The impervious and adhesive qualities of this composition, which is remarkably simple and durable, are so efficacious, that although some Taksim (tanks) are entirely beneath the earth, and thus perpetually exposed to outward infiltrations as well as inward pressure, and undoubtedly coeval with the earliest Byzantine monarchs, yet there is no record of their requiring repair, or of their having ever leaked. Water pipes of burned clay or metal joined and coated with lukium, which, when dry, becomes as hard as stone, resist the effects of humidity for ages. The following is the receipt, as now used by the Lou Yolgee (Waterway-men):—Take 100 lbs. of fresh kilned lime, finest quality, reduced to powder; ten quarts of pure linseed oil; and one or two ounces of cotton. Manipulate the lime, gradually mixing the oil and cotton in a wooden trough, until the mixture assumes the consistence of loaf-dough. Let it dry, and then break it into cakes for store or use. When required for the latter, take a sufficient quantity, moisten it with linseed oil, and with this paste give two or more coatings to the wall or pipes, allowing each coat to dry. Pipes of metal or clay can be hermetically joined by twisting well-carded hemp, saturated with lukium, round the interstices, and making it fast with cord also dipped in the mixture.—"*Three Years in Constantinople*," *by C. White.*

DESTRUCTION OF EGYPTIAN MONUMENTS. The *Athenæum* says:—"Letters from Egypt speak of the increase in the number of persons visiting Upper Egypt and Thebes, during the present year, and of the comfort and facility with which the journey is now made. That these latter do not attract the European traveller in even greater numbers, may surely be wondered at, when we consider into what an antique world they lead, and how busily the antiquarian spirit is now abroad. Another reason that should tempt the traveller to the ruined cities of the Pharaohs is, that the very influences which make them objects of archæological veneration are insuring their gradual disappearance from the eyes of the worshipper. The feeling that makes shrines of them, is the same feeling, unhappily, that induces their desecration. A correspondent of *The Times* speaks of the rapid demolition of the Egyptian monuments, under the travelling mania for carrying away unmeaning fragments—letters of an ancient legend where they stand in their solitudes by the Nile—portions of old and expressive inscriptions over the grave of a dead civilization as read in their places of the desert—in cockney-land mere patches of colour and morsels of stone. Conscious, now, of the immense value, historical and poetical, of these ancient volumes in his keeping—that, like the books of the Sibyl, increase in price as they grow fewer by decay—the pacha has directly prohibited the exportation of antiquities; but a shave of the Sphynx or a chip of the Pyramid defies him; and the peasants in the neighbourhood, taught that there is a harvest standing ready to their hand in the desert, which was sown by their fathers in the old Egyptian time, and asks no toil from them but the gathering, readily lend themselves as labourers to the work of desecration. Against the Vandalism and cupidity of his own provincial governors, who rob the treasure-house of antiquity for the materials of their modern erections, we believe that Mehemet Ali may defend his order for the preservation of these ancient monuments; but the bagmen are as inevitable as Time,—and far more rapid in their operation. These considerations should tempt the European traveller Egyptward; yet, in doing so, will, it may be feared, but increase the evil that is suggested as the temptation.

PRINCIPLES OF ART IN LANDSCAPE GARDENING.—Any creation, to be recognised as a work of art, must be such as can never be mistaken for a work of nature. It is true that art may create a work which shall be mistaken for nature; but in such a case the object created could afford no pleasure as a work of art, because it would be without the first condition, viz., artificialness; or, in other words, that kind of aspect by which art is at once recognised. Much is very properly said about the imitation of nature, because no work whatever could produce an effect upon the human mind, but such as was in accordance with those works from which the human mind receives all its impressions, and to which impressions alone it is accommodated. A work of art, therefore, that is not composed in imitation of, or, in other words, upon the same principles of composition as, the works of nature, can no more give pleasure to the human mind, as at present constituted, than an article not fit to be taken into the stomach as food can give nourishment to the human body. To imitate nature in such a way as that the object produced should be mistaken for nature, could never excite much approbation for the artist, because its very perfection, by deceiving the spectator into a belief of its reality, would prevent it from being considered as a work of art. On the contrary, when an object is imitated in a totally different material from that in which it appears in nature, and the imitation is successful, the applause of the spectator is great in proportion to the degree of skill displayed.—*Loudon.*

SOCIETY OF ANTIQUARIES.—Following the example of their neighbours the Royals, the Council have determined on permitting the discussion of papers read. We shall have something to say shortly on matters generally in connection with the society.

Devonshire House is undergoing some re-embellishments, including the construction of a new staircase.

CHIEF COMMISSIONER OF WOODS AND WORKS.—Viscount Canning is appointed to this office.

THE GAUGE QUESTION.—The *Great Western Advertiser*, in a sensible article on this subject, says:—We cannot, indeed, without a feeling of regret, contemplate the total abandonment of the broad gauge, or divest ourselves entirely of somewhat of party spirit in its favour, so linked is it in its history, in the *éclat* it has acquired, with our own city (Bristol) and the west generally. Those points in which its superiority is pretty generally acknowledged, presented so much of superficial attractiveness, the roomy luxury of the carriages, the width of the lines, and size of the tunnels, the grandiose character of the whole, together with the fact of a higher average rate of speed being maintained on the broad than on the narrower lines, that to forego them seems like retreating from an important position established in the advance; but viewing the matter in its really important aspects as a purely commercial question, we cannot but admit the policy of resigning advantages, which could only be maintained at a greatly more than equivalent cost. The point decided against the advisability of permitting the extension of the broad gauge system, the next question to be disposed of, was, whether the broad lines, already in operation, should continue as they are, or be altered to accord with the general standard; and if the latter, at whose expense? For them to continue as they are, would be an inconvenience to the public, and we believe not advantageous to the respective companies, on account of the isolation of the lines, caused by the break of gauge; and were it not for the expense attendant upon the alteration, we have no doubt that the shareholders in the broad gauge lines would benefit by the change.

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For supplying her Majesty's Dockyards with Soft Melting Pig Iron.

For Warming the County Prison, Fisherton Anger, Salisbury. The visiting magistrates are also willing to receive new plans for effecting the same object.

For supplying the East-India Company with British Iron.

For the execution of Works on the Leeds and Thirsk Railway, being the Pannal contract, in length 12,445 yards.

For Paving and Repairing the Carriage-ways and Footways in the parish of St. Paul, Covent-garden, and providing Materials for the same.

For the Repair of the Foot and Carriage-ways of New Church-street, Bermondsey.

For the execution of Works on the South Wales Railway, being a length of about 14 miles, including tunnels, and a large amount of earth-work.

For supplying her Majesty's Victualling Stores at Deptford, for twelve months certain, with truss hoops.

For New Paving and Repairing the Footways in the parish of St. Mary, Islington.

For executing the Repairs of the Chancel of St. Mary's Church, Bury St. Edmunds.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

Upon the Abbey Estate, Ixwood, Suffolk: a large quantity of capital young oak, ash, poplar, and larch trees.

At Eye, Suffolk: 30 oak, ash, fir, willow, and beech timber trees of upland growth, &c.

At Lett's Wharf, Lambeth: an extensive stock of well-seasoned Baltic oak and wainscot planks, Quebec oak ditto, &c.

At 89, John-street, Tottenham-court-road, Spanish aud Honduras mahogany in logs, planks, boards, and veneers; rosewood, cedar, wainscot, deals, beech, &c.

At the Bull Inn, Attleborough, Norfolk: 216 oak, ash, elm, and other timber trees, now growing.

At Bottisham Hall, Cambridge: the annual sale, consisting of maple, ash, elm, beech, and other timber trees.

On the Upware Farm, at Wicken, Mildenhall: 200 ash, elm, willow, and poplar trees, of excellent quality, and varying in size to 30 feet.

At Chobham, three miles from the Woking station: South-Western Railway: 186 elm, 20 ash, and 85 oak timber trees, &c.

At the Crown Inn, Langford Budville, Somerset: 100 maiden oak, 30 maiden ash, 30 maiden elm, and 5 maiden beech timber trees, &c. They are of large dimensions, and excellent quality.

On the Benaire-hall Estate, near Wrentham: a quantity of ash, fir, and oak stands, poles, &c.

TO CORRESPONDENTS.

"J. C. (Guildford)."—*We have not M. Leonard's address.*

"Curb Stones, Paris."—*We shall avail ourselves of the sketch obligingly sent.*

"New Cross Turnpike-Road Trust."—*The clerks are Messrs. Smith and Finch, Crooms-hill, Greenwich.*

"Sliding Doors."—*A correspondent wishes to know "the best method of hanging barn doors to slide, and where there are any good examples to be seen. I am informed the sliding principle has been adopted to the barn doors of several of our first-rate or model farmeries of recent erection. Several methods of the sort are in use at the railway stations."*

"Cost of Railways."—*T. R. asks, "What is a fair price for laying down a permanent line of rails on railway, labour only?"*

"A. B."—*We might mislead by replying without fuller knowledge of the circumstances. If the old wall is to become a party-wall, it must of course be made of the thickness required for the larger building. Query, can the building be placed there at all?*

Next Week: "W. Y.," "Mr. Scoles on the Parthenon," "Reply as to Gradients."

Received: "J. L.," "J. R." (Brighton), "Companion to the Fourth Edition of Glossary of Terms used in Gothic Architecture," &c. (J. H. Parker, Oxford), "Ecclesiologist" for March (Rivington), Haselden's "Designs as manufactured in Papier Maché," "Westminster Review" for March.

ADVERTISEMENTS.

TO ARCHITECTS, BUILDERS, & BRICK MAKERS.

PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Roads, Gardens, and for Liquid Manure. BRICKMAKERS' PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to 12-inch bore, kept for Hire.

BENJ. FOWLER, 63, Dorset-street, Fleet-street.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—Wyatt, Parker, and Co., Agents. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

ORNAMENTAL TILES FOR COVERING BUILDINGS.

ROBERT BROWNE'S newly-invented CURVED ITALIAN TILES, for which invention the Society of Arts and Sciences awarded a medal. The Gothic Grooved Ridge Tile, with vertical ornaments, invented by R. B. in 1840; also a variety of plain Gothic Ridge Tiles adapted for tile or slate coverings; ornamental Plain Tiles of various patterns.

Tiles form in winter a warmer and in summer a cooler covering than slates or metal, and may be burnt of any desired colour. Address ROBERT BROWN, Tile Works, Surbiton Hill, near Kingston, Surrey.

HIP TILES to suit slate roofs in colour; Ridges, with plain or rebated joints, roll tops, and vertical ornaments; drains, many sizes, with plain or socket joints; paving in squares, hexagons, octagons, &c., different colours; roofing, in Grecian or Italian styles, other devices also, or plain; conduits, which do not injure pure water; fire-bricks and tiles; clinkers, and out-door paving; sundry wall-coping, garden-borders, chimney-tops; also tubular and other flues of peculiar material. No agent, but a depôt at 22, WHITEFRIARS-STREET, FLEET-STREET, LONDON, under Mr. PEAKE'S personal care, to supply genuine TERRO-METALLIC goods at fair prices as per quality; also, additional Stock at No. 4 Wharf, Macclesfield-street, South, City Basin.

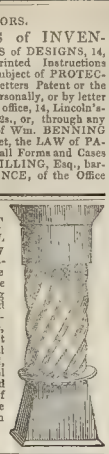
The TILERIES, TUNSTALL, STAFFORDSHIRE, are near the centre of England, whence boats are sent direct to any inland place; or to the Mersey for the coasts, the colonies, and elsewhere.

THE CAMPAIGN on the SUTLEJ creating immense interest at the present moment, there is exhibiting at the ROYAL POLYTECHNIC INSTITUTION, Portraits of the most distinguished Men both in the SIKH ARMY and GOVERNMENT of LAHORE, taken by a lady of rank, distinguished in the Fine Arts, during her residence in India. By means of the OPAQUE MICROSCOPE, these interesting Portraits are on a magnificent scale. Mornings, at Half-past Four o'clock; Evenings, at a Quarter to Ten. The LECTURES include those on ASTRONOMY, during Lent on Mondays, Wednesdays, and Fridays, COLEMAN'S WORKING MODEL ascending and descending Inclined Planes, &c. &c. &c. Admission, 1s.; Schools, Half-price.

ROYAL ADELAIDE GALLERY.—Grand new Series of Novelties.—This Day, March 4, and during the week, les PETITES DANSEUSES ANGLAISES, or Band of Infant Figurantes, will commence their engagement. The American Palmer, the most celebrated Nigger Melodist and Banjo Player of the day, will also make his first appearance; Professor Morri and his infant Sons will introduce their classical and gymnastic evolutions in the style of Professor Risley; and Mr. J. Russell will give his new entertainment entitled Table Talk. The vocalists have been increased in number, and arrangements have been completed for giving a grand vocal and instrumental Concert, in addition to the other attractions, every evening; the Gas Microscope, Chromatrope, Dissolving Views, Chemical Lectures, and the Atmospheric Railways, morning and evening.

NOTICE TO INVENTORS.

OFFICE for PATENTS of INVENTIONS and REGISTRATIONS of DESIGNS, 14, LINCOLN'S-INN-FIELDS.—The printed Instructions gratis, and every information upon the subject of PROTECTION for INVENTIONS, either by Letters Patent or the Designs Act, may be had by applying personally, or by letter (prepaid) to Mr. Alexander Prince, at the office, 14, Lincoln's-inn-fields. Where may be had, price 12s., or, through any bookseller in the United Kingdom, of Wm. BENNING and Co., law booksellers, 43, Fleet-street, the LAW of PATENTS and REGISTRATIONS, with all Forms and Cases up to the present time, by SIDNEY BILLING, Esq., barrister-at-law, and ALEXANDER PRINCE, of the Office for Patents, 14, Lincoln's-inn-fields.



WILSON'S PATENT VENTILATING SPIRAL CHIMNEY POT, for the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success. This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance. The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory, Southwark-bridge Iron Roofing Works.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 20s. per gallon.

STEPHENS'S LIQUID OAK, MAHOGANY, ROSE, and SATIN WOOD STAINS, for Staining various sorts of Inferior Woods, so as to give them the appearance and character of the more costly and ornamental kinds; also for reviving the natural colour of Wood Carvings and Panellings, and other ornamental Wood Work, when such has become faded from age or other causes.

IN THE BUILDING AND DECORATING NEW CHURCHES, where it is desirable to give to the cheaper kind of Woods the appearance of Antique Oak, or to make Deal assume the character of Oak Panelling, whereby the effect of the more costly may be produced by the use of a cheaper material, these Stains will be found more effective than any means hitherto employed.

IN OLD MANSIONS AND HALLS, where the Wood Carvings and Panellings have faded, the application of these Stains will be found to revive and bring back the rich natural colour, and which colour may be varied from the lighter to the deeper shades of the most Antique Oak.

The BIRCH WOOD, which has a fine natural grain, with little colour, is particularly suited to the application of these Stains; and the appearance which it assumes after Staining is so near that of the natural wood, that is is only when the grain and colour of the latter is particularly fine that it is preferred. Beech, Birch, Elm, Ash, and other Woods, English and Foreign, receive the Stains and produce various imitations.

For the exposed Timbers of the inside of the ROOFS of CHURCHES, for which north country Timbers and Deals are generally used, by brushing them over with the Stain, which operation is very rapidly, and of course economically, effected, the appearance of an Oaken Roof will be produced. For colouring the backs of the Seats, Pews, the fronts of Galleries, the Pulpit, &c., it is equally advantageous.

Prepared by HENRY STEPHENS, and may be obtained at 54, Stamford-street; of Mrs. ROWLAND, Painter and Glazier, 3, Broad-street, Golden-square; at the Office of "THE BUILDER," 2, York-street, Covent-garden, and in Manchester, at Crake's Marble Works, Garratt-bridge, David-street, at which places specimens of their application may be seen.

CALIGRAPHIC BLACK LEAD PENCIL.
Manufactured by E. WOLFF and SON, 23, Church-street, Spitalfields, London.

THE CALIGRAPHIC PENCILS have been invented by E. WOLFF and SON, after the expenditure of much time and labour. They are the result of many experiments; and every effort that ingenuity and experience could suggest has been made to ensure the highest degree of excellence, and the profession may rely upon their being all that can be desired. They are perfectly free from grit; and for richness of tone, depth of colour, delicacy of tint, and evenness of texture, they are not to be equalled by the best Cumberland Lead that can be obtained at the present time, and are infinitely superior to every other description of pencil now in use.

The Caligraphic Pencils will also recommend themselves to all who use the Black Lead Pencil as an instrument of professional importance or recreation, by their being little more than half the price of other pencils—

H, HH, HHH, HB, B, BB, F, FF, W* .... 4s. per doz.
BBB, EHB ..... 8s. "
BBBB ..... 12s. "

* This pencil is particularly recommended for writing and counting-house use.

An Allowance on every Gross purchased by Artists or Teachers.

May be had of all Artists' Colourmen, Stationers, Booksellers, &c.

A single Pencil will be forwarded as a sample, upon the receipt of postage stamps to the amount.

CAUTION.—To prevent imposition a highly finished and embossed protection wrapper, difficult of imitation, is put round each dozen of Pencils. Each Pencil will be stamped on both sides, "Caligraphic Black Lead, E. Wolff and Son, London."

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CAEN STONE.

LUARD and BEEDHAM have a quantity of the above stone, of the best quality, direct from their Quarries at Allemange, which may be inspected at the Norway Sufferance Wharf, Greenwich.—Further particulars at Mr. G. GATES', 18, SOUTHWARK-SQUARE, SOUTHWARK.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

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TO ARCHITECTS AND BUILDERS.

COLLINGE'S PATENT HINGES.—Sole Manufactory, 64, BRIDGE-ROAD, LAMBETH, where a great variety are always on view, for Church, Park, Coach-house, and all other Doors and Gates, of large or small dimensions, a gate of a ton in weight moving with these hinges as easily as a wicket; they are also admirably adapted for drawing-rooms, being highly ornamental, and folding-doors fitted with them may be removed and replaced in an instant. Rising and spring Hinges, also double-action Butts on the most improved principle, and very superior Fastenings for exterior Gates, at moderate prices. To be seen at Charles Collinge and Co's Patent Axletree, Sugar-mill and Spherical-hinge Manufactory, 64, Bridge-road, Lambeth.

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THE Economy and Safety of DREDGE'S PATENT PRINCIPLE are explained in the "Mechanic's Magazine" No. 1172, and practically proved in Fifteen Public Bridges in Great Britain alone, four of which are Country Bridges for Common Road Traffic, varying from 40 to 294 feet in length. The continual destruction of Bridges and Viaducts is owing to an error of principle in their construction which is this. The line of equal horizontal thrust or pressure, both in suspension and compression bridges, should be sustained by the roadway, and not by the arch, as it universally is in the old systems; and hence the cost, the undulation and oscillation, and destruction of bridges are enormous.

Bath, Feb. 1846.

CHARLES SMITH and SON, 52, GREAT CHARLES STREET, BIRMINGHAM, (late STANDLY and SMITH, formerly STANDLY and GALE, Bull Street), Locksmiths, Bell-hangers, Brass-founders, Whitesmiths, &c., beg most respectfully to solicit the attention of MAGISTRATES, ARCHITECTS, and ENGINEERS to their inventions for prisons, lunatic asylums, &c. C. S. and Son will be happy to attend any committee of magistrates without charge, and submit a VARIETY of patterns of peculiar locks, signals, inspection apparatus, chapel door-fastenings, iron frames, hinges, &c., as supplied them at the MODEL PRISON, LONDON, and TWENTY-THREE SIMILAR GAOLS, where they have given entire satisfaction. Among other testimonials, can be shewn that of Major Jebb, attesting the efficiency of the labels, &c., invented by them. The contracts will be executed to the approval of the inspector-general of prisons, and the architects, C. Smith and Son, also are prepared to contract for the supply of the whole of the ironmongery requisites for the residences of the nobility and gentry, churches, banks, barracks, gaols, asylums, and workhouses, including locks, bells, hinges, grates, kitchen-ranges, staircases, gates, park fencing, fire-proof safes, bookcases, doors, metal sashes of all kinds, and every description of ornamental brass and iron work, light castings, &c.

C. S. and Son beg to refer to the extensive works performed by them at Windsor Castle, Northumberland and Sion House, Blenheim Palace, Chatsworth, &c. as a guarantee for the superiority and durability of their work, in confirmation of which numerous letters from noblemen can be shewn.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

The Builder.

No. CLXII.

SATURDAY, MARCH 14, 1846.

THE connection of architecture, sculpture, and painting, and their value to each other; the elevation of the general standard of taste, by rendering the finest productions of art familiar to the eyes of all; the union of decorative and historical art; the importance of inducing artists to discard the notion that the application of their skill to decorative purposes would be derogatory; and the dearth of a middle-class of artists willing to work under, and carry out efficiently, the designs of others,—are all strongly felt by us, and have been urged on various occasions, to the extent of our power.

Architecture has too long stood aloof from her sister-arts, proudly self-sufficient, and, notwithstanding numerous examples of the admirable, and not to be otherwise obtained, effect of harmoniously working in concert with them, first affected a contempt for their aid, and came at last to feel it: so much so, indeed, that many persons are still found who object *in toto* to the polychromatic decoration of architectural structures. These, however, are many fewer than they were five years ago: in all our recent buildings, the importance of the combination is admitted, and Mr. Barry's *opus magnum* will display it carried to a high extent. We foresee a considerable and increasing demand for artistical decoration,—architects are now strongly disposed to avail themselves of it wherever it is practicable, and we sincerely hope that no difficulty will be found in obtaining from amongst their countrymen the aid they seek.

The exercise of high art on a mean material does not lower the art, but exalts the material. The hand of a man of genius can dignify a pebble, and make a plaster ceiling a shrine for pilgrims.

The greatest artists the world ever saw, have not refused to employ themselves in what is called decoration, but is something more, because they have made it so. Cimabue, Giotto, and their scholars, in the 13th and 14th centuries; Perugino, in the 15th; Raffaelle, (called without impiety, by those who can best appreciate him, the *divine,*) and Giulio Romano, in the 16th, and the universally-gifted Michael Angelo, in the 17th, have left in the churches and palaces of Florence, on the vaults and walls of the Vatican, the Villa Madama, and elsewhere, striking proofs at once of their genius, and of the necessity of having one head and many hands for works of this description. As it took many poets to make Homer, so were many painters needed to produce Raffaelle: tributary streams to form a noble river, but which nevertheless maintained in many cases their individuality, and having played their part in effecting works of universal benefit, emerged the stronger for the aid they had given, and pursued their own course to fame.

The considerations thus briefly stated, and one other, lead us to regard with considerable interest the decoration of Her Majesty's Theatre, which has been effected in the incredibly short space of ten weeks (including stripping the old house, and recanvassing preparatory for the paintings), and is unquestionably a highly successful work,—in fact, we are disposed to say, the most successful work of its kind yet achieved in London.

Many persons have necessarily been employed upon it; and to all great praise is due. The Raffaelesques were chiefly directed by Mr. Sang and his German corps. Mr. Marshall, the artist attached to the theatre, assisted by Mr. Wright, has ably executed the most important subjects, including the ceiling. The figures in the medallions and in the panels, of the first tier, were executed by Mr. Powel and his assistants, Mr. Dessurne, Mr. Fox, Mr. Roho, Mr. Shaw, and Mr. Earl, all students of the Royal Academy. To all these gentlemen, as we have already said, and to others employed, great praise is due; but it is left for us to state, that the merit of the work as a whole, of course the chief merit, is due to Mr. John Johnson, Architect, of the Adelphi, who went into Italy some short time ago as travelling student of the Royal Academy. Mr. Johnson's name has hardly been mentioned in connection with the work (not unusual with architects), and we consider it our duty on that account, to bring it forward more prominently than we might otherwise have done, and to claim for him the credit of the undertaking as a whole, with due acknowledgment of the great praise to which Mr. Lumley is entitled for his taste and liberality. Some time since, Mr. Johnson designed the decorations of the Earl of Pembroke's mansion in Carlton-gardens, and this led to his introduction to the manager, who employed him in the work under consideration, without any limitation or control.

Considering that other styles of decoration had become hackneyed, he resolved to adopt the style used by Raffaelle and his pupils, which he had studied carefully in Italy; and he has carried out his intention most successfully. The chief merit of the design,—its one-ness, its accordance and continuity,—is the result of one mind having controlled the whole.

We shall not attempt very minute description of the ornaments. The front of each tier of boxes is varied, both in design and character. The lower tier has medallions from Raffaelle, Giulio Romano, and Pompeii, in centre of lozenge-shaped panels, containing figures on a chocolate-coloured ground. The next tier has also figures, on metal back-ground. The succeeding tiers are more purely decorative, and the embellishments, as they approach the roof, become progressively lighter. The ceiling, taken in part from the Villa Madama, connects historical and decorative art, and contains Albano's "Four Elements," with copies of other celebrated works; and over the proscenium is the "Aurora" of Guido charmingly enwreathed.

The tone is perfect. Notwithstanding the infinite variety, the life and movement of all the parts, the effect of the whole is subdued and unobtrusive, and the eye wanders from point to point, pleased and never tired, to rest ultimately on the stage, which is decorated with a drop scene executed by Stanfield, with the aid of Mr. Telbin and Mr. John Absolon. The scene is architectural, of the same character as the decorations of the house, and by its arrangement gives the effect of great space to the stage.

When looking towards the house from the stalls or pit, a charming effect is observable in the gallery; the ceiling is coloured blue, and as seen beyond a broad band of Raffaelesques, the termination of the ceiling of the vaulted house, gives the notion of a brilliant nigh in a more balmy land.

M. Hittorff, in a report on a collection of decorations taken from the antique and the works of the Renaissance, printed in the "Annales de la Société libre des Beaux Arts," says (when urging the practice of this mode of decoration), it is especially necessary to master the principles established by the ancients, and to adhere to them in avoiding, amidst variety and abundance, that confusion which fatigues the eye and troubles the mind. It is important to obtain above all a unity of thought, a harmonious relation between all the parts; a symmetry, if not rigorous, at least apparent in the principal subjects; it is necessary that men of talent commissioned to execute such works should remember, that the greatest and most sincere admirers of the painter of the Loggie of the Vatican, all admit, that he there passed the limits wisely placed by the ancients; that blinded by too great confidence in the power of his genius, led into it also, perhaps, by the dazzling facility of execution possessed by his able pupils, he remained behind his masters; in short, that Raffaelle did not possess, like them, the great art of being magnificent with moderation, rich with simplicity, and of attaining, with the employment of the most varied creations, that most important of all qualities—*unity*.

We cannot more highly compliment the parties concerned in the decoration of her Majesty's Theatre than by saying, in conclusion, that they have all borne in mind the importance of this great quality, and have achieved remarkable success.

The public have good reason to be dissatisfied with the eagerness exhibited by the Government to pass the new Metropolitan Buildings Bill into a law. No good can possibly result from such unwise haste, and evils which might be anticipated and avoided, will most probably be produced. On Saturday last, the bill was first published, on Wednesday last it was read a third time and passed the House of Commons without the slightest discussion. A copy of it *in extenso* will be found in our present number, but we fear we shall fail in our object, which was to call the attention of the public to its several features, and to elicit suggestions. We are foiled in this, at all events so far as the House of Commons is concerned. Let us hope that the Upper House will give the measure a more calm consideration, and allow of its points being discussed out of doors before it pass into a law.

We shall give it consideration next week. The intention of one of the clauses seems quite incomprehensible. It is greatly to be feared, that passing the Bill in question will have the serious effect of postponing the much called for revision of the existing Act.

ROYAL INSTITUTE OF ARCHITECTS.—An ordinary meeting of the Institute was held on Monday evening last, Mr. Papworth in the chair. Mr. Donaldson exhibited specimens of a fine work on the fresco paintings of Pompeii and Herculaneum, by Mr. Ternite, with a text by Professor Welker. The honorary secretary read part of the prize-essay on brick, by Mr. Worthington, which gives a history of this material, beginning, as in duty bound, before the building of Babel, and ending one day last week. We will speak of the merits of the paper when the remainder has been read.

LIVERPOOL TOWN-HALL.—The grand staircase is to be decorated by Mr. Ingram, of Birmingham, at a cost of nearly 1,000*l*.

ON THE CURVED LINES OF THE PARTHENON.

THEORY OF ENTASIS.

BY F. C. PENROSE, ARCHITECT.

It is only recently that it has been observed that the line of the steps of the Parthenon and Temple of Theseus, at Athens, are not horizontal, but curve upwards in a vertical plane. Mr. John Pennythorne was the first, I believe, to observe this, but he unfortunately did not immediately publish it. It first appeared in a Vienna journal, I think in the year 1841.

I will begin at once to describe some observations which I made on this subject during a stay of three months at Athens last year. I will confine myself to the eastern front of the Parthenon.

I shall adopt the notation of the English foot decimally divided, which it is to be hoped may soon become universal.

On proceeding to level from the highest point of the S.E. angle of upper step, I obtained the following ordinates, taken at the centre of each column.

Centre of S.E. angle.	Horizontal distance between the measured points.	Height above or below level line.
Column No.	0 — — — —	—0
1	3·34 ft. from angle	·03 ft. above
2	12·125 ft. from No. 1	·09
3	14·088 ..	·148
4	14·092 ..	·21
5	14·108 ..	·222
6	14·083 ..	·19
7	14·108 ..	·10
8	12·023 ..	·018 below
N.E. angle	101·29 .. from S.E. angle	·028 below

It will thus be seen that the N.E. angle has slightly settled. And also there are evident signs of other small settlements, so that these dimensions are not sufficient, without most minute measurement of every separate stone and crack, to determine the exact nature of the curve which the step originally had; but I am inclined to suppose that the following was very nearly the truth, viz., that the stylobate or step at the centre intercolumniation was level, and then descended at a gradient of about one in 250 to the last column but one, whence it had a fall of about 1 in 150 to the angles. The latter addition was probably to throw off rain water better, as it does not appear in the architrave, which otherwise follows exactly the line of the steps (except so far as the architrave being composed of only seven stones, has not suffered so much displacement as the stylobate, which consists of twenty-four stones). The angular columns are ·02 feet longer than the others, to compensate for this difference between the step and architrave at the angles of the building.

The columns lean inwards towards the cella, about ·225, both in the fronts and the flanks. The capitals on the contrary, have their axes leaning as much outwards as the shafts of the columns lean inwards. This construction necessarily arises from the curvature given to the stylobate and architrave, as any one may see at once by sketching the column exaggerating these differences. Of course, the angular column leans inwards at an angle of 45°, the rest are simply inclined backwards at angles to the fronts and flanks. In the columns, all the stones except the upper and lower of each are angular to the axis of the columns. These (the upper and lower courses) are the "Scamilli impares" of Vitruvius, whose obscure passage is now rendered quite clear, by the discovery of these wonderful refinements of the Greeks. They were, of course, intended to correct the false impression which the eye receives in contemplating a portico, whose lines are exactly horizontal. Vitruvius says, that in such case, the step appears to sink in the middle; but I think the method originated rather from the contemplation of the entablature than the step, as the raking lines of the pediment would have the effect by contrast, of apparently deflecting a horizontal corona, in the same way as a chord or tangent of a circle always appears bowed in a direction contrary to the curvature.

Another curious optical adjustment I observed on the south side of the building, which is, no doubt, owing to its position, immediately over-hanging the precipitous rock. Every abacus in that side is ·17 feet, or nearly two-tenths of a foot less in breadth, than those on the north side, east and western fronts. The angular abaci, again, are about ·1 foot larger than the latter.

These (the angular ones) are exactly one-fifth the height of the column. The others are exactly one-fifteenth of the upper step of the fronts, which is, in all probability, 100 Olympic feet. Those on the south side are $6\frac{1}{2}$ such feet, or ·065 × upper step.

The angular abacus is 6·849 English feet.
,, ordinary ditto 6·753 ,,
,, south side ditto 6·584 ,,

That in the British Museum is of the latter class. If the abacus (*i.e.* either of the two first) be divided into thirty parts, twenty-eight such parts will give the lower, and twenty-two the upper diameter of the column. I have found the entasis of the column to be produced by its being an hyperboloid of revolution; the principal axis of whose generating hyperbola is = 1·013 English feet (*i.e.* one hundredth part of upper step), or one Greek foot; and the distance between the foci = 60 such feet; or in mathematical language—

$$a = 1{\cdot}013 \text{ feet } ae = 30$$

$$\therefore \frac{l^2}{n^2} = 899$$

The axis or line of foci, is twice the breadth of the smaller abacus, or 13·12 feet below the upper step.

I had great satisfaction in being able to verify my own dimensions with some with which Mr. Scoles kindly favoured me. I obtained first from him only the vertical dimensions, then, on comparison, we found that the horizontal dimensions, which I obtained from the hyperbolic theory, by calculation, in nine cases out of eleven, coincided most closely with his, though the measurements which I had taken were from a different column, and taken in a different manner from his.

A BILL

TO AMEND AN ACT FOR REGULATING THE CONSTRUCTION AND USE OF BUILDINGS IN THE METROPOLIS AND ITS NEIGHBOURHOOD.

Preamble: 7 & 8 *Vict.*, *c.* 84.—Whereas an Act was passed in the session of Parliament holden in the seventh and eighth years of the reign of her present Majesty, intituled, "An Act for regulating the Construction and the Use of Buildings in the Metropolis and its Neighbourhood," whereby, amongst other provisions, one of her Majesty's principal Secretaries of State was empowered to appoint two persons, being of the profession of an architect or surveyor, to be official referees of metropolitan buildings for the purposes of the said Act, and from time to time, as he should think proper, to remove such official referees, and in their place to appoint other persons so qualified; and the Commissioners of her Majesty's Woods, Forests, Land Revenues, Works and Buildings were authorized to appoint a registrar of metropolitan buildings, who should hold his office during the pleasure of the said commissioners; and it was enacted, that the determination of such two official referees, or of one of them with the assent of the said registrar, as to all or any matters referred to them, should be binding on all parties to such reference; and that any matter required or permitted to be done by the official referees might be done by either of them with the assent of the said registrar, unless express provision to the contrary should be made, and if done by any one of them, with such assent, should be as valid and effectual as if done by both of them; and by the said Act the said official referees were prohibited from acting as surveyors, and every person being or becoming commissioner, receiver, steward, or agent of any owner of houses within the limits of the Act, was disqualified from holding the office either of official referee or of registrar under the said Act.

And whereas the duties and qualifications for office of the registrar of metropolitan buildings are of a character wholly distinct from the duties and qualifications for office of the official referees, and it would conduce to the more satisfactory execution of the recited Act if there were three official referees (all of them being of the profession of a surveyor or architect), and the acts and awards of such three official referees, or of any two of them, were made as valid and binding as if the same had been done or made under the authority of the recited Act by the two official referees thereby authorized to be appointed, or by one of them with the assent of the said registrar; and for the purpose of obtaining persons duly qualified to discharge the functions of official referees without increase of charge to the public or the localities comprised within the limits of the recited Act, it is expedient to relax in manner hereinafter mentioned the prohibitions and disqualifications appertaining to the office of official referees under the said recited Act.

1. *Appointment of an additional Referee.*—Be it therefore enacted, by the Queen's most excellent Majesty, by and with the advice and consent of the Lords spiritual and temporal, and Commons, in this present Parliament assembled, and by the authority of the same, that it shall be lawful for one of her Majesty's principal Secretaries of State, and he is hereby empowered at any time after the *passing of this Act*, and from time to time, to appoint a person, being of the profession of an architect or surveyor, to be an official referee of metropolitan buildings, in addition to the official referees authorized to be appointed by the recited Act, and from time to time, as he shall think proper, to remove such additional official referee, and to appoint any other person qualified as aforesaid in his place; and every official referee to be appointed under the authority of this Act shall make the same declaration of official fidelity, and have the same duties, powers, authority, and jurisdiction, and be subject to the same rules and regulations (save as hereinafter varied or relaxed) as if the said recited Act had authorized the appointment of three official referees, and the official referee appointed under the authority of this Act had been appointed official referee under the authority of the recited Act.

2. *Two Official Referees may act.*—And be it enacted, that all acts, matters and things by the said recited Act required, directed or permitted to be done by the official referees of metropolitan buildings, or by one of such official referees, with the assent of the registrar, may be done by the official referees appointed and to be appointed under the authority of the recited Act and of this Act, or by any two of them; and that the acts, certificates, awards, orders, and determinations of any two of the said official referees shall be as valid, binding and effectual as if the same had been done, signed, made, or determined by all the said official referees; and the assent of the said registrar of metropolitan buildings shall not be required to give effect to the same; and the assent of the said registrar shall not render valid any act, certificate, award, order or determination, done, signed or made by one only of the said official referees, which would not be valid without such assent.

3. *Official Referees may act as Surveyors with permission of Secretary of State, and disqualifications may be relaxed: Special Referees to be appointed in certain cases.*—And be it enacted, that notwithstanding any thing in the said recited Act to the contrary contained, it shall be lawful for one of her Majesty's principal Secretaries of State, if and so long only as he shall think proper, by any writing under his hand, to permit and authorize any one or more of the persons who for the time being may hold the office of official referee to act as surveyor, either alone or with any partner, or by an agent; and no person shall be ineligible or disqualified from holding the office of official referee by reason of his continuing to act as a surveyor with such permission as aforesaid, or by reason of his being or becoming commissioner, receiver, steward, or agent, for or on behalf of any owner of houses or land within the limits of the said recited Act, provided the fact of such person being or becoming such commissioner, receiver, steward, or agent be notified to one of her Majesty's principal Secretaries of State, and licensed by him in writing, before such person be appointed or continue to act as official referee; but it shall not be lawful for any person holding the said office to act as official referee in the case of any building or matter in which he shall be

employed as architect or surveyor, or where he shall be the commissioner, receiver, steward, or agent of any person interested in such building or matter; and if it shall happen that more than one of the said official referees shall be employed as architect or surveyor as to the same building or matter, or shall be the commissioner, receiver, steward, or agent of any person interested therein, or if any disagreement or difference of opinion shall arise between any two official referees who shall act as to such building or matter, not being employed as architect or surveyor, or as commissioner, receiver, steward, or agent of any person interested therein, it shall be lawful for the Commissioners of her Majesty's Woods, Forests, Land Revenues, Works and Buildings, from time to time, upon the report of the official referees or any one of them, or upon the application of any person interested in the matter in dispute, to authorize one or more competent persons, being of the profession of an architect or surveyor, to be special referees in respect of such particular building or matter either in conjunction with the acting official referee or referees, or alone, as the case may require; and every special referee authorised by the said commissioners shall, as to the particular building or matter for which he is authorized, have the same power, authority, and duties, as if he had been appointed an official referee under the authority and for the general purposes of the said recited Act; and it shall be lawful for the said commissioners to assign to every such special referee such part of the remuneration of the official referee or referees who shall be disqualified as aforesaid from acting as to such particular building or matter, or otherwise to remunerate him as the said commissioners shall think fit.

4. *Offices vacant.*—And be it enacted, that if any official referee shall act as surveyor, either alone or with any partner, or by an agent, or as commissioner, receiver, steward, or agent, for or on behalf of any owner of houses or land within the limits of the said recited Act, without the license and consent in writing of one of her Majesty's principal Secretaries of State, or shall continue to act as surveyor, either alone or with any partner, or by an agent, or to act as such commissioner, receiver, steward, or agent as aforesaid, after such license and consent shall have been withdrawn or shall have expired, then he shall cease to be qualified to hold the office of official referee, and thereupon such office shall be vacant, without prejudice nevertheless to any acts done by him in his capacity of official referee, so far as other persons are affected thereby.

5. *Salaries of Official Referees.*—And be it enacted, that it shall be lawful for her Majesty from time to time to grant such salaries for the remuneration of the said official referees respectively as her Majesty shall, as to each of them, be pleased to appoint, not exceeding in the whole for the three referees the sum of *two thousand* pounds per annum.

6. *Contributions to be paid to the Consolidated Fund and Salaries paid thereout.*—And whereas for the purpose of providing for the payment of a portion of the salaries of the official referees and registrar under the said recited Act, it was by the said Act enacted, that the lord mayor and aldermen of the city of London should direct the chamberlain of the said city, and the justices of the peace for the several counties of Middlesex, Surrey, and Kent should direct the treasurer of such respective counties to pay by two half-yearly payments in the months of June and December in every year to or into the hands of the cashier of the Commissioners of Works and Buildings on account of the said official referees, and of the said registrar, the several sums of money therein mentioned as and by way of contribution to such salaries; and it was enacted, that the balance of such salaries should be payable and paid out of the Consolidated Fund of the United Kingdom: and whereas such salaries are by the said Act directed to be paid quarterly, and the contributions towards payment of the same being payable half-yearly, it has not been practicable to pay such salaries as directed by the said Act, and it has been found inconvenient to pay the same in part out of monies contributed by the said city and counties respectively and in part out of the Consolidated Fund of the United Kingdom; BE it therefore enacted, That the several sums of money which under the said recited Act are payable by the chamberlain of the city of London, and the treasurer of the counties of Middlesex, Surrey, and Kent respectively, to the cashier of the Commissioners of Works and Buildings on account of the said official referees and of the said registrar, and all arrears and future payments thereof, shall, instead of being paid to such cashier on such account as aforesaid, be payable and paid into the receipt of her Majesty's Exchequer, and carried to the account of the Consolidated Fund of the United Kingdom of Great Britain and Ireland; *and the salaries of the official referees and registrar of metropolitan buildings for the time being, and all arrears thereof, shall be paid wholly out of the said Consolidated Fund by the Lord High Treasurer or the Commissioners of her Majesty's Treasury for the time being; and such salaries shall accrue from day to day, and be paid quarterly on the first day of January, the first day of April, the first day of July, and the first day of October in every year;* and every official referee and registrar shall be entitled to a proportionate part of his salary from the day of his appointment to the next succeeding quarter-day of payment, and from the last quarter-day of payment preceding his death, discharge from or ceasing to hold the office of official referee or registar (as the case may be) to the day of his death, discharge or ceasing to hold such office.

7. *Public Act.*—And be it enacted, that this Act shall be deemed to be a public Act, and shall be judicially taken notice of as such by all judges, justices, and others, without being specially pleaded.

8. *Act may be amended.*—And be it enacted, that this Act may be amended or repealed by any Act to be passed in the present session of Parliament.

HEALTH IN TOWNS.

On Thursday sen'night, Mr. Traice delivered a lecture on this interesting subject at the City of Westminster Literary, Scientific, and Mechanics' Institution.

The lecturer stated it to be his object to bring under the notice of his hearers a few of the more striking facts, and to accompany these with such reflections and deductions as would naturally arise from the premises. The consideration of the causes which on a large scale affect the health and duration of life of all classes of the community, in various degrees, must have the deepest interest for all parties. It addressed itself to the rich as a question of humanity, and must force on their minds the conviction, that much of their present benevolent outlay for the alleviation of sickness, and its consequences, might, by ordinary preventive measures, be rendered unnecessary, and might be devoted to even nobler purposes of philanthropy. To the middle and labouring classes the obvious and vital importance of the matter must render comment superfluous.

The most cursory glance at the subject would shew, that however great the mortality which we now have to deplore, it is inconsiderable when compared with that which devastated our towns in the 16th and 17th centuries, chiefly from causes which, it is now beyond a doubt, are readily preventible. It is speaking below the fact to say, that full half the deaths in the metropolis and other cities, during the earlier portion of the 17th century, were attributable to a neglect of those sanatory regulations which nature herself dictates, viz., the provision for health-breathing currents of pure instead of mephitic air, and the removal of all matters noxious to the senses. We were much indebted to the labours of Howard, who, undoubtedly, first gave a practical turn to the public mind in regard to the preservation of health among people congregated in dense masses. He explored the filthy dens in which our criminals were immured to engender and propagate the most deadly forms of infection; he proved that we consigned thousands of our fellow-creatures to places where water was doled out miserably, if supplied at all, and where every kind of refuse was allowed to accumulate, diffusing a pestiferous vapour, from whose insidious poison, few escaped without malignant disease. So deadly was this disease, that it was termed the gaol fever; and it is said that 2,000 lives were lost in one fleet, from the fatal infection communicated from some recently liberated prisoners. Now, if we contrast this with our gaols at the present day, we shall find, actually, that they have less sickness than falls to the lot of working people in circumstances of comparative comfort. This has been accomplished, chiefly, by a careful removal of all refuse, the maintenance of scrupulous cleanliness, and the provision of an active circulation of fresh air. In referring to various tables of mortality, which the lecturer exhibited, he observed, that it would be seen that there was a great disparity between different localities and classes of the community; that, as a general rule, the average age of the gentry far exceeded that of mechanics and labourers, and their families, perhaps by two-fifths; that, in some instances, so great was the mortality, that more than half of a given number of children born were dead before reaching their fifth year; that while in some of the rural districts the average age, at death, is among the labouring population thirty-three years, as in Wiltshire, in Bethnal Green it is narrowed to sixteen, and in Liverpool to fifteen years. It was natural to inquire whether any common evil or evils could be detected in uniform association with these respective results; and the question was fully answered by the fact, that wherever it was found that the duration of life is thus "curtailed of its fair proportions," there are none, or very imperfect means, of carrying off impurities; water lies in stagnant pools evolving miasma; pure water is an article so scarce, that cleanliness is utterly neglected, and the inhabitants are crowded into close rooms in ill-constructed houses, and in confined courts and narrow lanes, where the genial breeze can never penetrate unpolluted.

The subject of drainage had been latterly viewed in connection with a most important philosophical principle, namely, that there is no destruction or waste of matter, and that whatever chemical agents are taken from the soil in various vegetable productions, are capable of being returned to it, so as to form one endless series of vitality passing to decay, and the products of decay supplying the conditions of new organic life. This was the rationale of what were called manures, and if it were possible so to arrange, that the refuse of animal existence, which must contain the principal agents of fertility, and are chiefly deposited in drains, sewers, cesspools, could be restored to the soil, it would at once make a great approximation to a practical application of the principle just announced, and would also subserve the great object of economy which has hitherto embarrassed this question; for hitherto while on the one hand we were constantly exhausting the soil of some of its essential riches, on the other we were encumbered and perplexed, and put to enormous cost to get well rid of these ingredients, which however valuable in the field, are pollution and corruption in the city. A variety of plans had been projected to effect this adjustment; among others, he had a model of an arrangement proposed by Mr. Miggs, which consisted of three reservoirs, each adapted to receive the sewage for one tide, and by allowing its heavier matters to subside, and throwing down various organic elements by a free distribution of slacked lime, and constructing tolerably air-tight sheds over it, in which a free evolution of gases should take place to neutralize and precipitate the effluvia; it was considered possible at once to secure all the valuable chemical agents held in suspension by the fluid, and allow the water to pass off almost wholly deprived of its impurities. He could not pretend to give any opinion of this plan, further than to say, that it appeared in entire consistence with the general principles of chemical philosophy, and merited the fullest and most impartial consideration. After pointing out various evils connected with the accumulation of filth, especially in the semi-fluid state, and of the overcrowding of the population; the lecturer referred at some length to the loss, as represented both by suffering and money to the community, from a neglect of due sanatory measures, and said he had contemplated giving a series of suggestions as to the circumstances connected with the securing healthy homes for all, and especially the labouring people. But time would only allow him to recommend that in the choice of a house, they should take great care to ascertain if it had a communication with a sewer, and moreover, if under all states of the weather and tides, the drains carried off *all* impurities, that they should inform them-

selves whether any foul odours at any time prevailed in the house, and if so, to take care that their cause should be removed, or they should have nothing to do with its tenancy; that they should look with the most jealous scrutiny for indications of damp on the basement walls, and that they should avoid those abominable tenements in which there was no outlet back or front from the staircase, which, therefore, formed a *cul de sac*, a depository of whatever foul air might accumulate, to rush into the rooms and increase their closeness, instead of being, as a staircase should be, really a ventilating shaft to the building. The lecturer concluded by strongly exhorting the ladies to attend to the few hints he had ventured to put forth; in every way the most acute sufferers by the excess of disease and mortality were the gentler sex; it was they who felt the keenest sympathy for pain, and it was they also upon whom the incidence of bereavement fell most heavily.

The lecturer appeared to feel sensibly the importance of the subject, and the audience evidently took a lively interest in its exposition.

FREEMASONS OF THE CHURCH.

FORMATION OF PORTLAND VASE.

March 10.—The Rev. G. Pocock, LL.B., in the chair. Mr. W. H. Rosser, F.S.A., exhibited ten encaustic tiles. No. 1 bears a cross between five martlets, the arms attributed to Edward the Confessor, and assumed by the Abbey of Westminster; Nos. 2 and 3, the arms of Beauchamp, Earl of Warwick; No. 4 bears the arms of England, surmounted by the inscription "Fiat voluntas Dei;" No. 7 is a very curious tile, bearing the moral admonition, not to leave deeds of Christian benevolence to be done by an executor after the donor's decease. Mr. Way considers the date of this tile to be about 1450.

A paper was read on the formation of the white figures on the Portland Vase by Mr. Alfred Joseph Stothard; who expressed his surprise that so simple a thing should not have been better understood, and that such a theory as Mr. Doubleday's* should be so widely sent forth in various periodicals without being taken notice of in an equally public manner; that such erroneous views might not be productive of an impression of the impossibility of producing vases of such a character in the present day, induced Mr. Stothard to offer some observations on the subject. He was sorry to differ from one whose opinion he respected, and to whom the public were greatly indebted for many casts of ancient seals. Mr. Stothard reviewed the opinions of Messrs. Doubleday, Pellatt, and Christie, and Miss P. Ensell; with regard to the latter opinion, he ventured to hope that a previous model was made on the vase, from which model an intaglio should be produced for transferring the desired cameo on the vase; if this was not done, that lady's plan would be as tedious and hopeless as Mr. Doubleday's. Mr. Stothard then detailed his method as follows:—Having the body of the vase before me, composed of blue glass, I should draw very carefully thereon the extreme outline of the subject which I was desirous of raising on it. This done, I would pass a layer of varnish over the whole, excepting those parts for my figures; when this is dry then dip the whole into fluoric acid; this will cause such parts as are exposed to the acid to be roughened. I should remove the varnish with turpentine, and then model my subject on the rough ground. The model being finished, I proceed to mould it, with a preparation of lime and plaister of Paris, the former being mixed with the latter, in order to admit of heat without cracking, observing to fix some pieces of clean copper wire about eight inches long into the extremities or finer parts of my model. These wires I should afterwards grease—their use will appear in our progress, and will prove of great importance hereafter. When the mould is complete, being perhaps in three or four pieces, when become hard, or what is termed set, I remove the first portion, drawing out the wire therefrom; but before I remove the second portion I should mark (on the top and bottom of the body of the vase now exposed to view) where the union of these first and second portions met at the sides. I may now safely remove the other parts of the mould, being careful in drawing out all the wires first; the portions of the mould should be well dried, and while that is doing, my model should be cleared off the body of the vase, and the latter well cleansed from grease, but not removing the marks made thereon, top and bottom, when taking off the first portion of the mould. I should then pierce gates or channels through various parts of my mould, these being commenced from the internal part, always observing that they be made through parts of the figures. These channels are made for the passage of the white glass in casting, when the mould is put together on the body of the vase, observing that the outward orifices of these, and where the wires were withdrawn from, should be enlarged for the more free access of the glass when casting the subjects. When enlarging these, it should be done without permitting any part so cut away passing into the channel; this is easily avoided by holding such parts downwards when cutting away. I now put the mould together on the vase, observing that the marks top and bottom are my guides in placing the first portion of it precisely where it was before the removal from the model; having fixed this firmly, there will be no difficulty—the other portions especially—if marked with 1, 2, and 3 notches on the outer edges of the mould; and when all is so fixed firmly together and warmed, it is ready for completing the production of my subjects in glass, which is done by having a vessel of white glass in a fluid state, and pouring a portion thereof into the first gate or channel until full; and such confined air as would prevent the white glass from passing into the extremities of your group will find escape up the apertures left by the wires. When this first part is cool or set, proceed with casting the others. All the gates being filled and the whole nearly cool, place it into moderately warm water, and after one hour the mould will easily relieve or remove, and the parts of the figures to which the gates were attached, should be repaired after their removal, and the surface of the figures polished, as in gem engraving, and the vase be thus completed. Having now reviewed Miss P. Ensell's theory, and suggested my mode to form the figures on the Portland Vase without the aid of petrifying springs, it may be considered by some as impossible, that the glass could find its way into the parts of the subject which were very faint or of low relief. I do not anticipate any such difficulty, but if so, this might be remedied by leaving such parts higher in the model, and a little more time bestowed in reducing it to the desired effect, when finishing off the subjects after they are cast as above described, and the Portland Vase still be made within three or four months instead of as many years, as supposed by Mr. Doubleday. That gentleman, according to his theory, would by covering the body of the vase with a uniform coating or layer of white glass, and then cutting it away until the blue glass beneath its surface appears, only be marring that beautiful form with all its brilliancy of colour previously existing, in order to expend many months fruitlessly to restore it; for no art could equal its original state, independent of the immense labour and study to be bestowed in the production of the figures from the mass left by him for that purpose as in gem engraving.

Mr. Thomas Wilmshurst delivered a lecture on the history of painted and stained glass. This beautiful art, he conceived, is not only restored at the present day to a full equality in producing richness of colour, as compared with the most admired and splendid specimens of the ancient glass; but from the rapid advance of the science of chemistry and the progress made in the art of design, is now capable of being executed in a manner that shall at once satisfy the desire for gorgeous colouring, and the taste of the artist both in arrangement and artistical execution, in which latter particular, many ancient windows entirely failed; that the art of colouring glass was doubtless discovered soon after the invention of glass itself, although as to the date of this invention we have no certain information, no mention being made of glass as applicable to the lighting of temples or dwelling-houses, till after the Christian Era. Whatever may have been the precise period of its introduction, we may readily imagine that the attention of all who laboured at the ornamental arts of life would quickly perceive its adaptation to the adornment of temples and of the palaces of the great, and that when contemplating the ruined fragments that remain, we are astonished at the splendid effects which must have been produced in our magnificent cathedrals before the hand of the destroyer came upon them. In the celebrated basilica of Santa Sophia, in Constantinople, the stained-glass windows said to be of the 6th century, are elaborately wrought in mosaic patterns, and the colours are of great beauty and splendour; but it is in France we find the most perfect and most beautiful specimens remaining of illuminated windows, as it was then under a succession of rich and powerful patrons that the art was carried to its greatest perfection; and the princes as well as prelates of the period seem to have vied with each other in its patronage, and in return, the splendid achievements of their glorious reigns were recorded in the never-failing colours of the art; the sacred history was illustrated in the temples, and the remains of the beautiful creations still form a pleasing but somewhat melancholy record of past history and greatness.

In the middle ages, stained glass was considered so requisite to the adornment of cathedrals and mansions, that few buildings of any consequence were without it. The twelfth century is the earliest period of which we have any stained glass remaining in this country, and fortunately it is in sufficient preservation and quantity to enable us to understand the extremely rich and magnificent effect which must have been produced when in its perfect state. This is the period when the greatest richness in colouring upon glass was effected. The windows in the choir of Canterbury Cathedral are extremely interesting, consisting of panels of geometric forms made with borders of exceeding richness, containing numerous scriptural subjects, and as the figures are all relieved upon deep blue or ruby coloured grounds, they must, before becoming so corroded as at present, have been highly interesting, the intervening portions being all filled with rich and varied colours. There are many windows in the French churches closely resembling these at Canterbury, as at St. Denis, Rouen, &c., and there can be no doubt were executed at or near the same period. It is about the middle of the thirteenth century, that the introduction of heraldic bearings are first observed in stained-glass windows, and shortly afterwards, the figures of kings, saints, &c., were occasionally used, with a canopy of simple form placed over them, the outline of which was principally made out by using glass of different colours. The French, like ourselves, have for some years past been paying great attention to stained glass, and as the Government of that country have made large grants for different works in the palaces and cathedrals, and the king personally interested himself in fostering the art and encouraging its professors, it might be expected that greater strides would be made, and the works executed upon a more correct principle; but it is evident their view of the objects and application of stained glass differs *in toto* from the views entertained by the great majority of its patrons and advocates in this country.

Upon the general introduction of classical architecture, we find very little stained glass was used for some time, and lamentable mistakes were committed, such as removing the mullions of St. George's Chapel, Windsor, in order to introduce a window from a design by West, which was painted by Jervais and Forrest, and the window in New College Chapel, Oxford, painted from Sir Joshua Reynolds' design, is exceedingly poor in effect, and quite inappropriate in character for the beautiful building in which it is placed; but, on the other hand, with our better knowledge of these subjects, there is less excuse for the glaring absurdities perpetrated at the present time, as, for instance, placing a Gothic window in the Roman church of St. George's, Hanover-square. The lecturer considered that with such erroneous examples before us, a better and more correct taste is about to develope itself, and certain and unerring principles will be laid down for guidance, as in other branches of art, and that by a combination of talent, and by taking advantage of the great abilities existing in the country, works will be produced that may be

* See The Builder, p. 105.

a credit to the age, and that future chroniclers of the art may have something more to record than that the English glass painters of the nineteenth century were only remarkable for their subservient and undeviating practice of copying the works of past ages; that they had not sufficient courage or skill to break through the bonds imposed upon them by custom, or by those either regardless or ignorant of purposes of art,—that we shall see designs carried out which, while retaining all the good points of the ancients (and they abound in glorious effects of colour and adaptation) shall keep pace with the immense superiority of high and decorative art, compared with the period when the works referred to were executed, always bearing in mind to preserve the character of the building, and endeavour to carry out upon the glass the feeling and design of the architect. The glass should appear a natural portion of the decorations, without destroying the harmony of the whole, as is unavoidably the case if the windows are left plain, as may be seen in St. Paul's Cathedral, where the observer is continually disappointed and annoyed by the glare of light from the windows, and thus prevented from descrying many of the beauties of the building.

A new era he thought was about to commence in the fine arts of this country, since the prince consort and the Government had decided to give their attention and patronage to them, which will open a vast field for the display of talent, and if a just and liberal spirit seconded the appeal, we might rest assured the result would be such as to do honour to our age and country.

IMPROVEMENTS IN DWELLING-HOUSES.

Sir,—Understanding from the press that it is in contemplation to amend the Metropolitan Buildings Act, I beg your perusal of the following suggestions:—

1st. That in arching all coal cellars, the hole be made as near the curb-stone as possible, thereby allowing more room for the public to pass during the process of shooting coals into the cellars, besides obviating the necessity of carrying them from the wagon; further, they would fall at the back of the cellar, whereas now it is compulsory to have a man below to throw them there.

2nd. That all rain-water pipes be carried to the bottom of the house to the drain, thereby avoiding the overflowing of the footpath.

3rd. That in all future new buildings and alterations, it shall be compulsory on the builder to make an ornamental ventilation in the ceiling of every room.

4th. That every builder be compelled to build a brick, or fix a stone, iron, or other substantial basin to every water-closet, which, besides being a very important desideratum towards public health, will prevent the drains from being so frequently stopped up.

5th. I would suggest that all water-cisterns for domestic purposes be abandoned, and that there should be a continual supply of water by a water-cock, placed on every floor in the house, thereby affording also a purer supply than has heretofore been had; as I know that cisterns are not often cleaned out. There should be no stint in the supply of this most useful article. Under the present system there is much waste; many houses have no ball-cock fixed to the supply pipe.

6th. That it shall be compulsory on every landlord to fix a bell in every room in the house, all communicating with one handle at the street door; to have engraved thereon, "alarm bell," so that in case of fire it would afford an effective mode of arousing all the inmates at one and the same time, to a sense of their danger; and that there be a punishment for any person wilfully ringing the bell without just cause.

I beg to subscribe myself, your humble servant,

C. Candland.

36, Brownlow-street, Drury-lane.

*** As hints to builders and others, these suggestions (not now made for the first time) deserve consideration; but we are not prepared to recommend that even the best of them should be *enforced* by Act of Parliament.

Royal Academy of Arts.—A notice has been issued that all works intended for the ensuing exhibition must be sent in on Monday, the 6th, or Tuesday, the 7th of April next.

THORNTON ABBEY, LINCOLNSHIRE.

By the kindness of Mr. J. H. Parker, we are enabled to transfer to our pages, from "The Archæological Journal,"* the following illustrated account of Thornton Abbey, Lincolnshire, written by him. The building, as will be seen, has some remarkable features, and the account will be read with interest, especially by those who are seeking to learn with accuracy, the precise date of the various changes which took place in the pointed style of architecture.

In that essentially church building age, the twelfth century, William le Gros, Earl of Albemarle and Lord of Holderness, grandson of Odo, Earl of Champagne, one of the followers of the Conqueror, was distinguished among the Anglo-Norman barons for his liberality towards the religious orders. Besides the house of Albemarle in Normandy, three stately foundations in England—the Cistertian Abbeys of Vaudey, or de Valle Dei, at Edenham, in Lincolnshire, and of Meux, in Yorkshire, and the Augustinian Monastery of Thornton-upon-Humber, acknowledged him as their founder. He died in 1180, and is recorded by the grateful chronicler of Thornton as "an eminent founder of monasteries."†

Thornton Abbey was the first in point of date of his establishments in England. It was founded on the feast of St. Hilary A.D. 1139, the fourth year of King Stephen. In the following year and on the same feast of St. Hilary, which fell on a Sunday, Waltheof,‡ a kinsman of William le Gros and prior of Kirkham in Yorkshire, went to Thornton, taking with him twelve canons of Kirkham, whom he established in the new monastery, constituting one of them named Richard, the first prior. He was afterwards made abbot by a bull of Pope Eugenius the Third.

It seems probable that at this early period and for many subsequent years, the buildings were merely of a temporary nature. We learn from the chronological history of the abbey, a valuable manuscript to which reference will be made hereafter, that the stone for the great altar was purchased in 1262, in which year the dormitory was roofed. In 1263 the foundations of the body of the church were laid,§ and it was still building in 1282, when the chapter-house was begun. The choir of the church appears to have been covered in by the year 1315, when certain payments were made for painting the roof; and the chapter-house, which was commenced in 1282, was paved in 1308. In the year 1323 a new cloister and kitchen were built; the former was roofed in 1325, in which year we find an entry of payments for the foundations of the columns of the church, possibly of the nave. The presbytery in the choir was built between 1443 and 1473.

Thus it appears that the church alone was in progress during a period of nearly two centuries: and perhaps no better materials are extant for illustrating the gradual advance of a great monastic edifice than those collected by the curious, but nameless, monk of Thornton, who, in the early part of the sixteenth century, when the abbey was yet flourishing, and all its muniments were in existence, applied himself to collect the names of the "masters of the fabric," and to discover the dates of the several parts of the building.

After increasing in wealth and power under a succession of twenty-three abbots during a period of 402 years, the community of Thornton was suppressed‖ in 1541, and a portion of its revenues applied to the endowment of a college, consisting of a dean and prebendaries, dedicated to the Holy Trinity. This establishment lingered till the accession of Edward the Sixth, when it shared the fate of the abbey.

A curious discovery was made more than a century ago during some excavations near the chapter-house. It was first mentioned by Stukeley,¶ who visited the ruins in 1722; he says, "that upon taking down an old wall there, they found a man with a candlestick, table, and book, who was supposed to have been immured." Tradition has always asserted that it was an abbot who suffered this punishment, and it may be worth while to inquire how far popular belief is in this case correct. Two of the abbots of Thornton were persons of doubtful reputation. Thomas Gretham, the fourteenth abbot, was deposed in 1393. The author of the MS. history gave him so bad a character, that a possessor of the work in the last century tore out a leaf containing the account of his abbacy "to prevent," says Tanner, in a note to the volume, "scandal to the Church;" thus in the absence of this leaf we are compelled to rely upon the next suspicious entry in the book. Speaking of Walter Multon, eighteenth abbot, the writer says, under the year 1443, "he died, but in what manner or by what death I know not. He had no obit, as the other abbots have, and the place of his burial hath not been found." It is almost impossible to doubt that this significant passage has allusion to the fate of Walter Multon, who expiated his unrecorded offences by suffering that dire punishment, which we have reason to believe the secret and irresponsible monastic tribunals of the middle ages, occasionally inflicted upon their erring brethren.*

The only part of the buildings of this abbey which remains at all in a perfect state is the entrance gatehouse. This is one of the finest existing in any part of England, and presents some remarkable features. It is of the perpendicular style, and was built soon after the sixth year of Richard the Second, A.D. 1382, the date of the license to crenellate it. Many of its details are extremely beautiful (see engravings). The approach on the exterior is over a bridge across the moat, protected on both sides by massive brick walls, with an arcade of pointed arches on the inside, supporting a wall or alure behind a parapet, and a dwarf round tower at the end of each. These were evidently adapted for defence, and are of a later character than the gatehouse itself, perhaps as late as Henry the Eighth; but there is the groove of the portcullis in the jambs of the outer gateway *a*, fig. 3, as if it had always been intended for defence; the disturbed state of the country, or the dread of invasion, it being near the mouth of the Humber, probably rendered the additional outworks necessary at a subsequent period.

The gatehouse itself is built chiefly of brick, cased with stone; the outer face, or west front, is partly of brick, with stone dressings, the design being very rich and elegant: the entrance gateway is ornamented with three shafts in each of the jambs: its pointed arch is richly moulded, with flowers in one of the hollow mouldings; over this is a segmental arch, with hanging foliations: the side arches are partly concealed by later brickwork, but do not appear to have ever been open.

This west front of the gatehouse is divided by four octagonal turrets into three compartments; in the centre are three elegant niches, with the figures remaining in them, and rich canopies: in each of the side compartments is a similar niche, one of which also retains a figure. The archway is groined, and has finely sculptured bosses and moulded ribs springing from good corbels, panelled in the lower part. The upper part ornamented with foliage like the capital of a pillar. The manner in which the mouldings of the ribs are made to intersect each other at their springing is very clever and interesting (fig. 7). The whole of the mouldings of this gateway are remarkably bold and good *early* perpendicular, built soon after 1382.

The east front or inner face of the gatehouse has also four octangular turrets, but is of plainer character than the outer face. Over the gateway is a very elegant oriel window of bold projection, springing from a corbel, with a stone roof, and pinnacles at the angles; the lights are divided by transoms: over this is another window of four lights with a flat arch. The turrets have all lost their original terminations, and it is difficult now to say in what manner they were finished, but probably by a battlement, as Mr. Mackenzie has conjectured.

The room over the gateway, lighted by the oriel window, is of considerable size; it is approached by a winding stair in one of the turrets, the top of which has a very good

* Longman, London; Parker, Oxford.

† "Præclarus comes, et eximus monasteriorum fundator." MS. Tanner. No. 166, Bibl. Bod.

‡ Wallevus: his name does not occur among the priors of Kirkham in the last edition of Dugdale's Monasticon.

§ Fundamentum ecclesiæ corporis.

‖ At the Dissolution it consisted of six monks, with the following servants:—a larderer and puttager; a master cook, with three boys; a cow-herd and two boys; two swine-herds; a carter and poulterer; three gardeners and their boy; a curer of herrings; the sub-cellerer's boy; a messenger, and a keeper of ducks or wild fowl.

¶ Itinerarium Curiosum.

* The skeleton of a nun thus immured was found some years ago at Coldingham Abbey. Another instance was recently discovered at Temple-Bruer, in Lincolnshire.

PARTS FROM THORNTON ABBEY.



Fig. 1.

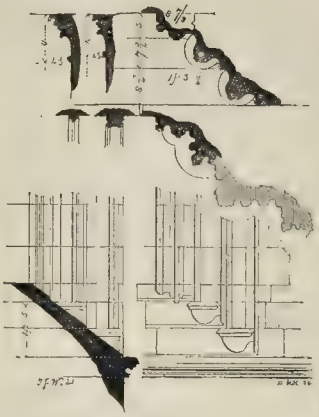


Fig. 9.

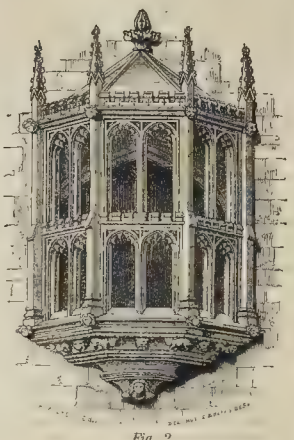


Fig. 2.



Fig. 3.



Fig. 10.

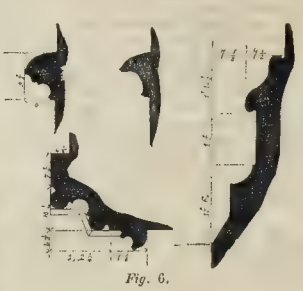


Fig. 6.

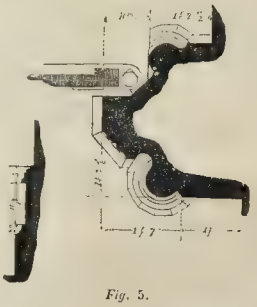


Fig. 5.



Fig. 7.

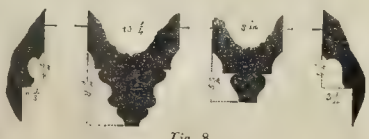


Fig. 8.

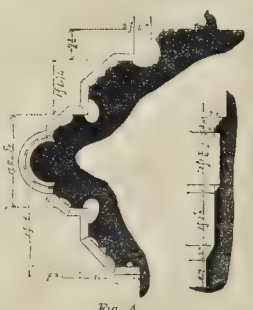


Fig. 4.

groined vault, with foliated ribs of singular but elegant design. From its large size, and the buildings attached to it on either side, it appears probable that this gatehouse was the residence of the abbot.

Some of the other domestic buildings of the abbey remain in a more or less ruinous state; they are of the thirteenth century, and retain their groined vaults with arched ribs only, which spring from the walls without shafts or capitals, or even moulded imposts, the arch merely dying into the wall. The keys of these vaults are ornamented with bold and good Early English bosses, the sculpture of which is very free and characteristic.

Of the chapter-house two sides are tolerably perfect, ornamented with panelling, in imitation of a window of three lights, with foliated circles in the head, and an arcade under it, the whole of very good Early English work, beautifully moulded, the date of it being, as already stated, circa 1282, early in the reign of Edward the First (fig. 10). Some small portions of the church remain, and belong to nearly the same period. One aisle of a transept has its vault and arcades on each side of very singular Early English work, with corbels in the place of capitals. There is one window, or rather panel, of three divisions, with three foliated circles in the head, filled up with a sort of fleur-de-lis; under this is an Early English piscina.

The mouldings of this work are very good, as will be seen by their sections given above. They are Early English, but late in the style, approaching to the Decorated. A comparison of these remains with the choir of Merton College Chapel, Oxford, built at the same period, will go far to prove that in the beginning of the reign of Edward the First the change of style was in rapid progress, and that works previously commenced were finished in the earlier style, while new buildings then begun were in the later.

Description of Engravings.

Fig. 1. Window of second floor, east front of gateway.

Fig. 2. Oriel window in gate-house, *circa* 1382.

Fig. 3. Jamb of entrance to gate-house, north front.

Fig. 4. Jamb of east front of gate-house.

Fig. 5. Jamb of archway on which the doors are hung. Archmoulds the same.

Fig. 6. Jamb of door south side. Base mould of west front. String of turret of east front.

Fig. 7. Corbel shewing springing of rib between gate-arch and east archway.

Fig. 8. Details of groining of gate-house.

Fig. 9. Details of window of chapter-house, A.D. 1282.

Fig. 10. Elevation of north-east bay of chapter-house, *circa* 1282.

ON CERTAIN PECULIARITIES IN THE DESIGN AND CONSTRUCTION OF THE PARTHENON.*

BY J. J. SCOLES, ARCHITECT.

MR. PENROSE has given us some interesting information respecting the curved lines of this once magnificent building, which shews the refined state of Greek art at the period this temple was built, and the great attention paid by the artists of that nation to make their buildings as effective as possible, by counteracting, when possible, those optical delusions common in all buildings. It is well known to architects, that if the shafts of columns are made perfectly straight, that the effect to the eye would be an appearance of curving inwards; and this unpleasing effect is remedied by giving an entasis or swelling to the columns. As Stuart and Revett had not shewn any entasis to the columns of the Parthenon, I felt a desire, when I was at Athens, to ascertain if the architect of the Parthenon had overlooked this point, if these columns were really executed without any entasis; I had the opportunity of measuring each diameter of the blocks of a fallen column, which clearly proved that an entasis was given, but so slightly as not to give any appearance of swelling out, which is so often seen in the buildings of Italy, but yet sufficient to correct the defect that would have been apparent if the shafts had had a straight line. I have much pleasure in bearing testimony to the satisfactory researches of Mr. Penrose on this point, whose calculations of the diameter of the various stones, on the assumption that the curve was a hyperboloid, came so near my actual measurements, as to prove not only the accuracy of his theory, but also the inaccuracy of one of my dimensions, which produced at one part a cripple to the curve when drawn out, and must, in execution, have been very perceptible, and which his formula easily detected.

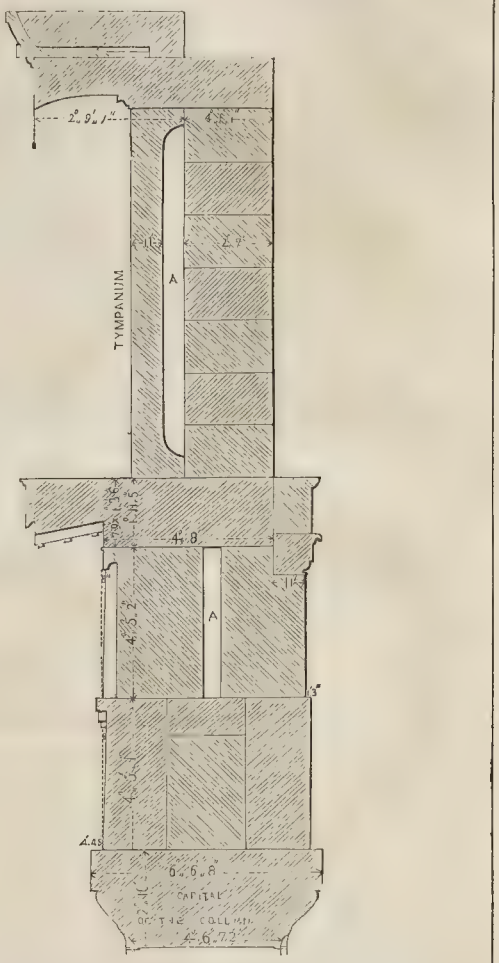
The necessity of giving "entasis" to the sides of tapering shafts was not overlooked by the architects of the middle ages; for if I remember rightly, this fact was brought to our notice by our honourary secretary, Mr. Poynter, at one of our meetings, when the subject of the restoration of Redcliff Church, Bristol, occupied our attention; and that gentleman remarked, that the spires of our Gothic churches had that swelling or deviation from a straight line; and Professor Hosking, who favoured us with his remarks on the restoration of this church, corroborated Mr. Poynter's statement by instancing the spire of this building, which, though only partly erected, shewed a deviation from a straight line.

I question if the architects or builders of the middle ages formed their entasis on the geometric principles of *Ictinus;* but without disparaging their mathematical knowledge, I am inclined to think they worked very often by what is sometimes called the "rule of thumb," and perhaps like many of the Italian architects of that period, and also like many workmen of our own time; in the west of England they worked the sides of their spires and columns from the base upwards to one angle, a portion of the height, and the remainder to a more acute angle, perhaps cutting by the eye the junction or angle formed by these two inclines. As in some manner connected with entasis, I would beg here to remark more particularly for the use of our younger members, that the antæ in Greek buildings have a slight diminution, sufficient only to prevent the upper diameter appearing larger than the lower one, which is invariably the case where the diameters at each end are the same. I allude to this diminution in the antæ because many writers have laid it down as the law, that Greek antæ do not diminish, but in all the instances I have met with the diminution is to be discovered.

Mr. Penrose has ascertained, that not only the Parthenon but also other buildings of Greek architecture have the steps, architrave, cornices, &c., curved upwards in the centre; I had heard rumours of late years to the same effect respecting the Parthenon, and I was inclined to attribute this deviation from the straight line to some defect or sinking at the extremities; but from the information I have received from Mr. Penrose, whom I have questioned very closely on this subject, with reference to any appearance of settlement or displacement of the stones or separation at the joints, I now quite agree with him, that these

* Read at Institute of British Architects 23rd ult.

PARTHENON—CONSTRUCTION OF ENTABLATURE.



deviations are not the result of failure in the construction of the buildings, but that the deviation has been the result of preconcerted design, to prevent the appearance of depression in the middle, which an extended horizontal line of cornices, beams, &c., always has, if not raised a little in that part. This effect or defect is well known to barn-builders of the present day, who as the professor of architecture in the Royal Academy of Arts remarked in his last lecture, provide against it by making the ridge of the roof round or *hog-backed* as it is termed, but I question if this raising in the middle is entirely for the purpose of correcting the visual delusion. May it not be to correct a defect they know from experience to arise from the roof swagging or sinking in the middle?

We are very much indebted to Mr. Penrose for having communicated the facts of the curved lines existing in several temples, and as his attention was directed to the ascertaining of this fact, and his researches made with reference to that object, his statements become in consequence the more valuable, and carry with them the impress of accuracy and truth.

Some observations have been also made respecting a direction of Vitruvius, that the faces of the architrave and frieze, and portions of the cornice should incline forwards at the top. I can only say, that my measurements shew the Parthenon to be the reverse as regards the architrave and frieze, which both recede eight-tenths of an inch from the upright (see the annexed sketch): and on referring to Stuart and Revetts' works on Athens, I find a similar coincidence, but the face of the corona certainly does incline as Vitruvius directs; future researches may decide the point, for the non-existence of it at one building is not a sufficient authority for deciding the question.

Before dismissing the subject of the Parthenon, I would beg to call your attention for a few minutes to some peculiarities in the manner of constructing the architrave, frieze, and other parts of this temple which are not shewn so distinctly in Stuart, as subsequent researches and perhaps subsequent dilapidation has enabled others as well as myself to do.

The architrave, for instance, is formed of four stones, three visible on the outside, and one not seen externally.

The frieze has the metopes and triglyphes rebated together, and the inner face formed by distinct stones, there being a vacancy between; see A in figure.

The outer cornice is one stone in height, and within the perystile it is formed in two stones. The tympanum has upright stones on the outside, in the height, but the inside is formed in seven courses. The column is in twelve stones including the capital. The upper moulding of the pediment is hollowed out at the back, and a block of stone is laid on it; but the object of this peculiar construction is not very apparent, and has not been satisfactorily explained by any one whom I have consulted. The annexed engraving, from accurate measurements, will explain the construction clearly.

The beds of the various stones composing the columns, are sunk about three-quarters of the tenth of an inch, leaving a raised margin about an inch and a half on the outer edge. The side walls of the cella are single blocks the whole width of the walls; with this latter exception, we see that the temple is not constructed of large, although it is of solid pieces of marble, but of rather small blocks; but the whole is so accurately and beautifully worked, and solidly bedded, that the joints are in many parts not perceptible, and even in the ruined state of the side walls, which are in great part thrown down, it was with difficulty my fellow-traveller, Mr. Catherwood, and myself, could find the vertical joints of these walls.

Before resuming my seat, I perhaps may be allowed to remind our younger members, who may be contemplating a tour to the sunny climes of Greece and Italy, that fresh subjects of research are now open to them. It has often been remarked by those about to travel, that it is useless to measure or draw the antiquities; that the buildings have been so often measured, drawn, and published, that every thing about them is well known. Who can beat Stuart in accuracy? some say; but let these gentlemen bear in mind, that opportunities for further investigation are constantly occurring. The very dilapidations of the buildings afford means of discovering their mode of construction, which the building in a more perfect state did not disclose to a former traveller: the removal of incumbrances, excavations, and other discoveries, afford a never-failing subject for the investigation of an architect of research and observation; and if it be worth while to draw and measure, it is worth while doing so accurately, carefully, and minutely. It is an old adage, that what is worth doing is worth doing well. Those also derive the most advantage in their travels who are the best prepared beforehand, for they know at once to what object to direct their attention. I hope they will bear in mind that the curved lines, the painted decorations, the inclination of the high columns mentioned by Vitruvius, and also of the entablature, are points for investigation, and open a new field for research and application; but have no doubt advantage will be taken of these late discoveries, and that the subjects will be carefully investigated, and that we shall be indebted to some of the members around us, for much interesting information and particulars on these points. In conclusion, I trust that as the subject of classic architecture has been again brought to our notice by the papers read at this and our last meeting, the study of Greek architecture will be revived, and looked upon as the foundation or ground-work (to speak rather professionally) for the study of architecture. I am aware that of late years our course of practice has taken a different channel; but fashion changes, and we may live to see "pagan architecture," as it is sometimes termed, rank again as fit to be used even for Christian purposes; but without attempting to offer an opinion on the relative merits or capabilities of Greek, Roman, Italian, or pointed architecture, I will conclude by observing, that as travelling to an architect is like the university to a man of letters—the last stage of a regular education; so is the study of classical models to the student in architecture like that of the classic authors to the scholar and gentleman, the first step to that regular education.

WESTMINSTER COURT OF SEWERS.

Between forty and fifty commissioners assembled at the ordinary court on Friday, the 6th inst., attracted, no doubt by the various notices of motion given at the previous court, as inserted in the preceding number of our journal. Capt. Bague, R.N., was chosen chairman. A great number of applications for sewers and drains were granted. Some appeals were heard. A clerk of the works (of the name of Hogg), under the office of Woods and Works, was fined 5*l.* for refusing to attend to his summons from the court. Hogg was then re-summoned for the next court, with the intimation that he would be more severely fined if he still continued to treat the court with contempt.

At 2 o'clock the important business commenced, by Mr. Mayhew expressing a wish to simplify the discussion of the court by withdrawing his motion, as it was his intention to support the appointment of Mr. Phillips by voting for Mr. Cumberlege's amendment. The court allowed Mr. Mayhew to withdraw his notice of motion.

Mr. Le Breton said he had no voice to make a long speech, and therefore he would very briefly state his views. The court had refused to fix the salary of chief surveyor at either 400*l.* or 500*l.* or 600*l.* a year. He begged to assure the court that he was no party to the notice of motion on the day's business-paper, which had for its object the bringing back Mr. Hawkins at a salary of 450*l.* a year. He thought the officer wanted should be an engineer of eminence, and the appointment thrown open to public competition. He would therefore move, and was seconded by Mr. Wm. L. Donaldson—"That all the orders of court of the 13th Feb. 1846, as to the surveyor's salary, be rescinded, and that the salary of such surveyor be 500*l.* per annum, and that steps be taken to invite candidates for such office."

Mr. Cumberlege moved the amendment of which he had given notice, to the effect—"That Mr. Phillips be forthwith appointed, at a salary of 250*l.* per annum, to the office of chief surveyor, on a trial of six months, on account of the vacancy which has so long subsisted in that office, and that all orders of court which interfere with this appointment be rescinded." Seconded by Mr. Branscombe.

Mr. Cumberlege proceeded to shew that much, in his opinion, of the doubt and delay had arisen, from the extravagant notions of the qualifications of the chief surveyor entertained by some commissioners. The terms surveyor and engineer had most extensive signification. Sir Christopher Wren was the surveyor of St. Paul's; Inigo Jones, surveyor of the king's buildings; Sir John Vanburgh, surveyor of the palace of Woodstock, and every architect, however eminent he might be, was the surveyor for the time being of the particular work in progress. The term engineer had also its extensive signification: works incidental to a long line of railway, a breakwater, bridges, such as that now erecting over the Danube, where the water was 25 feet deep at low-water, and the freshes so immense, that the waters rose with great rapidity above 30 feet. It was evident the court required no such surveyor or engineer, yet to listen to some honourable commissioners it would be supposed an absolute necessity to have such talent, and that it could be obtained for 400*l.*, 500*l.*, or 600*l.* per annum. These appeared to him exaggerated notions of the requirements, fallacious in themselves, and impossible to procure in any officer likely to accept the surveyorship of the sewers in the Westminster jurisdiction. The honourable commissioner then proceeded to read extracts from the printed statements of the former chairman of the court, Mr. T. L. Donaldson, as to that "great king of dykes," the King's Scholars' Pond Sewer. Notwithstanding the immense encomiums lavished upon that work, he (Mr. Cumberlege) was aware, as well as the court itself, that it had not escaped the charge of being now even a greater nuisance than the nuisance it was intended to remove. The court should now turn from the imaginary picture, from "the faultless monster that the world ne'er saw," to the actual person wanted by the court to fill the office of chief surveyor. He would not be required, like Wren, to build cathedrals, or, like Inigo Jones, to build palaces, nor to build railways, bridges, or viaducts; but to build, rebuild, or repair sewers which, under ordinary circumstances, average 5 or 6 feet in height, by 2 or 3 feet in width. Now these works, he admitted, required considerable judgment, skill, and science; but then it was only judgment, skill, and science in a comparatively limited field. The surveyor wanted by this court must, to do his duty properly, be for hours and hours in the sewers. How could that able report of Mr. Phillips, on the Lisson-grove district sewerage, have been in the hands of each commissioner had not Mr. Phillips been for a length of time in all those sewers? Mr. Cumberlege then stated that he had forwarded Mr. Phillips's report, plan, and section of what he had proposed to do in that district, to Mr. Roe, the eminent engineer of the Holborn and Finsbury sewers, and also asked that gentleman to favour him with his opinions as to Mr. Phillips, qualifications for the office of chief surveyor to this court. He then read the reply.

Sewers Office, Hatton-garden,
March 5th, 1846.

Sir,—In reply to your inquiry, I beg to state that I consider your amendment one that would tend (if carried) to serve the public interest. I believe Mr. Phillips to be competent for the situation; so much so that I have no hesitation in saying that I know no one more likely to do your commission eminent service, should you succeed in giving him an opportunity for a trial.—I am, Sir, yours truly,

C. N. Cumberlege, Esq. John Roe.

N.B. Mr. Phillips's report on Stephen-street, &c., &c., does him much credit.

It was because in his opinion that Mr. Phillips possessed the abilities to fill the office of chief surveyor with credit to himself and advantage to the public, that he had put forward the amendment. The treatises on sewers by Mr. Phillips' published in The Builder, shewed great originality, and they were distinguished also by their intelligence and common sense. Mr. Phillips was also now preparing for publication a new treatise on sewering, with illustrations, which proved his industry and the great interest he had in the subject. Let him, therefore, by the vote of this day, have the six months' trial which the

amendment proposed; let him have that trial with fairness, forbearance, and encouragement, and the firm conviction on his (Mr. C.'s) mind was, that the court would never repent that it had been induced to make that trial.

Mr. Cantwell opposed the appointment of Mr. Phillips, though he admitted that it was high time that some appointment should be made; he thought it ought not to be a temporary one, and that it should be done after public competition.

Mr. T. L. Donaldson objected to Mr. Phillips. He was a very good clerk of the works; but not fitted to be the chief surveyor; he was totally without education. It might be well for gentlemen to depreciate education when they were supporting a mere practical man, and say he was competent to the duties; but the man of professional education, possessing the higher acquirements, pre-supposed the lower qualifications of the mere practical man. He (Mr. Donaldson) would ask the court why should it care about the opinion of Mr. Roe as to the qualifications of Mr. Phillips. He totally disagreed with Mr. Roe about Mr. Phillips' report on Stafford-street, Stephen-street, Lisson Grove, in which report Mr. Phillips had actually recommended a length of the third size sewer beyond what the orders of the court allow. He (Mr. Donaldson) was astonished that Mr. Cumberlege should go out of the court to seek for an opinion as to Mr. Phillips, when there were so many competent commissioners present. The reports of this court ought to have enlarged views of the necessities of the districts, and it was owing to false economy in the commissioners that comprehensive views were not often carried out. The court must bear in mind, that sewage had entirely changed its character within the last few years. Formerly only surface water was admitted, then the soil from houses, and now macadamized silt, which was insoluble in water, found its way into the sewers. As to great works, the Ranelagh sewer would soon require a new outlet, and for a mile in length a great expenditure. In almost every parish, also, great outlays were required. In the parish where the court now assembled from twenty to thirty thousand pounds were wanted. The honourable commissioner, Mr. Cumberlege, had laid great stress upon finding a man willing to go into the sewers for hours together! why, Mr. Hawkins had spent days and days in the sewers, and the reports he had made to this court did that gentleman infinite credit. His report on the quantities of soil discharged by the various sewers into the Thames had been quoted by the scientific writers of the day. If the court limited its views of Mr. Phillips to the office of clerk of the works, it would do well; but if from the inferior office he should be raised by the vote of this day to that of chief surveyor, he (Mr. Donaldson) should regret it.

Mr. Broughton said he should not follow all the remarks that had been made either for or against Mr. Phillips; for from his long absence from the court by his engagements elsewhere, he absolutely knew nothing about the subject. But from looking at the business paper of the day, it appeared to him as if chaos had come again. The salary had not been fixed for the officer they wanted to appoint; 400*l.*, 500*l.*, and 600*l.* had all been proposed and negatived, and now 250*l.* was proposed by the amendment. Then another motion was to follow, proposing Mr. Hawkins at 450*l.* Now, whether 450*l.* was too much, or 250*l.* too little, or whether Mr. Phillips was the right man or Mr. Hawkins, he confessed he was entirely ignorant, and it therefore was quite impossible that he should vote for any of the propositions. In his opinion, all the preliminaries should have been arranged either by the court or a committee.

Mr. Leslie said, that it was only on very great occasions that the court was favoured with the attendance of the honourable commissioner who had just sat down. It was always a satisfaction to him to see Mr. Broughton in his place, as if the court should not always be very much edified by his speech, they were certain to be very much amused by it. The honourable commissioner had said chaos was come again. But as he had been so long absent, he probably was not aware by whom chaos had been introduced. He (Mr. Leslie) had in his hand a return, made out from their own records, which shewed that it was exactly five months ago since Mr. Hawkins, the then assistant surveyor resigned, at which court, on the 3rd of October last, he moved "that Mr. Hawkins' resignation be accepted, and that he be at liberty to leave at his own convenience;" that motion the court altered by putting in the word "forthwith." At the same court he gave notice of motion, that Mr. John Phillips should be appointed to succeed to the vacant office of assistant surveyor; and on the 7th of November, chaos commenced, introduced in the shape of an amendment to the motion for Mr. Phillips' appointment "to consider the efficiency of the surveyor's department;" the votes were equal when the last, of the annual chairman (Mr. Willoughby), gave the casting vote in favour of the amendment. The court would do well to remember that the new system of doing all works under 50*l.* without a contractor was to commence the next morning. On the 14th November, the court voted that the surveyor's department was inefficient. On the same day, Mr. Thomas L. Donaldson and Mr. Allason carried a vote "To appoint a new chief surveyor," and that Mr. Dowley should be shelved under the title of consulting surveyor at 200*l.* a year. Then Mr. Doull, the assistant surveyor, was swept off under another vote "that there be no other than the consulting and chief surveyor." Then Mr. Le Breton continued his chaotic course, by getting the court to vote that all the orders relating to an assistant surveyor be rescinded, and the duties of the new chief surveyor were defined on the 16th January last. Then 600*l.* a year was proposed for the new chief, and he Mr. Leslie seconded by Mr. Cumberlege, carried an amendment to the effect, that it was not expedient to invite candidates until after six months' trial of Mr. John Phillips, whose forms of sewers had been adopted by the court: 10 for the amendment, 8 against it. At the next courts, rescinding and revoting and rescinding followed. And at the present court, the identical motion of which he had given notice five months ago, would, he had no doubt be carried this day by the appointment of Mr. Phillips as chief surveyor, although in the origin, it was intended to appoint him as assistant surveyor. So much for their chaotic courses.

Mr. White objected to Mr. Phillips as *chief* surveyor, but would have voted for him as second surveyor. He also objected to the report which had been printed of the Stafford-street sewer. The digging was too deep, and had the old sewerage brought down to it on an incline.

Mr. Dodd, M.P., declared that he would vote for Mr. Phillips; he was satisfied he was a man of great talent, and one that would soon make up for the want of early education.

Mr. Gunter declared the same thing very earnestly.

After a very lengthened discussion, the amendment was carried. For Mr. Phillips's appointment as chief surveyor, 19: Hon. P. F. Bouverie, Hon. F. Byng, Capt. Bague, Messrs. Biffin, Branscombe, Chambers, Cumberlege, Dodd, Fuller, Godrich, R. Gunter, Hall, Leslie, Mayhew, Pownall, Unwin, Willmott, Wood, and Vale. Against it, 17: Messrs. Allason, Bathurst, Broughton, Cantwell, Chalmers, Crace, Drew, T. L. Donaldson, W. L. Donaldson, Gutch, Hawkes, Kendall, Knight, Le Breton, Moss, Perry, and John White.

Captain Bague, the chairman of the day, then sent for Mr. Phillips, and informed him that he was appointed chief surveyor for six months, at a salary of 250*l.*, and hoped that he would pay every attention to the important duties of his new office.

Mr. Phillips briefly returned his thanks to the court for the honour done him by the appointment, and assured the court that it might rely upon his faithfully, to the best of his abilities, discharging the various duties of the appointment.

Fire Escapes.—With reference to a paragraph in a recent number, headed "Fire Brigade, Paris," a correspondent says, that at the suggestion of Mr. Deputy Stevens, the commissioners of sewers of the city of London caused a deep orange-coloured lamp, with the words "*Fire Escape at the Bull*," in *white* enamelled letters, on three of its sides, to be set up in Bishopsgate-street Within, many weeks ago.

EXTENDED USE OF GAS—STATE OF THE MAINS.

The use of gas in dwellings has greatly increased within the last two or three years, but by no means to the extent which may be predicted for it, if the proper steps be taken. Let it be cheapened, as it may be, and *means for efficient ventilation obtained*, and in a very short time a house not supplied with it will be an exception from the general rule.

Builders will lay down the pipes for it in new houses, as they now do for the water, and the community will be much advantaged.

"A remarkable circumstance," says Mr. Rutter, of Brighton (in a little pamphlet on the "Ventilation of Gas-lights,")* connected with the progress of gas-lighting is that, of the many thousands of persons who have availed themselves of gas, never doubting that it was indispensable in their business transactions, so small a proportion, until very recently, should have thought it equally necessary to the comfort and convenience of their families. Those connected with the manufacture and sale of gas are in this matter more to blame than their customers. So far as the consumers of gas are concerned, their apparent indifference to its use in their private apartments is the result rather of passive acquiescence in present arrangements, than of any real objection to further improvements. In many cases the cost of fittings, or the annoyance of having workmen about, may still operate as an insuperable difficulty. Let there be ever so large a deduction made for all kinds of objections and of prejudices, a vast number of persons remain who only require to have the subject brought judiciously under their notice, accompanied by an offer of advice or explanation by a competent authority, and they will use gas in their drawing-rooms, and bed-rooms, as readily as they now do in their counting-houses and shops."

The companies must be up and stirring. If they sleep much *longer*, they will find themselves when they wake at the foot of the hill. Though dealers in gas, they seem to require enlightenment.

Sir,—I have already called attention to the dangerous state of the gas-pipes underground, and the want of judgment and care shewn in their laying and distribution, and will now bring forward a few proofs to verify the correctness of those statements. The pipes of the old companies are not only defective from bad workmanship, but also from age; the pipes of the new companies are principally so from the want of proper overlooking when laid, and to these causes combined may be placed the great leakage continually taking place under the surface of the streets. There are *hundreds* of service pipes that are completely *decayed*, and from which *more gas escapes* than *is used* in the houses they supply, and which working its way into the sewers, finds vent at the gratings, and produces the annoying smell so common in the streets of London, whilst no trace of it is discovered (until the ground be opened) where it actually escapes. The joints of the cast-iron pipes are generally defective, and instances have been known of the ends of the pipe and outlets being left open. In addition to these defects, the companies have more pipes in the streets than are actually necessary, and it requires a considerable extra pressure to force the gas through their extended ramification, so as to supply the various levels. In the Strand, near Charing-cross, there are no less than fourteen gas and water-pipes; in St. Martin's-lane, seven; and in most streets they are equally numerous. To supply gas effectually and economically, only two mains of sufficient capacity are required in a street, one of which should be laid on each side, near the curb-stone; at present they are in many cases laid in the centre over the sewer, and are continually being broken by the sinking of the ground, owing to the alterations and repairs of the sewers; they are a complete source of nuisance to the inhabitants near thereto, and many underground apartments and cellars are rendered unsafe to be entered with a light for fear of an explosion. In Bow-street, for instance, a new sewer was made about two years since, and although every care was taken of the pipes during the progress of the work, they have been a continual trouble

* J. W. Parker, West Strand.

and expense to the companies ever since, and the residents still complain of the great annoyance from the smell of gas that prevails; this would not have been the case had the mains been laid in the places previously named. Immediate steps ought to be taken to remedy and prevent the occurrence of the immense waste that is daily taking place, and which will prevent the price of gas from being reduced. I stated this loss to be about 35 per cent., and I have since seen it stated by a gentleman connected with the Chartered Gas Company, as being from 30 to 40 per cent., and I think this ought of itself to be sufficient to induce the companies to take efficient means to remedy the evil, as it renders them incompetent to compete with or withstand the opposition of a new company. They may flatter themselves by placing their losses to other causes, but may rest assured their principal loss arises from leakage underground; it is extraordinary to think how little attention has been paid to this essential part of gas lighting. The main and service-pipes are to the works what the arteries and veins are to the human body, and ought not to have been so long neglected. Trusting that the companies will be wise in time,

I am, Sir, &c.,

March 7th, 1846. CARBON.

CURVES FOR ARCHITECTURE.

"Judgment also I will lay to the line."

I was not a little pleased, although much surprised, to see your report of Professor Cockerell's lectures in the same number in which my paper appeared "On the necessity of a more extensive knowledge of true lines," and to observe, that he had alluded to the "hyperbolic line" and "conic sections."

As you state it was his last lecture for the season, we cannot expect any more on geometrical curves from that quarter at present, but let us hope that before another season, he will devote his valuable attention to this as a practical subject.

Also, in your report of the meeting on the 23rd ult., at the Royal Institute of Architects, the word "hyberbolic" likewise appears.

Although so little, on these two occasions, has been said, yet they are sanctions to the very great importance of the inquiry, which gives encouragement.

It would be desirable, and I trust you will be enabled to give to your readers the measurements, a description of the mode of measurement used, and the proof that the curve of the shaft of the columns of the Parthenon is "hyperbolic, and no other;" not, for example, a conchoid, or any other asymptotic line.

Perhaps Mr. Penrose will be so obliging as to furnish you with a description of the probable practical method by which the ancient Greek architects or workmen described the line full size with so much accuracy.

It would be interesting to know what occular and practical knowledge of true geometrical curves Mr. Penrose had before visiting Greece, especially as compared with those who had preceded him there; and whether it was upon such circumstances that he was enabled to determine what is stated, and what no other had before accomplished.

Would it not be equally interesting to know the nature of the curve, and the means the ancient Egyptians used to describe practically the profiles of any of their columns?

"Four centred arches" is, I suppose, a modern term, and the sooner it is blotted out of architectural works the better, as there is no necessity for drawing depressed arches on any such *false* principles; as false as that of patching together four parts of circles, and calling the figures, or substituting it for, an ellipse. Perfect examples, on a perfect plane, on as large a scale as convenient, ought to convince the most sceptical of their imperfect notions. But when will architects make themselves acquainted with true geometrical forms, and the methods by which workmen may describe them in practice accurately?

Architects admit that the Greeks were superior in this knowledge. Why, then, do they not practice or recommend the cultivation of this science, that even the Greeks may be surpassed? Architectural knowledge in the present day appears to consist more of fine terms, than of true forms and real practical information for their true construction.

Supposing Mr. Penrose can satisfactorily prove what he states, does it not shew the very great importance of the mind being familiar with the actual appearance of extreme and intermediate varieties of the hyperbolic lines? What work on "conic sections" can be pointed out that would furnish the eye with a form which would suggest such an application of the hyperbola as to the profile of the shaft of the column of the Parthenon? Before the Greeks could have applied either the hyperbola or any other geometrical lines they must have known them. Other geometrical curves, in like manner, must be known before they can be applied.

There is no more than just importance given to the consideration of this one "hyperbolic line" and to this one application of an hyperbolic line, and in this I agree with Mr. Tite; but equal importance should be attached to hundreds of other geometrical lines, as a knowledge of them would lead to thousands of at present, unknown applications and rules for applications.

It would be impossible to find time at present to pen all the thoughts that have passed through my mind on reading, and since reading, your reports just alluded to, or on my increasing conviction that every exertion should be made by those who have influence and judgment to assist and direct, to have this subject as fully, and in as perfect a manner as possible, brought before the public as the elements of all true design and construction. Nature should be well and constantly studied, and that will furnish numerous suggestions as to application, and produce the greatest scope for variety in designs, but geometry must furnish the true rule, and prove the truth of the law of application.

The mathematical instrument maker, the correct hand and eye of the draughtsman, and the engraver, the printer, &c., &c., must be employed on terms that will enable them to produce a work of the utmost degree of perfection; but all know, that if the numbers who would be benefitted could be made to feel interested in such a work, and would unite, that the individual cost would be trifling compared with the great importance of the subject.

5th March, 1846. JOS. JOPLING.

GRADIENTS FOR LOCOMOTIVES AND ATMOSPHERIC LINES.

SIR,—For the information of your correspondent, on the subject of gradients, I beg to state that the steepest gradients that have been successfully worked upon railways with which I am acquainted, are on the Lichey incline of the Birmingham and Gloucester Railway, which has a rise of 1 in 37, and is worked with an assistant locomotive engine, and one on the Edinburgh and Glasgow, with a rise of 1 in 42.

On the Kingstown and Dalkey Atmospheric Railway, Ireland, the gradient is 1 in 115, but gradients even up to 1 in 20 may be readily surmounted by increasing in due proportion the diameter of the tube, and the power of the machinery; this is not desirable, because it entails a heavy expenditure. Like the locomotive system, the atmospheric is better adapted for planes that approximate nearer to the horizontal, in its maximum effect and economy of working, but it is capable of ascending inclinations that cannot be surmounted with a locomotive engine. Inclines on the locomotive system exceeding 1 in 50, ought to be worked by stationary engine power. The gradients on many of the projected railways in South Wales are of a severe character; in consequence of the mountainous nature of the country; on the South Wales Railway, the steepest gradient is 1 in 52, the Aberdeen Railway 1 in 66, the Brecon and Merthyr Tydfil 1 in 62, the Welch Midland 1 in 37, the Great Eastern and Western 1 in 44, and the Vale of Neath 1 in 30. These inclinations are of no great extent, and it is intended to work them with locomotive power. The steepest gradient on the proposed Hereford and Merthyr Tydfil Railway is 1 in 21, and this line is intended to be worked with atmospheric power. Many of the proposed Welsh lines of railway have been withdrawn or abandoned, some in consequence of not receiving that countenance and support that was anticipated; others from *grievous* errors in the plans and sections; the latter circumstance does not reflect much credit on the *eminent* engineers who *lent* their names to these projects.—I am, Sir, &c., B. B.

Merthyr Tydfil, March 3rd, 1846.

OLD AND MODERN GOTHIC ARCHES.

SIR,—Can you or any of your intelligent correspondents inform me how it is, that one never sees an ancient "pointed" building, whose arches have a keystone, and rarely, if ever, sees a modern one whose arches are without a keystone. It cannot be alleged that this is a pedantic objection, for in practice the two modes operate very differently on the cost of a building. I have seen keystones in modern arches formed at great expense, where in like situations an ancient arch would have a mere joint, and some of these have stood unmoved for 500 years.

Your old subscriber,

London, March 2, 1846. W. Y.

*** The use of a keystone in pointed arches is erroneous, although, as W. Y. justly says, it is to be found in most of the modern Gothic buildings.

Correspondence.

SMALL DRAINS.

SIR,—Your notice about drains, in the last number of THE BUILDER, deserves much attention; any hint from practical men would be exceedingly valuable. In the meantime, I would suggest that the pipes for London service should be *somewhat* laager, and at the extreme end, where they would join the main sewer, if a slight dip is formed, it would become a stench-trap, by the last drop of water remaining in the bend, and effectually prevent any effluvia from returning to the house from the main sewer. A bend of this kind in so small a pipe could not possibly retard the flushing.—I am, Sir, &c.,

March 9, 1846. Z. Z.

Miscellanea.

PARLIAMENTARY REPORT ON ART-UNIONS.—The Committee of the House of Commons, appointed so long back as May, 1844, have at length published their Report. It forms a ponderous tome of 527 pages, and includes the evidence of Messrs. Godwin, Cash, G. M. Mason, Bell, Stewart, Blacker, Fahey, T. Uwins, R.A.; A. Cooper, R.A.; W. Wyon, R.A.; W. Etty, R.A.; Copley Fielding, C. Stanfield, R.A.; Wagstaff, H. Graves, Leggatt, Ryall, John Burnet, John Pye, D. Colnaghi, W. Finden, Turner, V. Palmer, M'Queen, Shenton, Moore, Boys, C. L. Eastlake, R.A.; Mrs. Parkes, Brett, Vokins, and G. Foggo, in the order we have placed them. The Appendix contains the prospectuses of various foreign art-unions. We shall look to the Report anon.

THE MIDDLESEX NEW PRISON.—We stated last week that the designs for the Middlesex House of Detention were furnished by the government inspectors of prisons; and this has been generally reported. The fact is, however, that it is from an original design of the county surveyor, Mr. Moseley, the magistrates having determined to adopt that gentleman's plan for the *entire* rebuilding, rather than that of the "Surveyor General of Prisons," for its partial construction *only*; and the Secretary of State having (subsequently upon the report of the inspectors) sanctioned this more perfect mode of execution. The work is proceeding under the superintendence of Mr. Moseley.

THE THAMES TUNNEL.—At a meeting of the proprietors of this undertaking, held last week, a report from the court of directors was read. From it we learn, with regret, that Sir Isambard Brunel is so seriously indisposed, that he is not likely again to take any active share in the concerns of the company. None of the schemes for carrying a railway through the tunnel are sufficiently matured to warrant a detailed reference to them.

GREEN-HOUSES, &c., UNDER BUILDINGS ACT.—Weeks and Day, of the King's-road, Chelsea, have prepared a petition to Parliament, praying that these and such like buildings be exempted from the control of the Act, and they ask the co-operation of parties interested.

SOCIETY OF ARTS.—At a meeting held March 4, Mr. T. R. Cramptom made a communication on the subject of large and small driving wheels as applied to locomotive engines, in which he stated the following was the reason why the large wheels were after a series of experiments made on the Great Western Railway, first decreased and afterwards increased in size, viz., that the Ajax, which was built with 10 feet wheels and had a total heating surface of only 474 feet, was found not to answer; while the North Star with 7 feet wheels and 724 feet of heating surface *or* actual power, was found to work with efficiency. In consequence of this, the following two engines were then built: the Fire Fly with 7 feet wheels and 705 feet of actual power; and the Fury, with 6 feet wheels and 608 feet of power; after some months' working the small wheels were given up for want of power, and the larger ones, 7 feet, were generally adopted, thus clearly shewing that the size of the wheels had very little to do with the power, it being a question entirely of heating surface. He was of opinion that the ten feet wheels would have been at work at the present time had they had the 724 feet of surface applied to them in the first instance, as well as to the seven feet wheels.*

PARLIAMENTARY RETURNS RELATING TO THE BUILDINGS ACT.—In accordance with the suggestion made in our columns a fortnight back, Mr. Hawes has moved for a return "of all sums of money received for salaries, or by fees, or from any other source; either by the registrar, official referees, clerks, district surveyors, or by any other person employed in the execution of the Metropolitan Buildings Act, for what purpose, and for what duty or business the same has been received, and by whom received, since the said Act came into operation. And, also, return of all payments made, and all expenses incurred, from the said period, in the execution of the said Act; also, of all or any sums of money now owing to or by the department of the Metropolis Buildings Office."

FITZWILLIAM MUSEUM.—Mr. Cockerell has submitted drawings for the completion of the hall and staircases of the Fitzwilliam Museum, for which parts of the building Mr. Basevi had not left designs in a settled form. The Syndicate have expressed their entire concurrence with Mr. Cockerell's views as to the mode of finishing this part of the Museum; and have recommended that he be requested to prepare working drawings and estimates corresponding with his designs, with a view to a contract being made for the execution of the work. The designs are placed in the Fitzwilliam compartment of the public library, for the inspection of the members of the senate.

DISFIGUREMENT OF THE NATIONAL GALLERY.—The unsightly disfigurement at the east end still remains, and numerous other long pipes have sprouted up in various parts of the building. The continuance of the abominable deformity to which we have already more specially alluded, will impeach the taste and good feeling of every architect academician.

THE WORKS AT WELLS CATHEDRAL.—In our notice last week of the restorations now going on at Wells, we accidentally omitted to state that they are under the able direction of Mr. Benjamin Ferrey.

MEETINGS OF SCIENTIFIC BODIES.

During the ensuing week.

MONDAY, March 16.—Statistical, 12, St. James's-square, 8 P.M.

TUESDAY, 17.—Civil Engineers, 25, Great George-street, 8 P.M.; Linnean, Soho-square, 8 P.M.; Syro-Egyptian, 71, Mortimer-street, Cavendish-square, 8 P.M.

WEDNESDAY, 18.—Society of Arts, Adelphi, 8 P.M.; London Institution, Finsbury Circus, 7 P.M.; Microscopical, 21, Regent-street, 8 P.M.; British Archæological Association (Westminster Literary Institution), Leicester-square, 8½ P.M.

THURSDAY, 19.—Royal, Somerset House, 8 P.M.; Antiquaries, Somerset House, 8 P.M.

FRIDAY, 20.—Royal Institution, Albemarle-street, 8½ P.M.

SATURDAY, 21.—Asiatic, 14, Grafton-street, 2 P.M.

* We refer our readers to an advertisement in our present number, detailing the premiums offered by this society during the present session, for inventions and improvements, in connection with the arts, manufactures, and commerce.

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For supplying the parish of Greenwich with Cornish Granite Curb, and other paving-stones, &c.

For supplying her Majesty's Dock-yards with Riga fir-timber, Norway spars, &c.

For building a mansion and offices at Exning Hall, Suffolk.

For laying down, repairing, and keeping in repair for three years, the foot and carriage paving of the town of Cambridge.

For the erection of two lodges, with gate entrances, in front of the Industrial Schools, Kirkdale, Liverpool.

For the construction of an iron roof to cover 800 square yards of ground, being part of the coach station at Edge Hill, for the Grand Junction Railway Company.

For building a lock-up and keeper's residence, at Great Neston, Cheshire.

For constructing a bridge across the Etheron, near Birkenhead.

For building a church at Hollings, in Walsden, near Todmorden.

For the whole of the work required in the erection of a boiler-maker's shop, for the Manchester and Leeds Railway Company.

For executing the works of the first division of the Liverpool and Bury Railway, consisting wholly of brick arches and street bridges.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At the Bell Inn, Maidstone, 180 oak trees, of large size and superior quality.

At the King's Head Inn, Coventry, a large quantity of valuable oak, ash, and elm timber trees.

At the Black Dog Inn, Stretton on Dunsmore, near Coventry, 53 superior oak timber trees.

At Blake Hall, Ongar, 35 lots of large oak, ash, and elm timber trees.

At the Lion Inn, Rayleigh, 150 large elm and oak timber trees and pollards, now growing.

At Witham, Essex, 200 ash and elm timber trees.

At Lynford, near Brandon, 500 prime larch trees; 500 elm trees; a quantity of ash, lime, walnut, and Spanish chesnut trees, &c.

At the George Inn, Erle Stoke, 600 elm trees, and a few ash.

At the White Horse Inn, Romsey, upwards of 3,000 superior oak timber trees, of extraordinary quality and large metings.

At Little Bentley, Essex, 1,500 capital larch fir trees, and 500 ash ditto.

TO CORRESPONDENTS.

"G. F."—*Thanks. The paper shall appear next week.*

"An Old Subscriber."—*We cannot read the communication.*

"J. Barlow."—*An advertisement would perhaps obtain him employment.*

"A. M."—*We are not disposed at this moment to recommend one patent "dry gas meter." in preference to another.*

"J. A. D." *is thanked for his solution of "cant" problem. We have received the same from other sources.*

"J. H. M."—*Ditto.*

"M. Wright."—*Ditto.*

"W. H."—*The church commenced in Old-street, City-road, is to contain* 1,000 *persons, and will have a tower and spire. Mr. Ferrey is the architect.*

"W. M." (Seven Oaks).—*The letter was accidentally mislaid. We have discontinued publishing current prices in consequence of the diversity which we found.*

"H. G."—*The material of which the gates and palisades in front of Buckingham Palace are made, is a composition called* golden metal. *They were made by Parker of Argyll-street, Regent-street.*

"J. H." *will most likely find the information he seeks at page* 141, 190, 238, *or* 506 *of the last volume of* THE BUILDER.

"P. & L." (Oxford).—*Address Mr. S. Wride, secretary to the Hull General Cemetery Company.*

"W. Snow."—*Marine glue works, Limehouse.*

"Doulton and Watts," and "Chaucer's Tomb," *next week.*

Books.—*We are obliged to decline recommending books.*

Received: "J. A. P.," "A Parishioner" (Ipswich), "G.," "W. E. S.," "E. Pearse," "J. G. S.," "Mr. Newton;" "The Decorations of the Garden Pavilion at Buckingham Palace," engraved under the superintendence of L. Gruner. Murray, 1846.

ADVERTISEMENTS.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery.

Best Patent Cut Clasp.

3d.	4d.	6d.	8d.	10d.	20d.
6d.	7½d.	8½d.	1s. 1d.	1s. 6d.	2s. 3d. per 1000.

Best Sheet Floor Brads 16s. 6d. per cwt.
Best Town Glue 44s. per cwt. Do. Scotch 54s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6d., 7d., 8d. per inch. Self-acting Kitchen Ranges with Oven and Back Boiler.

Wrought Bars and Bright Fittings.

3 ft., 3f. 3s.	3 ft. 6 in., 3f. 12s. 6d.	4 ft., 4f.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

RAIN WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from 1½ in. to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, and No. 6, Bankside, Southwark.

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FURNISHING UNDERTAKER,

NO. 7, Stockbridge-terrace, corner of Vauxhall and Pimlico roads, begs to inform the Trade they can be supplied with every article requisite for funerals at the lowest furnishing prices, and a liberal credit if required.

For the convenience of the trade every facility is studied. LEADEN COFFINS may be obtained full trimmed in an hour, and every other article on the shortest notice. Cambric and Satin Shrouds, Winding Sheets, &c. Horses, Coaches, Feathers, Velvets, Heraldry, &c. Country orders punctually attended. No extra charge for delivering large coffins within ten miles.

ATKINSON'S CEMENT.—The public is respectfully informed, that the price of this very excellent Cement, which has now been in use for Architectural and Engineering works upwards of thirty years, is reduced to 2s. 3d. per bushel, and may be had in any quantity at Wyatt, Parker, and Co.'s Wharf, Holland-street, Surrey side of Blackfriars-bridge.

N.B.—This Cement being of a light colour, requires no artificial colouring or painting, and may be used for stucco with three parts its own quantity of sand.

PORTLAND CEMENT, which does not vegetate, and requires no colouring, is perfectly hydraulic, and resists the action of Frost. The cost of the material and of working it is about the same as Atkinson's Cement, Manufactured by J. B. WHITE and SONS, Millbank-street, Westminster, and sold at their Warehouses:—

Druce's Wharf, Chelsea,
Bell's Wharf, Paddington,
Earl-street, Blackfriars,
Albion Wharf, Deptford-bridge,
by Salmon and Co., Dublin,
and at 36, Seel-street, Liverpool.

ROMAN CEMENT, &c.
REMOVAL.
THOMAS JOHN CROGGON
Begs to inform the Trade that he has removed to
8, LAWRENCE POUNTNEY-HILL and
THREE CRANES WHARF, 69, Upper Thames-street.

Orders addressed to either place for ROMAN CEMENT of genuine quality will be executed with promptitude and the strictest regard to quality and economy.

KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Milbank-street, Westminster,

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 168, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

IRON BRIDGES AND PIERS.

THE Economy and Safety of DREDGE'S PATENT PRINCIPLE are explained in the "Mechanic's Magazine" No. 1172, and practically proved in Fifteen Public Bridges in Great Britain alone, four of which are Country Bridges for Common Road Traffic, varying from 50 to 294 feet in length. The continual destruction of Bridges and Viaducts is owing to an error of principle in their construction which is this. The line of equal horizontal thrust or pressure, both in suspension and compression bridges, should be sustained by the roadway, and not by the arch, as it universally is in the old systems; and hence the cost, the undulation and oscillation, and destruction of bridges are enormous.
Bath, Feb. 1846.

CAEN STONE.

LUARD and BEEDHAM have a quantity of the above stone, of the best quality, direct from their Quarries at Allemanye, which may be inspected at the Norway Sufferance Wharf, Greenwich.—Further particulars at Mr. G. GATES', 18, SOUTHWARK-SQUARE, SOUTHWARK.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

SAMUEL CUNDY begs to inform Architects, &c., that every description of Stone, Marble, and Granite work is executed at the cheapest possible rate.

Estimates given for Mason's Work in all its branches, Gothic Work, Tombs, Monuments, &c.

MARBLE WORK for Halls, Dairies, Tables, Columns, Vases, at most reasonable prices.

A large collection of Designs for Mural and other Monuments.

CHIMNEY PIECES from Twelve Shillings upwards.
Depôt for CAEN STONE, &c.

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AT REDUCED PRICES.

ALWAYS ON SALE, a LARGE ASSORTMENT of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¼ inch to 1¼ inch thick. Rough Boarding for Flats.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Smith-street, Westminster.

PREPARED FLOORING BOARDS.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, and Old-Barge-Wharf, Upper Ground-street, Blackfriars, a very large stock of well-seasoned Floor Boards of every variety.

A. R., in calling the attention of builders and consumers, confidently presumes on his being able to supply them on such advantageous terms, as will ensure and merit their favours and approbation.

THE SOCIETY

FOR THE ENCOURAGEMENT OF

ARTS, MANUFACTURES, AND COMMERCE.

President,
HIS ROYAL HIGHNESS PRINCE ALBERT, D.C.L. F.R.S. &c.

LIST OF SPECIAL PREMIUMS: Session 92nd, 1846.

UNDER the New Rules and Regulations, which have been adopted by the Society during the present Session, for the renovation of the working constitution of the Society and the more efficient promotion of its objects, the Council have recommended, and the Society has adopted, the following list of Premiums, approved by the Special Committees of the different Sections of the Society, and they are now offered for public competition :—

I.

In the SECTIONS of AGRICULTURE and CHEMISTRY.

A PRIZE OF ONE HUNDRED GUINEAS,
For the Invention of a mixture of materials for a wholesome, nutritious, and palatable Bread, to be sold at a low price and used as an economical substitute for wheaten bread, biscuit, or potatoes. The materials suggested are sago, rye, wheat, maize, barley, beans, peas, oats, rice, beet-root, parsnips, &c. To be given in on or before the 15th of April, 1846.

II.

In the SECTION of FINE ARTS.

A PRIZE OF TEN GUINEAS, WITH THE SOCIETY'S MEDAL,
For the Model of an Earthenware Jug, in one colour, to contain a Quart, with a Cover.

A PRIZE OF FIVE GUINEAS, WITH THE SOCIETY'S MEDAL,
For the Model of an Earthenware Mug, in one colour, to contain a Pint, without a Cover.

A PRIZE OF TEN GUINEAS, WITH THE SOCIETY'S MEDAL,
For the Design or Model of the Cover of a Bible, 9¼ inches by 13, to be executed in relief, in raised leather or in wood, either by the new process of burning or by the carving machine.

A PRIZE OF FIFTEEN GUINEAS, WITH THE SOCIETY'S MEDAL,
For a Water-Colour Drawing, 24 inches by 19 inches, of a Holy Family, suitable for engraving in wood, and specially prepared for printing in colours by wood blocks,—the object being to produce, at a cheap rate, a good picture, which may find its way into humble dwellings.

A PRIZE OF FIVE GUINEAS, WITH THE SOCIETY'S MEDAL,
For a small Geometrical Pattern for a cheap Kidderminster Carpet and Stamped Drugget.

A PRIZE OF FIVE GUINEAS, WITH THE SOCIETY'S MEDAL,
For the cheapest and most beautiful pattern of Mosaic or Tile Flooring, one yard square.

A PRIZE OF FIVE GUINEAS, WITH THE SOCIETY'S MEDAL,
For a Design of the most convenient, elegant, and cheap Washing-stand, Basin, and Ewer.

A PRIZE OF TEN GUINEAS, WITH THE SOCIETY'S MEDAL,
For the Model of a Tea Urn of a small size.

A PRIZE OF TEN GUINEAS, WITH THE SOCIETY'S MEDAL,
For Models of a plain and cheap Earthenware Tea Service, in one colour, consisting of Tea-pot, Basin, Milk-jug, Cup and Saucer, and Plate.

III.

In the SECTION of MECHANICS and MECHANICAL ARTS.

A PRIZE OF TEN GUINEAS, WITH THE SOCIETY'S MEDAL,
For a simple and good method of applying Steam Power, directly, to propelling Vessels by the Screw.

A PRIZE OF FIVE GUINEAS, WITH THE SOCIETY'S MEDAL,
For an improved Meter, applicable to measuring the quantity or volume of liquids passing through pipes under pressure on both sides.

A PRIZE OF TEN GUINEAS, WITH THE SOCIETY'S MEDAL,
For an improved Landing Pier, for embarking and landing Passengers, &c. by Steam-boats on Tidal Rivers.

A PRIZE OF FIVE GUINEAS, WITH THE SOCIETY'S MEDAL,
For a portable and compact Machine for Raising and Lowering Heavy Articles from Carts while standing on the streets.

A PRIZE OF FIVE GUINEAS, WITH THE SOCIETY'S MEDAL,
For a Horse Shoe, adapted to the several kinds of pavement now in use.

A PRIZE OF FIVE GUINEAS, WITH THE SOCIETY'S MEDAL,
For an Improved Method of Preventing the Emission of Noxious Vapours from the Gratings of Sewers; which shall permit a free passage of the sewerage, and provide against bursting the drains.

A PRIZE OF FIVE GUINEAS, WITH THE SOCIETY'S MEDAL,
For effective Ventilation of Ordinary Rooms, without cold currents or complex apparatus.

A PRIZE OF TEN GUINEAS, WITH THE SOCIETY'S MEDAL,
For a method of providing against injury and accident produced by the Noxious Vapours of Fusees and Explosions in Mining and Tunnelling, by means of improved ventilating apparatus or otherwise.

A PRIZE OF TEN GUINEAS, AND THE SOCIETY'S MEDAL,
For a Mechanical Contrivance for "Coal Whipping," to supersede the necessity of men nearly naked destroying their health and shortening their lives by hoisting coals from vessels on the river.

IV.

In the SECTION of MANUFACTURES.

A PRIZE OF TEN GUINEAS, WITH THE SOCIETY'S MEDAL,
For the best application of Glass to the construction of Water pipes Tiles, and Drains.

A PRIZE OF TEN GUINEAS, WITH THE SOCIETY'S MEDAL,
For the invention and application of a Cheaper kind of Glass than any now in use.

A PRIZE OF FIVE GUINEAS, WITH THE SOCIETY'S MEDAL,
For the best Machine for Cutting Wood into given forms.

A PRIZE OF FIVE GUINEAS, WITH THE SOCIETY'S MEDAL,
For the best Imitation of Ivory, in Plaster Composition, for Models and Sculpture.

A PRIZE OF FIVE GUINEAS, WITH THE SOCIETY'S MEDAL,
For the most elegant Design for a Stamped Table-cover in Woollen Materials.

A PRIZE OF TEN GUINEAS, WITH THE SOCIETY'S MEDAL,
For a method of Printing in Distemper by Blocks, so as to "keep register" more perfectly, and produce finer specimens of art in Paper Hangings than by the ordinary methods.

V.

In the SECTION of COLONIES and TRADE.

THE SOCIETY'S GOLD MEDAL,
For the best applications of Machinery, as a substitute for manual labour, in the various processes of Cultivation and Manufacture of Sugar, Cotton, and Coffee in our West India Colonies and the Mauritius.

THE GOLD ISIS MEDAL,
For the invention or importation of any Material, the produce of our Colonies, as a substitute for Hemp or Flax.

The object to be attained by these Prizes is generally sufficiently obvious, the encouragement of ingenuity and talent by publicity and distinction, the direction of invention to the most useful purposes, and the wider diffusion of taste and knowledge in objects of Arts and improved Manufactures is the object generally of the exertions of the Society.

The Prize for the mixture of ingredients for a wholesome and nutritious bread is the suggestion of a benevolent individual, who has contributed largely to the Prize Fund of the Society. It is peculiarly applicable to the present wants of the people, when the coarser kinds of grain and other food are required to be used for the supply of deficiencies in the usual crops; and it is believed that an article much more nutritious than potatoes, and equally palatable, may be obtained by a mixture of wholesome but cheap materials at a price less than half that of ordinary bread.

The Prizes in the Fine Arts are intended to promote the diffusion of a love for the symmetrical and the beautiful, by supplying in cheap materials, of elegant forms, objects suited to the familiar uses of every-day life. It is required, therefore, of competitors, that the forms chosen be distinguished by simplicity in their beauty, and by facility of execution in cheap materials, so as to be sold at low prices for general use. The Designs rewarded to become the property of the Society. The name of the contributor should be enclosed in a sealed envelope, with a motto or device on the outside. The objects of the remaining Prizes require no explanation.

NOTICE.

Candidates are requested to observe, that if the means by which any of the proposed objects are effected should be found to occasion an increase of expenditure or labour unsuited to general purposes, the Society will not consider themselves bound to give the offered reward. They expressly reserve the power, in all cases, of giving such part only of any premium as the performance shall be adjudged to deserve, or of withholding the whole. The candidates, however, are assured that the Society will judge liberally of their claims.

All Communications, Drawings, and Models designed for competition must be delivered to the Secretary of the Society of Arts, at the Society's Rooms, John Street, Adelphi, postage and carriage free, on or before the 15th of May, 1846.

EXTRAORDINARY CONTRIBUTIONS.

The following Extraordinary Contributions have been generously offered to the Council for the promotion of the objects of the Society under the New Rules and Regulations, for furthering the increased usefulness of the Society, for extending the lists of Premiums, for assisting to obtain a Charter, and for the other objects named in the Address of the Council, recently circulated among the Members.

TO THE SPECIAL PRIZE FUND.

A. R.	£150	0 0
C. D.	50	0 0
	£200	0 0

GENERAL DONATIONS.

Thomas Lewes	£25	0 0
John Lapps	10	10 0
	£35	10 0

LOAN FUND OF £1000.

T. Webster	£50	0 0
W. F. Cooke	50	0 0
T. Whitshaw	20	0 0
E. Speer	50	0 0
J. S. Russell	50	0 0
G. T. Kemp	50	0 0
Sir I. L. Goldsmid, Bart	50	0 0
R. Stephenson	50	0 0
A. A. Croll	10	10 0
	£250	0 0

INCREASED SUBSCRIPTIONS

C. Holtzapffel	£5	5 0
G. Bailey	5	5 0
P. Vaughan	5	5 0
P. L. M. Foster	5	5 0
W. F. Cooke	5	5 0
T. Whitworth	5	5 0
B. Albano	5	5 0
A. Weil	5	5 0
W. Everett	5	5 0
T. Donaldson	5	5 0
J. Hutton	5	5 0
W. N. Campbell	5	5 0
R. H. [illegible]	5	5 0
J. [illegible]	5	5 0
I. L. Pratt	5	5 0
J. W. [illegible]	5	5 0
A. A. Croll	5	5 0
L. Amos	5	5 0
	£117	8 0
	£753	13 0

The Supplementary List will be published at an early date.

The Builder.

No. CLXXII.

SATURDAY, MARCH 21, 1846.

IF you wish to *hasten*, don't *hurry*, is a sound piece of advice. Extreme haste is seldom wise, but hurry, which is precipitate, out-of-order, confusing haste, is never so. The word is derived, if we remember rightly, from the Saxon verb "to plunder," and means literally, to put into confusion. This remark is *apropos* of the Bill misnamed, one "to *amend* an Act for regulating the construction and use of Buildings in the metropolis," which we last week printed in full. It was drawn up in a hurry, sent to the lower House in a hurry, passed though it in a violent hurry to the Lords, and must now be sent back, or we shall be greatly surprised, to amend an error which is obvious at the first reading, to all who are acquainted with the Act itself.

In the construction of terms at the commencement of the Act, the word "surveyor" is defined "to apply to all surveyors to be appointed in pursuance of this Act;" to mean in fact, when used without any addition, the *district*-surveyor.

In the 80th section, the right of any official referee to practice as an architect (with provision not to act "as referee in the case of any building or matter in which he shall act as architect,") is distinctly recognised; but he is of course prohibited from acting as a surveyor, —*id est*, a district-surveyor, "either alone or with any partner." The 95th section provides that if any person be or become "commissioner, receiver, steward, or agent, for or on behalf of any owner of houses within the limits of this Act, then such person shall not be eligible to the office either of official referee or of registrar;" and if, after being appointed, he shall become "such commissioner, receiver, steward, or agent, then he shall cease to be qualified to hold such office."

All this is perfectly straightforward, clear, and very reasonable.

Now we come to the new Bill, the third clause of which is headed, "Official referees *may* act as surveyors with permission of Secretary of State," the preamble of the Bill, we should say, having first set forth that by the Act, "the said official referees were prohibited from acting as surveyors" (district-surveyors), or becoming receiver, agent, &c. The first part of the clause in question, that our readers may have the matter wholly before them, is as follows:—

"And be it enacted, that notwithstanding any thing in the said recited Act to the contrary contained, it shall be lawful for one of her Majesty's principal Secretaries of State, if and so long only as he shall think proper, by any writing under his hand, to permit and authorize any one or more of the persons who for the time being may hold the office of official referee to act as surveyor, either alone or with any partner, or by an agent; and no person shall be ineligible or disqualified from holding the office of official referee by reason of his continuing to act as a surveyor with such permission as aforesaid, or by reason of his being or becoming commissioner, receiver, steward, or agent, for or on behalf of any owner of houses or land within the limits of the said recited Act, provided the fact of such person being or becoming such commissioner, receiver, steward, or agent be notified to one of her Majesty's principal Secretaries of State, and licensed by him in writing, before such person be appointed or continue to act as official referee."

The apparent intention of the clause, therefore, is, that the official referees may be appointed district surveyors also,—a notion so monstrous, that it hardly seems necessary to say (as we confidently can) that it never entered the minds of those who framed the new Bill.

Altered, however, it *must* be: the public cannot safely give power to permit such preposterous union of functions to any Secretary of State, however unlikely it may be that he would avail himself of the right; and the Bill, as we have already said, must therefore go back to the Commons.

So much for what the clause says and don't mean. The real intention of it is, to authorize the appointment, as referees, of members of the profession holding the office of surveyor and agent to certain estates within the limits of the Act, and to enable referees to become stewards and agents, an intention which, on several grounds, we cannot regard favourably. Our great objection, however, is to the Bill *in limine*, as tending, beyond a doubt, to postpone the revision of the Act, and throwing additional difficulties in the way of it; although we object to *hurry*, we strongly advocate all proper haste, in a case where the peace and quiet of the whole metropolitan community are concerned.

The general feeling against the Act continues to increase: public meetings have been held in Marylebone, Lewisham, and elsewhere, and committees appointed to adopt such measures as may be deemed expedient for remedying the evils complained of.

In the Marylebone vestry (Dr. Spry in the chair), the subject was brought forward by Mr. Nicholay, who gave another proof in the course of his speech, in addition to the number already afforded, that it is the really unimportant and trifling parts of the Act, and the indiscretion of some few of the district surveyors, which have annoyed every one, and arrayed all London unanimously against it. The Metropolitan Buildings Act has been wrecked on pig-styes, pigeon-houses, and chimney tops.

Mr. Biers said justly, there should be no delay in their operations:—If they allowed another week to expire, the opportunity of offering any useful opposition to the Bill would be gone. It had been thought until now, that the Bill under consideration was simply and exclusively a builder's Bill; but the public were beginning to feel that the builders had really less concern in it than themselves. He should like Mr. Nicholay to move that a petition be framed, and that a deputation be appointed immediately to wait upon Sir J. Graham, to convey the sentiments of the vestry. Other parishes in the metropolis were taking up the matter, and he had been authorized by the parish of St. Martin's, in which he resided, to say, that they were most anxious to join with the Marylebone and other vestries, in a vigorous attempt to abolish the Bill.

Sir Peter Laurie wished that Lord Canning should be appealed to on the subject. Ultimately a committee was empowered to take all the necessary steps.

The meeting at Lewisham (held at the Black Horse Inn on the 16th instant), was called by public advertisement, setting forth that the Buildings Act had caused discord in all quarters of the parish, previously acting in great harmony, and calling on persons who had felt themselves aggrieved by the conduct of the district surveyor, to forward their complaints in writing to the chairman. The meeting was very numerously and respectably attended. Mr. Robert Harrild, of Upper Sydenham, was in the chair. Amongst other speakers, Mr. W. Hill, builder, of Greenwich, said, that being interested not only in Greenwich but Lewisham, he attended for the purpose of stating his opinion upon the iniquity of the Act. He was happy to say that in the adjoining parish of Greenwich a committee had been appointed, which was to meet that evening at half-past eight, and that having drawn up the draft of a petition, which boldly embraced the objects of the meeting, he would, with their concurrence, submit it to them. It set forth, "That the Act called the Metropolitan Buildings Act is of such a nature as to call forth from your petitioners their most unqualified disapprobation for the several reasons hereafter assigned. 1. On account of the undue interference with parochial rights. 2. The awards made by the official referees wherein those acquitted of error should be condemned in cost. 3. The fees demanded by the district surveyor. And 4. The litigious interference on the part of such district surveyors; and praying for a total repeal of the Act. It was then resolved to adopt this as a form of petition to both Houses of Parliament, and a committee of fifteen gentlemen was appointed to watch proceedings.

A subscription was proposed and liberally responded to. A number of written complaints were received, copies of which have since come into our hands; they all relate to matters of the most trifling description (pig-styes, chimney-tops, and sheds), however harassing they may have been to the parties concerned, and reflect more on the conduct of the district surveyor than on the Act.

On the same day, a meeting was held at Woolwich, when various resolutions were passed, and a petition agreed upon, praying for the total repeal of the Act. These resolutions will be found in our advertising columns.

THE FINE ARTS AND ROYAL PATRONAGE IN BAVARIA.

FROM NOTES IN AN ARTIST'S SKETCH-BOOK.

ROME, *Sept.* 1844.—The Italians of the present time have a considerable portion of talent, and great skill in the performance of fresco painting; several Germans have also performed works of some merit in that style, but not equal to those of Copalti, and these, as might be expected, are, however skilful in the mastery of the materials, not to compare with the great old masters. After spending the day in contemplation of Raffaelle's and other magnificent works at the Vatican, I called on an artist (Fierone): he possesses two colossal heads of children, by Corregio, which struck me more forcibly with the power of fresco to give a perfect representation of nature, than any thing I had seen. Again and again I have repeatedly visited the Corregios at Fiorone's, and with increased admiration. They have been varnished, which takes from them the peculiar advantage that frescos possess of being seen in any light, but surely their depth and richness partly depend on it. Generally the frescos of Titian and Corregio excel all others in depth and rich mellow effect. A Cupid, by Dominichino, in the old palace near the Torteroga, or Jews' quarter, is however extremely beautiful, but Titian's St. Christopher has unequalled power.

Oct. 8th.—Arrived at Munich at 4 o'clock in the morning. Half the town exhibits a good many gabled houses of the 15*th* century, with carved doors, windows, and knockers, but very inferior to Neuremberg; the other portion of Munich is modern and tame, by no means splendid. In the Hoff-garden saw, under a sort of loggia, a number of frescos, much too

poor to be by any eminent artists. I have since learned the truth, and found Kaulbach ashamed of his portion of them: he has abandoned fresco. Exhibition of modern pictures (Art-Union) open; great deal of cleverness, but not even an attempt, above landscape and domestic scenes. Surprised to find a total absence of that imitation of the early Italian tempera painters, that ethereal quaintness, which I had understood the German artists of Munich to be remarkable for.

9th.—Went to the Pinacotheca. The building, which is a fine, large, well-proportioned edifice, standing alone outside the town, inspired me with feelings of respect for the king or country who thought so worthily of the art. It is entirely consecrated to works by old masters; but the splendour of the building increases the astonishment and disappointment experienced, on contemplation of an overwhelming number of bad and mediocre pictures in the collection, out of all proportion to the very few fine ones. The injudicious arrangement of these bright exceptions in regard to their perspective; the great importance attached to the works of Rubens, beyond all others, in a town where colouring is so little understood, and especially for numerous sketches quite unworthy the reputation of the artist, and disgraceful to those who placed them there; the entire want of arrangement of the different schools, as illustrative of the progress of art; the various instances of many daubs by the same hand, when one only as an illustration of the state of art might have been, and on that pretext alone, excusable, enforced on my mind a sad truth in regard to the taste of a court so renowned for its munificence. I felt it immediately influence me in reference to the *tone* and capacity of the artists about the court. If the object of a national gallery of pictures is to assist in awaking, and in giving a right direction to the moral perceptions of the people; to supply the student with the principles that led to the greatest achievements in art; to form his taste and excite his emulation, whilst it directs the matured artist, like a finger-post on the direct road which he is to tread,—if these are the objects of a national gallery, this of Munich is a miserable failure. Visited also the Basilica, an unfinished church in the Byzantine style of architecture. The decorations in fresco are by Hesse and his pupils, and represent St. Boniface. They occupy two sides of the building above the columns. The composition of some of the compartments is good; the colouring is poor, sickly, and yet inharmonious; the drawing is seldom true, and never of a high character; there is no attempt at effect of light and shade, and, consequently, the pictures are all flat and ineffective. Some of the medallions, in simple black and white, that intervene between the pictures, are pleasing. The ornamental part is much better than the fresco subjects, though from the choice of faint, sickly colours, the design is nearly lost in the feeble effect. It appears as though the pepper and salt, blue with white, which constitute the national or royal colours, were made imperatively to control the taste of every artist. The sickly combination is to be found all through their decorations, not only in public offices and buildings, but even in private residences, and certainly influences their frescos as far as I have yet seen.

10th.—Visited this morning the Glyptotheca. We were hurried so rapidly through, that little beyond a general notion of the arrangement could be obtained. In that respect it appears to be more satisfactory than the Pinacotheca, more according to historical truth, and in much better taste. The building seemed admirably adapted to its purpose, and the coup d'œil of some of the rooms, was quite in accordance with the tone of thought and feeling excited by the sculpture.

11th.—Rain all the morning. At noon went to the Royal Palace, and saw Schnorr's illustrations of the great national poem. He was working at one of his frescos. He speaks but little Italian. As fresco painting admits of no delay, he proceeded with his work in my presence. His palettes, of which he had many, were of tin; he worked timidly, but carefully. He appeared to have merely washed in the local colour, and was modelling it thinly out; the appearance of what he had done was poor, opaque, and dirty, particularly the flesh; that of the men a dirty brick-dust, that of the women chalky; to talk of execution would be a waste of time. The poorest of the modern Roman fresco painters is very superior to the best I have seen in Munich in that material. Whatever the capacity of the artist may be for sentiment, character, and expression, with so little mastery of the material, he cannot paint them. The two compositions, one on either side of the door of the first room, are rather prettily conceived, especially that of the lady with the hawk, resting on the departing knight, but the faces are insipid and ignoble, whilst the drawing is clumsy and incorrect. I see nothing yet in Munich to induce me to think that the Germans understand the principle of fresco painting, except *Rothman's fine landscape*. At 3 o'clock went to the Royal Palace, to see the decorations of the apartments; had, from a side passage, a good view of the grand staircase; it is a double flight of broad marble steps, terminating in one wide central staircase, with marble balustrades. Three sides are architecturally like the Loggia of Raffaelle at the Vatican; the columns are Ionic. Perhaps a more fortunate architectural combination could not have occurred for the display of pictorial talent. A large well-lighted square of noble proportions, with thirteen cupolas, but the painted decorations are so tawdry and trumpery, that they would disgrace a toy-shop, and it claims notice only as an instance of a noble structure destroyed by the bad taste of the decorator; and that at Munich!

After waiting about an hour, we at length entered with the rush. The rapidity with which we were led through so many rooms allowed no opportunity of minute criticism. The impression on my mind at this moment is, that an endless glare of tawdry ornament, in which pepper and salt is mixed with tinsel, pervades every part. Caryatidæ are disfigured by having their legs and arms painted flesh colour, and their cheeks highly daubed with red; their hair is gilt, and their draperies are blue and white. In Schnorr's enormous battle pieces, I could discover no point of interest, no touching episode; the colouring is very gay, and being in encaustic, the surface is shiny and looks waxy. But this artist and his pupils have much greater power over the encaustic materials, than they have over those of fresco. With the faults of oil-painting, it evidently possesses also its merits, liquidness, depth, and transparency, and I am told that it works freely, and drys so fast, as to allow painting over three or four times a day. But these peculiarities remind me again of the surpassing beauty of Fierone's Corregio under a varnish. Cannot we obtain richness and depth without the glare of reflection? In these encaustics, the waxiness of the surface on every object, horses, cloaks, flesh, &c., is very objectionable. As works of art, these battle-pieces evince a decidedly bad taste; they are showy and meretricious in colour, without a particle of that individuality that characterizes the student of nature. I have not seen any of his cartoons. There are, however, two rooms in the palace that pleased me much, from the novelty and taste displayed. Portraits of ladies, friends of the king, in massive gold frames, are placed at equal distances on an ample ground of deep maroon scagliola, with nothing to disturb the striking effect. Among the ladies here represented, are several of the English aristocracy among foreign ballet-dancers. How different is the ball-room from the portrait rooms; instead of the noble simplicity and beauty, it is trumpery to an extraordinary degree. How could Schwanthaler, the eminent sculptor, allow his bassi-relievi to have their faces and hands daubed with red paint, and their draperies disfigured with the eternal pepper and salt blue and white.

The throne-room has an imposing look from the bronze gilt statues in armour around it; and the throne is very fine, and so is the size of the room, but the style of ornament is not in character: it is too trivial for the object of the room, and destroys the grandeur we should expect from the statues. Schnorr's encaustics occupy three large rooms. That in which Schwanthaler's bassi-relievi are painted red, blue, and white (the ball-room), is so spoiled by — Strauss. The throne-room is the work of Schwanthaler. The portrait-rooms, decorated, or arranged by the architect, Steiler. Cornelius has nothing in Munich to compare with his early frescos at Rome, in the house called the Tiempeto, on the Monte Pinccio, where it is said Salvator Rosa once resided, and next to that occupied at the same period by Claude Lorraine. Those in the Glyptotheca, and his great work, "The Last Judgment," in the Ludwig Kirche, are only remarkable for extreme boldness. Upon the whole, the works executed here, as well as those under royal commission, as those in the annual exhibition, are devoid of the spirituality of Overbeck, and two or three other Germans at Rome. And how inferior to Brunoff, the Russian, who, whilst at Rome, more than rivalled them by his immense but grand figure of Christ in the garden, and his still more admirable Moses amidst the plague of serpents. Let us hope that the patronage of his sovereign will not palsy Cornelius's powers, as that of the King of Bavaria has, by directing, neutralized the energies of the German artists.

12th.—From various conversations among them, I find general regret prevail among the artists of Munich. The king's impatience to have his intentions carried out in his lifetime, allows no time to study the subject or composition, none for improvement. For ever at their back, urging speed, they have ceased to reflect and study. Kaulbuch alone is not a slave to royal impatience; he follows his own feeling. "The Battle of the Huns" is his lofty production, and very fine; but his extraordinary talent is more peculiarly in humorous satire. "The Renegade Fox" is too witty for royal patronage, but unequalled by living Europe: it will in future ages rank in its way with the graphic characteristics of Hogarth. Sometimes, in favour, he paints for the king, at others, he looks to the people for approbation and remuneration. This would be more extensive if royal patronage was less active.

CONTEMPORARY CRITICISM ON ART.

The *Art-Union Journal*, in accordance with the spirit of its endeavours to promote the influence of the fine arts, has lately devoted much of its space to illustrations of ornamental and decorative art. There is no direction in which it is more desirable to extend the ascendancy of taste, than that which tends to beauty of form in articles of common use. The most fortunate epochs in the history of the higher arts, were precisely those in which their influence was reflected upon the arts, which minister to ordinary wants. The same men, who were greatest at the easel or the marble, were likewise eminent in decorative and ornamental art. The legitimate scope of art embraces a wider field than many have hitherto considered; it includes the decoration of rooms, in the walls and ceilings; the designs of furniture, curtains, and carpets; of porcelain, glass, ironwork, indeed of every thing having form or outline. It could hardly have been supposed, with such brilliant examples as the history of art affords, that any modern architect, sculptor, or painter would consider such branches inconsistent with, or derogating from his main pursuit. Yet strange as it may appear, such seems to be the case. Common as it was once for one individual to understand and practise the three branches of high art, in all their subdivisions, there are now none, whose knowledge is so comprehensive, and few, who practise in any degree, ornamental and decorative design. With such views, we cannot but look with pleasure on any attempt in the right direction, especially when the duty is performed, as in the journal above referred to, generally with great ability.

In the matter of any critique, likely to have an influence to a great extent didactic, it is very necessary to guard against any misunderstanding of the writer's opinions. Whether the impression, we have received, be due to the difficulties of explanation in a confined space, and with diagrams to a small scale, or whether the opinions themselves are erroneous, we will not here examine, our object being rather to serve than to injure a journal, in which we see so much to applaud, and which we feel to be a powerful auxiliary in a good cause. The main point then, to which we would direct attention, is, that sufficient distinction, we consider, is not drawn between the copying of nature, and the adaptation and union of its forms with the graces of art. That Nature though the best school of art, is not the object for servile imitation has been dwelt upon by every writer upon taste, and we need not go

far to prove this admitted canon. If the perfection of skill in any work is of the character to deceive the eye, the main aim of art is lost, which is not to call for admiration when that has previously been given, or for disgust at the discovery of a deception, but to keep in view the producer of the work, and the variations which art is capable of effecting upon a familiar type. In the beautiful group, the monument to Mrs. Warren, by Westmacott, in Westminster Abbey, the first object that arrests the attention is not the dejected look of the mother, or the skilful modelling of the head and limbs, but the sackcloth covering, in which every thread is represented. In wood-carving, the only successful subjects would be such as were of wood, as branches of trees. It may, therefore, be often requisite to keep below what is necessary for accurate imitation. An opposite theory would raise Madame Tussaud's figures above those of Flaxman. Were we desirous to specify the main requirements in a good work of art, we might venture to say—the reminiscence of some familiar type, with whose details the designer was conversant, united with the most indisputable evidence of artistic skill. The most beautiful works of Gibbons themselves claim our admiration for a quality, which is second to that of high art, an art, which is rather that of the hands than of the head. It is wonderful, that feathers and foliage could be so expressed in wood; it would be still more wonderful if in iron. But true ART does not thus vary by a change of vehicle, unless that be made the motive of the treatment, and what is fitted to one material be copied in another; the basest material and the richest are alike capable of its most noble efforts.

The type, in objects of useful and ornamental, is less readily explained than in those of fine art, and may be considered to be rather an embodiment of the principle of utility. Consequently the forms of those objects must always be such, as it is at once evident are best fitted for the main end. The forms of nature, and the rules of art, are rather the matters engrafted upon this principle, than *obvious* in the design. The useful end should be completely fulfilled, and without danger of misconception. In illustration of this, we refer to the letter from Paris, in which are some remarks on the forms of letter clips. Though the hand is considered by the writer an improvement upon the first design, it is in fact very inferior for the use of the clip. Any one who makes trial of the two, will find this the case, therefore every future design should vary in no degree from that, which completely answers the object, in any point which may interfere with that end.

We cannot but admire many of the objects, depicted in late numbers of the journal. They are great steps in advance, in the application of design to matters of utility, and well deserved the notice they received. But it seems to us, that something more is required in a journal of art than a mere retrospect of improvements, however much this review may extend the good influence. It should be the aim of the reviewer to direct towards the real end of art, and to shew in what forms, it is capable of affording the largest amount of satisfaction. Much may have been produced, worthy of our praise, but the first object should be to turn the stream through the proper channel. All mermaids, which turn out to be taper stands, flowers which are curtain holders, and bunches of leaves, which are jugs, candelabra, or hat pegs, we take to originate from entirely erroneous views. Such mistakes avoided, and we have little doubt that art is capable of a much wider range, and will afford more gratifying impressions.

Another point for notice is that very common idea, which always expresses disproval of a design, because it brings to somebody's mind an offensive object. We believe we could point out several instances in the same journal, but confine ourselves to the remarks on bell-pulls, which are objected to in two places, apparently from no other reason than that the writer has discovered them to be like hangman's nooses. Not having seen that description of cordage, we cannot say that it is at all like any thing we may chance to run our head against, neither can we see why such an idea should have caught the head of the critic. Were we at pains to find similar resemblances, we might discover them in objects the most beautiful, and consonant with our ideas of taste. The bell-pull may in many cases be more appropriate than the bell-lever, and certainly, omitting the writer's condemnation, seems to be more capable of enrichment. We do not mean, that anything to which there is a natural repugnance should be needlessly imitated, but with a work of art, as a dog, a "bad name" has a synonymous meaning.

In continuation, we think that too high a merit has been ascribed to the works of Birmingham manufacture. These are precisely what an illustration on a small scale is liable to flatter. The drawing does not shew all the deficiencies in relief and under-cutting, which are characteristic of almost every thing, that Birmingham produces. We have seen, exhibited as triumphs of skill, works which an artist of the middle ages would have been ashamed to own, so wanting were they in that, in which casting fails. They were, in fact, such patterns as would "draw," and few manufacturers have an idea of any thing better.—We dissent from the great praise of the process of "wood-carving" by burning, because it fails in a like point to that just mentioned. Unless the process has received some recent improvement, it is not able to execute any under-cutting, and these parts have all to be completed by hand. Consequently, as in Birmingham work, such designs are liable to be chosen, as do not require that addition to the expense. It is also right to say, that, though the cost may be moderate in works which have to be multiplied, where variety is the object, the difference between it and carving by hand is less considerable.—We might extend our comments on such matters as chimneys, which we think "were" *not* "such eyesores in architecture," and in which modern improvements —to wit, cowls and chimney-pots—do not "gratify our taste;" but we have probably attained our object, which was to call the attention of the able writer in the journal in question to the views, which we have endeavoured to advocate. E. H.

CHAUCER'S TOMB IN WESTMINSTER ABBEY—ITS PRESENT STATE.

SIR,—On the 25th of August, last year, I sent a letter to *The Times*, a copy of which I intend to subjoin to this, respecting the present dilapidated state of Chaucer's tomb, in Westminster Abbey. The subject has since been noticed in some of the weekly papers, *The Pictorial Times* and others. In the earnest hope that something will be done, I am induced to forward you an account of its present defaced condition (to which allusion is made in Mr. Charles Cowden Clarke's edition of this great poet's works), and a copy of the original inscriptions on it, now *illegible*.

It does seem a reflection upon us as Englishmen, to allow the tomb of the father of our verse to be so obscure and unknown, as that few persons know where to look for it when visiting the Abbey, and it is only by the vergers having chalked over the letters "*Galfridus Chaucer*," that we can tell, when walking round Poet's-corner, that we are close to the poet's grave. I am quite sure that this very interesting subject has only to be properly placed before the public, to secure immediate practical attention to it. For midst the rush of railway plans, prospective or perfected, the conflictive interest in the corn law question, or the very interesting events in the recent strife on the Sutlej, still some few moments may be found, and perhaps a trifle shared for an object like this, which will do honour to our better feelings, by shewing our respect for departed greatness,—for the venerable patriarch of English poetry.

The present monument was erected by Mr. Nicholas Brigham, of Oxford, in the year 1556, a gentleman who enthusiastically honoured the memory of the poet. Upon the monument he caused Chaucer's portrait to be painted from that which was in Occleve, his scholars' book, and added the inscription, the whole of which is now obliterated:—

Qui fuit Anglorum Vates ter maximus olim,
GALFRIDVS CHAVCER, conditur hoc tumulo,
Annum si quæras domini, si tempora mortis,
Ecce notæ subsunt, quæ tibi cuncta notant.
25 Octobris 1400.

Ærumnarum requies Mors.

N. Brigham hos fecit musarum nomine sumptus, 1556.

Translation.

He who was the most eminent of English poets —Geoffrey Chaucer, lies beneath this tomb; if you require the term of his life and the year, the record is subscribed which will inform you all.

25 October, 1400.

Death is the repose of sorrow.

N. Brigham placed these in the name of the Muses at his own cost, 1556.

Around the edge of the tomb verses are said to have been inscribed, now also obliterated, to the following effect:—

Should you inquire who I was, mayhap Fame will instruct you, but if Fame refuse (since the glory of this world passeth away), read this memorial.

Now this we cannot do, for in its present state it is unintelligible, and worn away from age; and we may not inaptly quote from an adjoining epitaph to a brother bard, Drayton, respecting it:—

> "And when thy ruins shall disclaim
> To be the treasurer of his name,
> His name, which cannot fade, shall be
> An everlasting monument to thee!"

Trusting your readers will pardon the length of this statement, and though it be descriptive of a dusky, ancient, and almost forgotten tomb, yet if it meet fit audience, though few, and cause some sympathy to be felt towards the memory of one of the fathers of our literature, whose works have only to be read and studied to be admired, my time will not have been idly or uselessly spent, but an end, and that a good one, will have been accomplished. Leaving these suggestions to be more ably and practically followed up by other hands, I have great pleasure in forwarding them, in the humble hope of their ultimate success, and subscribe myself, your obedient servant,

SAML. SHEPHERD, F.S.A.

March 6, 1846.

The following is the communication referred to:—

Sir,—Your columns are ever open to the advocates of propriety, and on no occasion have you been backward to honour the departed greatness of the earth. The subject of the following few lines is, then, to stir up the minds of some of your readers, and the public generally, to the present dilapidated state of Chaucer's tomb in Westminster Abbey, indeed such is its present condition, that the name of the father of English poetry can only be deciphered by the assistance of a tracing in chalk over the letters. Thus few persons are aware when loitering through Poet's-corner, that they are treading over the ashes of one whose memory ought to be respected by all his countrymen; and foreigners visiting England must feel surprise in viewing the ruinous appearance of the grave of our oldest English poet. Were the tomb only repaired in some degree, that is, cleaned, and a slab of marble inserted in the wall with the old inscription, which is extant, cut neatly upon it, this would be something, and might be done at but a trifling cost. Many would subscribe to such a good work, and if it were done publicly, more than enough would soon be raised. The shilling of the admiring peasant or artisan should be accepted for such a purpose, with the larger donation of the more affluent, but still poet-loving individual.

The tomb of Edmund Spenser was "restored by private subscription in 1778." Shall we feel less alive than our forefathers seventy years ago, to the claims which these fathers of verse have upon our loving and respectful memory? The tomb of the great father of poetry was erected by N. Brigham, who in the year 1556, "in the name of the Muses," placed the present inscription (now by the hand of all devouring time rendered almost illegible). Let us then entertain a hope that very shortly, in these days of light and knowledge, some respect will be shewn to the mighty dead, and that the author of the *Canterbury Tales* will not be suffered to lie in a spot unmarked, and with scarcely his name discernible, except by some inquiring antiquary. Let our conthis imitate the excellent feeling up with the tinental neighbours, whose inscriptions, &c., most sacred love poets and statesmen. Let us relating the when walking through the beautiful minster, to point our children to the place

where repose the ashes of our great English poet, whose lovely tale of the patience of Griselda has often drawn tears from our eyes. Leaving these remarks to be followed up practically by others better able to advocate the subject,

I subscribe myself,

A RAMBLER AMONG THE TOMBS.

FOREIGN ARCHITECTURAL AND COLLATERAL INTELLIGENCE.

Project of the Great Paris Canal.— Mr. Arago's Plan.—The idea of connecting Paris with the ocean by way of *canalizing* the Seine, is of no very recent date, but seems now to be near its realization. As far as the French capital is concerned, the canal there has two different aims to attain—the putting on board, and landing of merchandise, and as a means of transit. Mr. Arago's opinion, stated in the Lower House, is this: "The navigation of the Seine *downwards*, is certainly the most important; which, however, is fraught with danger between the Pont Notre Dame and Pont au Change. The rapidity of the river is great here, and by a strange distraction of the engineer and architect, the arch for vessels passing in the former is just *opposite* a pillar of the latter. This inconvenience in the way of traffic, must, with others, be remedied. Mr. Arago thinks, that the works to be executed should embrace both arms of the Seine. His plan is to *bar* the river near the Pont Neuf, sufficiently high for the objects of navigation, and to establish at the same point an engine for distributing the waters of the Seine all over the town. This engine would have a 4,000 horse power, because this is really the force of the river at this point. This would be effected by means of *turbines* placed longitudinally. Thus you will obtain 10,000 inches of fountain water daily, ever available for the highest quarters of the town. This would, therefore, according to present prices, yield an income of 330 millions francs annually, of which the costs of the engine might be deducted. But this engine works twenty-four hours a day, and requiring no sustenance, the price of water could be decreased by 170 per cent. of the present price. He also, like Mr. Lamartine, demanded a plenty of cheap water for the people. By this plan, also, all the fosses of the fortifications could be filled with water in three days."—*Journal des Débats.*

New Moving Power.—A new machine has been viewed by a commission of the Institute. The inventor is Mr. Trembley, and the experiments were made in the ateliers of Mr. Philippe. Mr. T. employs, for obtaining rotatory motion, *two* combined engines; one moved by steam (of water), and the other by steam of ether. The second engine does not work but by the aid of the first—thus: the steam, after having passed the cylinders of the first engine, is conducted at its issuing point into the water-proof *chape* of a vessel containing sulphuric ether—which, at the same time, is the generating cause of the vapour of ether, and the condenser of the steam; the heat of the latter being sufficient for developing the vapour of ether, which moves the second engine. On escaping from this, the vapours of ether goes to the condensator placed in cold water; it becomes there condensed with as little delay as it took to form it. An extracting pump, brings back to, and aliments, the generator, the ether liquified by this refrigeration. Thus, the process recommences with the same ether, which, during the whole operation, is preserved just the same as the water and steam. The quantity which escapes is very small, and this has been most difficult to overcome. The advantages of this engine are —a saving of 50 per cent. in fuel, as it suffices to heat one engine for making both work. The expense of ether is null. The engine occupies much less space and weighs less than others. It produces *distilled* water, which returns constantly to the boiler, and thus will prevent the destructive effects of sea-water on the iron sheets of the boiler. By saving the quantity vessels the space and weight it occupies in which combio to be taken into account, all spect) an improvewill make it (in every reengines.—*Journal des Tra* the present steam-

Reconstruction of the Viaduct &ublics.

These works are carried on with prodigi activity. The masses of ruins have been removed as by enchantment, and the new scaffolding is nearly all ready for raising again this aerial road. For the last month, seven or eight hundred labourers have been daily employed in merely clearing off the *débris.*—

Signs of the Times. Hamburg.—A few days ago, a large *newly executed* warehouse on the canal, near the great Burstah, fell down with a great crash. The owner contends, that this has been caused by some particular orders emanated from the building authorities (*Baubehörde*), and claims damages, as well as the merchants, who had placed goods in it.

Bursting of a Gasometer at Berlin.—The English Gas Company of that city have sustained a great loss of late, by the bursting of one of their gigantic gasometers, which they had imported from this country. On being filled, it burst, and is totally useless. This untoward accident has, naturally, stimulated the other companies of Berlin, who go on energetically with their buildings and engines. —*Hamburg Paper.*

The Railway Communication between Vienna and Prague—has been interrupted by the falling in of a viaduct, which calamity is ascribed to the too great haste and precipitation with which this line has been constructed.

The Pont de la Tournelle, at Paris, near the *Entrepôt des Vins*—is at present the scene of great improvements. The public road will be enlarged about three feet by the footpaths being more expanded. This is done by arches of cast-iron supported by the pillars of the bridge, whose starlings have been already extended to the new line. The approaches to the bridge are to be protected on the side *du Mail* by strong parapets. The great rise, which hitherto made its approaches difficult for carriages, will be cut down, and works similar to those of the Pont Royal make the whole *environs* more comfortable for traffic and passage.

The Chapel of Louis VII. at Carthage.— *Monumentalizing of the Globe.*—This structure, commemorating the landing of the French king in Africa, has been completed by orders and expense of Government—one of the few modern monuments on the Mediterranean shores of Africa. Mr. Charles Jourdain, architect to the king of the French, at Tunis, laid the plans and drawings before H. M. at St. Cloud. The chapel is erected in the Gothic style, and is connected with the other buildings by colonnades. They comprise the dwelling of the priest, a vestry, a hall of reception for strangers, &c. The whole is encompassed by a wall, and contains an area of 100 metres in diameter. If we take into account, that nearly at the same time a monument (lighthouse) is contemplated at Singapore (half the globe's distance) to the late Mr. Horsburgh, we may safely say, that the whole globe is beginning to be *monumentalized* in some shape or other.—*Allgemeine Zeitung.*

The French Academy of Arts at Athens—will be an important complement of the great French "system of art instruction." It will receive every year a certain number of pupils of the *French Academy* at Rome, who will thus be enabled to study in succession the monuments of Greece. The Government will, moreover, appoint a Paris professor of fine arts, to remain three years at Athens to direct the studies of the pupils, as has been hitherto the case with the French school of art at Rome.

Final Decision about the Royal Library building at Paris.—The "Administration of Fine Arts and Public Monuments" has come to the decision of cutting the difficulties and uncertainty hitherto attending the fate of this building, by *enlarging* the present locale—certainly, the plan most practical and *tactical.* Proposals have already been made to the proprietors of the houses in the Rue Vivienne and Colbert, adjacent to the present library, and the late treasury, for the purchase of their houses, which are to be pulled down for completely isolating the *Bibliothèque.* On part of the space thus acquired, the new additions are to be erected. As the present building towards *Rue Richelieu* demands a thorough repair, both works will be undertaken simultaneously. The interior also, will, for reason of the new constructions, undergo a great change, and several extensive tracts become affected to other purposes than they hitherto were. The expence of the works will be great, amongst which the purchases of property in the Rue Vivienne form a considerable item.—*Le Constitutionnel.*

Erection of Large Public Schools at Paris. —The town-council have decided on the purchase of nearly the whole area of one of the lines of the Rue des Prêtres, St. Germain L'Auxerrois, between the Place de l'Ecole and that des Trois Maries. This space is destined for the building of new school-houses, which have become necessary by the increase of population. The widening of the street will also form a better road for carriages, and save them the delay of going up to Pont Neuf. The demolition of those patch-houses which cover this densely-populated district, has made great progress, and archæology will not *mourn* their demolition.—*Journal des Débats.*

J. L——v.

RAILWAY JOTTINGS.

THE Lytham branch of the Preston and Wyre Railway was opened for traffic on the 16th ult. It diverges from the trunk line near the Kirkham station, and is 4¾ miles in length. The Lytham station was erected by Messrs. Towers and Westall, of Fleetwood, from designs and under the superintendence of Mr. R. B. Rampling. The principal elevation abuts upon the Kirkham road, towards which it presents a façade in the Roman Doric style, constructed entirely of Longridge stone. It consists of a circular vestibule, about 18 feet in diameter, surrounded by pilasters supporting a deeply-coffered dome, with stained glass dome-lights. On the right hand is a general waiting-room and the departure platform; on the left is a waiting-room for ladies, and the arrival platform. The carriage station is 140 feet long by 53 feet wide, and is covered by a roof which excites attention. It consists of twelve arches of timber put together in segments, and secured by nuts and screws; all the timber ends butting upon each other like the stones of an arch. These arches support the usual roof timbers. The *Preston Guardian* of the 21st ult. gives two engravings, one of the departure platform and roof, the other of the principal elevation.——The Court of Common Council last week determined upon petitioning Parliament against the North Kent Railway (city extension) Bill. The company propose to carry their line into the city over Southwark-bridge, and to erect a terminus at the end of Maiden-lane. Mr. Lott referred the court to the mass of deformity called into existence by the Blackwall Railway Company through allowing them to enter the city, and expressed a hope that every attempt to increase this evil would meet with a firm and powerful opposition.——A silver salver of the value of sixty guineas, has lately been presented by the directors of the Norfolk Railway to Holland Thomas Birkett, Esq., for services gratuitously rendered in promotion of the company's interests.——Mr. Carnegie, at the Cork and Bandon meeting a few days since, instanced an extravagant demand for compensation. Five thousand pounds was claimed for 2½ acres, whilst the whole farm was worth only 2,500*l.* At the same meeting Mr. Smith spoke of one who wanted compensation for the injury which would be done to the *milk of his cows* by reason of the noise, steam, and smoke of the locomotives in their transit.——The number of passengers who have travelled on the Great Western line since its opening on the 4th of June, 1838, to the 31st of last December, amounts to 10,904,605. In 1838 the number was 264,644; in 1839, 606,396; in 1840, 1,024,217; in 1841, 1,541,656; in 1842, 1,606,015; in 1843, 1,629,150; in 1844, 1,791,272; in 1845, 2,441,255.——The opening of the Thames Junction line, a branch of the Eastern Counties, has been deferred for a few days in consequence of the incompleteness of the works connected with the large bridge over the Stratford-road.——The first stone of the Skew-bridge, over the Grand Canal at Monasterevan, on the Great Southern and Western line, was laid on the 19th ult.—— Two of the five contracts on the Leeds and Thirsk line, which were let to Mr. James Bray, are being prosecuted by him with great energy. The shafts required for the tunnel in the Bramhope contract have all been commenced, and at those which have been carried down to the level of the railway, the driftway is in progress, and is being carried on night and day,

three sets of men being employed. The total earth-work executed is upwards of 160,000 cubic yards; several bridges are in an advanced state, and some heavy culverts have been completed. Active preparations are making, and a quantity of materials laid down for the viaduct over the river and valley of the Wharfe, so that this, the heaviest masonry on the line, will be in full progress in the course of a few weeks.——A report presented to the Minister of Public Works in France by Inspector Mallet, who was appointed to examine the atmospheric railroads in England, contains a detailed statement of the comparative expense of the construction of an ordinary railroad served by locomotives, and of one on the atmospheric principle. It appears that for one kilometre of either system, the total amount is precisely the same, viz., 307,000 Francs, the only difference is in the number and relative amounts of the items.——A few nights since in the House of Commons, Mr. F. Baring suggested the appointment of one, whose sole duty it should be to call the attention of railway committees, to those points in which the *public interest* was concerned. Mr. F. Maule said, that there were many details in these bills which required deep consideration before the committee, but if they were unopposed they generally escaped observation altogether, and if they were opposed, then only such points as affected the interests of the respective parties were brought under the consideration of the committee.——Sir G. Clerk, in his official capacity, said, that sufficient attention was already directed to this point by the Board of Trade.——A further portion of the Brighton and Chichester Line, viz., from Worthing to Leominster, has been opened during the present week. Leominster is about one mile and a half from Arundel, and about three from Littlehampton. The works on the remainder of the line are so forward, that the opening throughout is expected early in May.——Mr. Dewick proposes in the *Mechanics' Magazine* a simple contrivance for increasing the grip of railway wheels in wet weather. He says let there be a square hollow tube, made of iron, 4 inches by 2 inches, about 1½ foot high, placed perpendicularly over the driving wheels, which could be attached to the guard over the wheels, the tubes to have a moveable cover on the top, and open at the bottom shaped out to the circle of the wheels, the tube to be fixed to come close to the wheels, but not to touch them. Put into these tubes blocks of chalk, shaped to the tubes, to fit quite easy, to allow the chalk to rest on the wheels by its own weight; but if this were found not sufficient, a weight could be placed on the top of the chalk to press it down more. By this means, the wheels would be kept constantly chalked, which would cause them to bite the rails quite as firmly as in dry weather.——At a recent meeting of the Trent Valley Railway Company, at Manchester, Mr. Edward Tootal announced the intention of the directors of the amalgamated companies to have a telegraph laid down immediately from London to Liverpool, and from London to Manchester.——The Ely and Peterborough line is now in rapid progress, and will be opened during the ensuing summer, probably in June. The contractors are Messrs. Grissel and Peto. Upon the line in question there are the enormous number of 3,400 men employed, 700 waggons, 286 horses, and 4 locomotives.——The *Cork Examiner* states, that one of the highest authorities in the country has given it as his opinion, that the Society for the Improvement of Ireland will, by judicious action, obtain from Government 3,000,000*l.* for completing Irish railways.——Mr. Chadwick in a pamphlet just published "On the Moral and Physical Evils in Connection with Railway Works," says, that the number of labouring men that were killed or wounded in the construction of the summit tunnel on the Sheffield and Manchester Line equals the proportionate casualties of a campaign or a severe battle. The losses in this work were more than 3 per cent. of killed and 14 per cent. of wounded, while the deaths in four of our principal battles amounted to only 2·11 per cent. of privates.——Mr. Samuda in a report to the Directors of the London, Croydon, and Epsom Atmospheric Railway says, the facilities of managing the apparatus—regulating the speed of the trains—obtaining the power ——exchanging the trains from locomotive to atmospheric traction—working a single atmospheric line (and that in conjunction with and in continuation of a double locomotive railway)—have now practically been demonstrated to be in all cases equal to his expectations, and in some have surpassed the anticipations to which he gave expression.——A report is current, that the broad gauge advocates intend to make a firm stand against the adoption of the recommendation of the commissioners which we lately published. They state that Professor Airy was a pro-broad gauger, Professor Barlow was not impartial, and Sir F. Smith's opinion is valueless!

INSTITUTION OF CIVIL ENGINEERS.

March 10th, 1846.—Sir John Rennie, president, in the chair. The paper of the evening was an "Account of the drops used for the shipment of coals at Middlesbro'-on-Tees, with a description of the town and port of Middlesbro'," by George Turnbull, M.I.C.E. The rapid rise of the town into commercial importance was treated of, and accounted, for chiefly by the fact of a branch having been constructed from the Stockton and Darlington Railway to Middlesbro', which, as a port for shipping, possessed many advantages over Stockton. As an example of this increased importance, it was stated, that the quantity of coals sent down the Stockton and Darlington Railway, and shipped at Stockton and Middlesbro', in 1825-26, was 7,926 tons; and in 1840-41 it had increased to the comparatively immense amount of 498,092 tons. The handsome manner in which the town was laid out and built, and its active manufactories, were also noticed. This commercial activity necessarily caused the want of a dock to be felt, and the present works were accordingly executed. The approach to the dock was stated to be by a channel of more than a quarter of a mile in length, which was kept open by sluicing; the entrance lock, built of stone, was 132 feet long by 30 feet wide, and the area of the dock itself was about nine acres.

The branch railway, diverging from the Stockton and Darlington line, terminates in ten double lines, leading to the ten coal-drops. The manner of working the drops was thus described: the loaded waggon is run on to a cradle or stage, which is arrested in a position immediately over the hatchway of the vessel to be loaded; it is then let down perpendicularly, by means of counterbalance weights, and when it has nearly reached the deck of the vessel, the contents are discharged into the hold; the counterbalance weights then preponderate, and the empty waggon is raised to the level of the rails. At the ordinary rate of working, about thirty waggons can be discharged an hour by each drop.

In a statement annexed to the paper it is mentioned, that in the year ending July 1st, 1845, 505,486 tons of coal were shipped by means of the ten drops here described. The cost of the drops was 7,300*l.*; the total outlay for the whole works amounted to 122,000*l.* These works were designed by Mr. W. Cubitt, V.P.; Mr. G. Turnbull being the acting engineer.

Mr. Siemen's chronometric governor was exhibited, and after being explained to the meeting, its merits as a regulater of machinery were testified to by several gentlemen who had used it for corn and other mills, and it was acknowledged to be superior to the ordinary pendulum governor of Mr. Watt.

Tuesday, March 17th, 1846, Sir John Rennie, president, in the chair. The paper read was an essay "On the relation between the velocity and the resistance encountered by bodies moving in fluids," by J. M. Heppel. The author introduced his subject by demonstrating its scientific interest, and eulogizing the efforts of the illustrious men who have brought their energies to bear on it, from the time when Newton first turned his attention to that department of philosophy, to the more recent experiments of Palmer and Macneill, published in the Transactions of the Institution of Civil Engineers; and after apologizing for his apparent presumption in venturing to add any thing to a subject already so extensively investigated, he proceeded to observe that with the exception of the above-named researches of Palmer and Macneill, upon boats, all experiments have been made on bodies of too small dimensions. The communication then noticed the importance of the properties of larger vessels being more clearly ascertained, and gave a formulæ for doing this, by observing the diminution of velocity of the bodies in a given time, when the motive power was withdrawn; by this it would be ascertained whether any deficiency in speed arose from a defect in the construction of the vessel or of the propelling machinery. The following example was given:—If the vessel had been subjected to the action of a force equal to its whole weight, the amount of velocity destroyed in a second would have been 32 feet per second, therefore as the distance of 32 feet is to the observed loss of velocity in feet per second, so is the whole weight of the vessel, as shewn by its displacement to the force by which this loss of velocity has been produced, that is, the united resistance of the water and the air, corresponding to the velocity in question.

The method for ascertaining, experimentally, this position, was thus described. To the bowsprit of the vessel, sufficiently ahead to be out of the disturbed water, a small iron bracket should be attached, to suspend a slender rod, dipping at its lower extremity into the water, the part by which it hangs being a few inches below its upper end; upon the lower end beneath the water is a metal sphere, and to the upper end is attached a small cord, connected with a rectangular bent lever, the horizontal arm of which works against a graduated arc, so divided, that when the slender rod is hanging vertically, the ship being at rest, it should be opposite zero on the arc. When the ship is in motion, the sphere being acted upon by the resistance of the water, is forced from the perpendicular inwards towards the bow of the vessel; the bent lever is drawn upwards by the cord, and marks on the arc the amount of force exerted. By watching the variation of this in given times and under certain circumstances, the diminuition of velocity, and consequently the retarding forces, can be accurately ascertained.

METROPOLITAN ASSOCIATION

FOR IMPROVING THE DWELLINGS OF THE INDUSTRIOUS CLASSES.

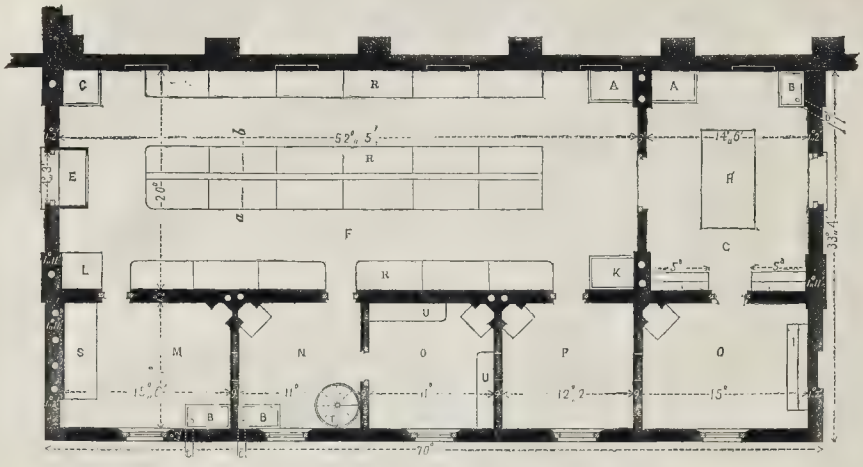
It appears from the report of the committee, read at a general meeting of the members, recently held, that only 1,000 out of 4,000 proposed shares, are yet subscribed for, although the charter bears date, October, 1845.

The *object* of the society is an admirable one:—namely, to erect more healthy and more convenient houses for the labourer and artisan; and to offer such improved dwellings to these and similar classes at no higher rent than they pay for the inferior and unhealthy houses which they at present occupy. Whether, however, the society will fully carry out this intention, seemed to us doubtful at the time the scheme was first propounded, and we are bound to say, seems so still.

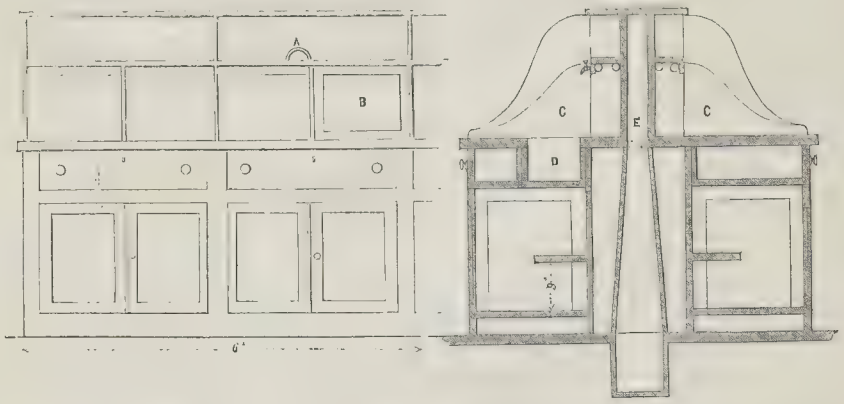
When applying for a charter which was considered necessary, "It was stated to the Government that while on the one hand the essential principle of the association is that of self-support, and that the founders of it must regard their scheme as a failure if it does not return a fair profit on the capital employed; yet that, on the other hand, it was not their design to set on foot a money-getting speculation; that their object, though not charitable, in the common acceptation of the term, was philanthropic and national, and that it was their desire that the profits, after the payment of a moderate rate of interest, instead of going to increase the amount of the dividend, should be applied to the extension of the plan." This moderate rate of interest was fixed at 5 per cent., and we feared from that and other symptoms, that it *would* be chiefly regarded as a "money-getting speculation." The fact that, notwithstanding constant advertisements (which must have swallowed up a tolerably large sum of money), so little advance has been made, shews that the public is somewhat doubtful on the ways of employing money-getter has philanthropic and those really his capital, improve the dwellings of the work-anxiousses are, like us, not quite satisfied with the general arrangements.

LABORATORY, UNIVERSITY COLLEGE, LONDON.

(Mr. T. L. DONALDSON, Architect.)



(*Plan.*) *Fig.* 1.



Elevation. *Pupil's Desks.* *Section, a—b* *Fig.* 2.

LABORATORY FOR PRACTICAL CHEMISTRY,

AT UNIVERSITY COLLEGE, LONDON.

The importance of the study of practical chemistry appears to be making itself felt, and arrangements are in progress in various quarters to afford increased facilities for it. Laboratories will be required, and we therefore think it will be useful to place before our readers some particulars of that which Professor Donaldson has recently completed, in conjunction with the newly-appointed professor of practical chemistry, Mr. George Fownes, at University College, London.

The annexed engraving, fig. 1, shews the plan of the laboratory (F) and adjoining apartments. The former is a handsome room 52 feet 5 in. long, 20 feet wide, and about 23 feet high to the underside of the ridge. The arches open up to the slate boarding. Six principals, with a tie-rod midway, support the roof without increasing the room and give character to the by means of skylights transe. It is lighted length. The various parts may be described as follows;—

AA	Sand baths	M	Furnace room, 15 feet 6 in. by 11 feet
BBB	Sinks	S	Graduated furnaces
C&L	Slab for stove	N	Washing and coat room
DDD	Drains	O	Store and steward's room
E	Lobby	P	Weighing and book-room
G&Q	Professor's private laboratory and apartments	RRR	Pupils' desks
H	Table	T	Iron staircase, and
HH	Glass cases	UU	Drawers
K	Boiler		

Fig. 2, shews the construction of the pupils' desks in the centre of the room, where there are twelve back to back; there are twelve others against the walls. Gas is laid on to each division, with an elastic tube and burner (used to heat as well as light); water is also laid on with a small tap to each. Behind the several divisions an air-shaft is formed; it is carried down to the floor at one end and continued by a shaft under the floor to supply the furnaces, which necessarily have the effect of producing a constant draft.

At A, in the elevation, is a zinc tube over the gas-burner with a flue opening into the air-shaft. B, is a glazed enclosure. C, a moveable partition. D, sink lined with lead; and E, the shaft. The lower part of each division is inclosed with dwarf sliding doors, and is provided with a shelf.

The flues are constructed with Moon's circular bricks.

We have only further to say, that the works were commenced in September last; that the pupils took possession of the new building in the beginning of January, and that all the arrangements appear to answer their intended purpose exceedingly well.

New Barracks at Woolwich. — The whole of the brickwork of the Royal Marine Barracks capable of accommodating upwards of 1,000 men, with residences for their officers, has been erected, and it is expected will be fully completed within three months from the 1st. inst. The floors are formed of large flagstones adjoining the fire-places, and the other parts of asphalte on a concrete foundation. To prevent the possibility of the building being destroyed by fire, the whole of the joists are of metal, and the only parts made of wood are the window-sashes and steps leading to the first and second stories. The entire building will be heated by an apparatus for circulating hot air, to be effected by an Archimedian-screw 8 feet in diameter.

NORMAN DOOR FROM NORTON CHURCH

NORTON CHURCH, situated about four miles from Worcester, consists of a chancel, nave, south porch, and tower. It boasts of two original Norman doors; the one represented by the engraving is on the north side, and the other, which is much larger, but plainer, is on the south side of the nave. There are a few encaustic tiles in the chancel, and only two of the Norman windows remaining, the lights of which are but 2 feet 4 inches by 5½ inches.

The subject of the engraving is in a very dilapidated state, and in a few years will probably disappear. GEORGE TRUEFITT.

5, Burwood-place.

*** The iron bands and hinges here shewn, appear to belong exclusively to the Norman period.

BUILDING SOCIETIES.

WE have before us at this moment more than a dozen letters, received within the last month, inquiring if the writers may depend on the golden promises held out by certain building societies. A few of the inquirers state, that they seek simply the means of investing safely, small sums at regular intervals.

To the latter we have nothing to say, further than advising them to satisfy themselves as to the character of the office-bearers of the association they propose to join.

The desire of the majority of our correspondents, however, is to become immediately "their own landlords,"—to cease paying rent, and by paying the same amount, or very little more, to the society, for a short stipulated period, as pointed out in some of the prospectuses, to find the property their own. Those who possess the former volumes of THE BUILDER may consult pages 25, 86, 589, 601, 625, and 637 in Volume II., and 14, 44, and 142 in Volume III., and then exercise their own judgment. To those who have not, we will say, in the words of a recent pamphlet on the subject: "It is impossible that the lenders in these societies should receive the exorbitant interest promised to them, except by *exacting an oppressive rate of interest from the borrowers.**

We saw the bill of a Provident Building Society posted somewhere near Bishopsgate-street the other day, headed, "no fines on withdrawal; no fines on transfer; no redemption fees," &c., and ending, "all persons who are desirous of acquiring freehold or leasehold property with *little or no outlay of their own*, are requested to attend!"

In such a case as this we should say, as we would in any suspicious crowd, to honest men for whom we might feel interested, "take care of your pockets."

FORM OF CURB-STONES.

THE position of the channel to carry off the rain-water from the roads in London, *outside* the curb-stone, is sometimes productive of inconvenience, as it necessarily preserves a stock of dirty water, to be splashed over the foot passengers by every carriage or horse that passes near.

Deprecating this nuisance, a correspondent has obligingly forwarded us the accompanying



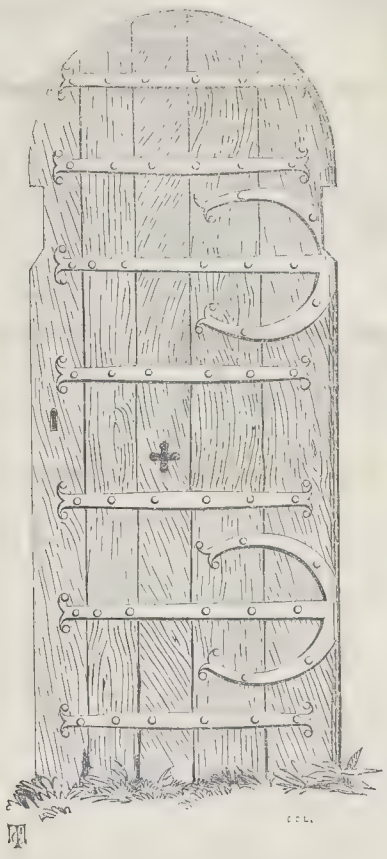
section of a curb-stone, adopted in Paris, for carrying off the surface water in narrow streets, and from the court-yards of houses.

The sketch will explain itself: the curb-stone is hollowed out to the extent of about five inches in diameter, and the water is thus led away on either side of the road, out of sight, and out of the reach of wheel or hoof.

CATHEDRAL CHURCH AT COLOMBO.—Ceylon papers lately arrived, bring the intelligence that subscriptions to a considerable amount have been collected for this object.

* "Fallacies of Building Societies." By Plain Figures. Simpkin and Marshall.

NORMAN DOOR FROM NORTON CHURCH.



NOTES IN THE PROVINCES.

HER Majesty the Queen Dowager has given 25*l.* towards building Hendon Church, Somersetshire.——The *Tralee Chronicle* says that the Earl of Kenmare has given 300*l.* to Mr. Townsend, of the Christian brotherhood in Killarney, towards the erection of the monastery in the vicinity of the new cathedral, on the express condition that the work should commence at once, so as to afford immediate employment to the people.——The restoration of the ancient monuments in St. Martin's Church, Birmingham, is completed. The most ancient of them is the cross legged effigy of a knight in armour, over which is a loose surcoat, or linen frock, bearing a shield on his left arm, charged with a "bend lozenge." This is believed to represent Sir William de Birmingham, who died in the latter part of the reign of Edward the First, as he bore for his arms the bend lozenge. The effigy is placed on a new altar-tomb, from a design by Mr. M. H. Bloxam.——The opening of the Cirencester Agricultural College has been deferred until after Lady-day. It is in the contemplation of the council to complete the wing of the building so as to accommodate 200 students, as originally proposed.——Last Monday week being the festival of St. Chad, Bishop of Lichfield, in the time of the Saxons, the corner stone of the new Roman Catholic church, about to be built in York-street, Cheetham, was blessed, and placed by the bishop of the district, with all the solemn rites enjoined by the Roman pontifical.——The authorities of Birmingham contemplate the erection of certain new municipal buildings for the more convenient transaction of business, and the proper administration of justice in the borough. At a meeting of the Street Act Commissioners, held last week, Mr. E. Healey said that he hoped to see the time when the present town-hall would be in the centre of a square, which would do honour to the town. ——Mr. Littledale has recently given 756 square yards of land to the Wallasey commissioners, as a site for the erection of public offices for transacting the business of the commission. The land is near the national school.——The Lowestoft Harbour Company are about to inclose 16 acres in a treble row of piles, to extend about 1,700 feet from the bridge towards the sea, and to project into the ocean about 1,200 feet from the present water mark. Between this piling, which will be strongly braced, will be laid Whitby stone, the weight of no piece used to be less than three tons. The whole is to be an oblong square, and on the top is to be a promenade and platform 25 feet wide, which will form jetties into the sea, and the entrance for vessels will be at the south-eastern corner, a space being left for this purpose about 200 feet wide. Within this piling the sea is not to be met by a perpendicular wall, but by a slanting bank somewhat in the form of a sea bank, called the clay puddle. By these means it is expected that the bar will be entirely got rid of.——The Liverpool Town Council [illegible] Dock Committee have decided [illegible] Dock wa[illegible] pleting immediately the [illegible] so to do, they will [illegible] houses, and to enable [illegible] during the present session of introduce a [illegible]——The design of the yacht club-[illegible] at Ryde is by Mr. William Huntley,

who will superintend its erection. The estimated cost is upwards of 5,000*l.*——In consequence of certain disputes between the vicar of Leigh and some of the parishioners respecting their right of burial, it is proposed to provide a suburban cemetery. The *Liverpool Mail* says:—"This step, we presume, will not be objected to by the vicar himself, as the pecuniary sacrifices made by him in his refusal of so many burials, proves that he is not actuated by the love of money, and we can see no other remedy for the people of Leigh than that to which we now draw their attention."——At the monthly meeting of the Liverpool town council, held last week, Mr. Earle moved, pursuant to notice, "That a special committee be appointed to take into consideration a general and comprehensive plan for the improvement of the municipal borough." The motion was carried unanimously, and a committee, consisting of Sir Thomas Brancker, Mr. Nicol, Mr. Horsfall, Mr. G. H. Lawrence, Mr. Stewart, Mr. Tinne, Mr. Lace, Mr. Earle, Mr. Aikin, and Mr. Turner, was apppointed for the purpose of carrying it out.——The great west window of Leominster parish church is about to be restored. This window has 41 feet clear glass in height, and about 25 feet in width. The gentleman selected to superintend its restoration is Mr. T. Nicholson, architect, of Hereford. The same architect is also superintending a church about to be built in Radnorshire, in the Norman style of architecture, and for which tenders have been sent in, shewing a most preposterous difference, viz., as follows:—

Price	£834
Powlet	695
Wisbeache	460
Hillman	456

——The floor of the Scotch Church, Birmingham, gave way during divine service last Sunday week. Sufficient warning was given to enable the congregation, amounting to between two and three hundred persons, to escape without any one being injured. On examination, it was found that the floor had not gone down very far, although the joists had given way from rottenness, and the foundation altogether was so bad, that the congregation might have descended many feet. The chapel was built only ten years ago, and no small surprise is expressed that such an occurrence should have taken place.——The *Tuam Herald* says, that in consequence of the difficulty experienced in the procuring a site for the new college at Galway, and Lord Clancarty having offered to give one free in Ballinasloe, the Government have determined on erecting it in the latter town.——A committee has been appointed at Taunton, consisting of Mr. Edwards Beadon, Dr. Cottle, Mr. Trenchard, Mr. Eales White, Mr. Gillett, Mr. Penny, and Mr. Jeboult, to inquire into the defective drainage of the town, and to advise on the best means to rectify the same.——A numerous syndicate has been appointed at Cambridge to consider whether, with a view of carrying into effect the design of a new botanic garden, it be expedient to impose a tax upon members of the university; and if so, in what manner such a tax may most conveniently be imposed, and to report to the senate before the division of next Easter Term.——At a meeting of the Yarmouth Haven and Pier Commissioners, held last week, a number of contracts were read for works decided to be carried out at the Pier Head, amounting to about 16,000*l.* The following were accepted:—Preston and Son, for fir timber, 4*l.* 15s. 1d. per load; H. D. Palmer, Quebec old timber, 6*l.* 17s. 6d. per load; Preston and Son, Quebec elm, pines, 4*l.* 10s. 7½d. per ditto; ditto Pillar and Androws, cast-iron, at 8s. 6d. per cwt.; Hempleman and Huke, wrought iron, 6s. 3d. per cwt. At the same meeting it was stated, that the Norfolk Railway Company had been stopped in the building of their bridge at Reedham by the Admiralty.

MEMANUEL CHURCH, WESTON-SUPER-intended to be a foundation-stone of this church, last week by Archdeacon Law. The site was given by R. Paisley, Esq., and is near the railway station at the entrance of the town. The architects are Messrs. Manners and Bath.

ARCHÆOLOGICAL INSTITUTE.

MARCH 6.—The Marquis of Northampton, president, in the chair. The meeting, which was held at 25, Great George-street, was attended by upwards of seventy members of the institute. Among the presents announced were:—from Mr. John Buckler, F.S.A, a collection of engravings from his drawings of cathedral, and other churches; also several etchings by himself.

It was stated from the chair, that, as the committee of the institute were engaged in preparing a memoir on the ancient roads, camps, and other remains of British and Roman Yorkshire, to be read at the annual meeting at York, any information on this subject would be of great assistance; and it was requested that all such communications might be sent to Mr. Newton, of the British Museum.

A letter was read from the Rev. R. R. Parry Mealy, giving an account of the further excavations at Segontium (Caernarvon). Extensive traces of buildings had been found. A tile had been discovered, distinctly marked with the print of a Roman soldier's nailed shoe or caliga. The discovery of a Roman pavement in the castle, at Lincoln, was announced by Mr. Willson.

Two of the curious foundation-tiles found in the Roman villa at Wheatley, Oxfordshire, described in the last number of the *Archæological Journal*, were exhibited by Mr. Parker.

The Marquis of Northampton exhibited several very beautiful examples of Greek art. A specimen of glass, of the same manufacture as the Portland Vase, ornamented with white figures, relieved on a blue ground, and formed like a cameo by cutting away the upper surface.

Mr. Figg, of Lewes, communicated, through Mr. Blaauw, local secretary, a drawing of the fragment of a monumental effigy of a knight, recently found within the ground of Lewes Priory. It is an interesting specimen of the monumental sculpture of the 13th century, greatly resembling that of Robert de Ros, in the Temple Church. The mail had evidently been gilt, the surcoat, belt, and remainder of the dress all painted. From the armorial bearings, it was conjectured by Mr. Blaauw, that the effigy represented one of the great family of De Braose.

Mr. Jewitt exhibited tracings of some paintings recently discovered on the walls of Beckley Church, in Oxfordshire. Among the subjects were:—a representation of the Last Judgment, St. Michael weighing the good and evil in the scales, and figures of SS. Peter and Paul; a memoir on the character and present condition of these paintings was communicated by Mr. Jewitt.

The Rev. H. S. Anders, by permission of the churchwardens of St. Martin's-in-the-fields, exhibited two paintings of the early Flemish school, containing, in compartments, scenes from martyrologies, and curious as specimens of the costume and design of the beginning of the 16th century. Mr. Anders stated, that these paintings had been given to the vestry-room of St. Martin's Church about 150 years ago. Mr. Farrer was of opinion, that they were undoubtedly original works, and, possibly, by Clausens, specimens of whose works are preserved at Bruges.

A very interesting assemblage of objects of the Renaissance period of art were laid before the meeting, among which may be mentioned, three monumental effigies of the time of James I., found in the precincts of the Abbey Church at Reading, by Mr. Billing.

Mr. W. Hilton Longstaffe, of Darlington, communicated a paper on the ruined church of Sockburn, county of Durham. It was announced from the chair, that the meetings for exhibition would be held once in each month, and that the next meeting would be on the 3rd of April.

COMPETITION.—IPSWICH RAILWAY STATION.—We understand that nineteen designs were submitted to the directors of the Eastern Union and Ipswich and Bury St. Edmund's Railways, in consequence of the premiums offered for the two best plans. The first premium was awarded to Mr. Sancton Wood, the second to Mr. Henniker, of Covent-garden, London.

MIDDLESEX HOSPITAL.—Various additions about to be made to this building.

SUBMARINE RAILWAYS.

SIR,—The perusal of Mr. De la Haye's paper in THE BUILDER of the 20th ult., on the subject of railways through the sea, has afforded me much pleasure, and raised in my mind rather sanguine expectations, that a work so gigantic in its nature, and so pregnant with the promise of moral good to all Europe and to the world, may yet be accomplished, and that at no very distant period. Somewhat about four years ago, I sent a letter on the same subject to the editor of the *Railway Times*, which he kindly inserted in his journal. I threw out the subject as a feeler, but am not aware that it was at all responded to in any public way, though I have frequently heard, in conversation, the subject adverted to as a specimen of one of those visionary schemes, that now and then spring up in the minds of air-brained theorists. I feel assured, that an iron tunnel from Dover to Calais might be laid down at a vastly less comparative cost than the Thames-tunnel; for instead of so many brick-arches one over the other, the whole might be speedily and less expensively constructed, by dove-tailing segments of the arch one after the other, using the shield, as in the Thames-tunnel, where the chalk would have to be bored, and the diving-bell where the operation is carried on merely at the bottom of the sea. With an iron tunnel thus constructed, there could be no leakage whatever, and after completed, the cost for maintenance of way &c., would be incalculably less than on the common railway.

I cannot help thinking, that the entire cost of the work would fall greatly short of the estimate Mr. De la Haye has given; but suppose it did not, let the English and the French Government patronise the work by a liberal pecuniary grant on both sides; then let the South Eastern, and Calais and Paris Railway Companies, take each so many shares as the certain prospective increase of traffic to be thereby brought upon their lines will justify, afterwards throw it open to the public, and in a very short period the greatest work in the world will be begun. For my own part I have not the least doubt but that the undertaking will handsomly pay.

Imagine it completed! there is scarcely a project to be devised by the ingenuity of man that would tend more to the maintenance of the permanent peace of Europe, and ultimately of the world. I am, Sir, &c.,

Tavistock, Devon. E. PEARSE.

ST. MARGARET'S CHURCH, IPSWICH.

THE propriety of restoring the interior of this fine church to the condition in which it was previous to the ravages to which it, in common with all sacred edifices, was subjected to at the hands of the puritan, William Dowsing, and the parliamentary visitors, in 1648, was mooted a few months since, when Mr. Fonnereau, the lay impropriator, offered to subscribe the sum of 200*l.* if the parishioners of St. Margaret's would guarantee the remaining portion of the sum requisite to carry out the work of restoration. The subject was taken up, and promises of contributions, amounting to upwards of 300*l.*, exclusive of Mr. Fonnereau's offer, were soon obtained. The proposed alterations were shortly afterwards commenced under the superintendence of Mr. Ringham, and they have now nearly arrived at completion. The whole of the unsightly pews have been removed from the nave and aisles, and open low-backed seats on a raised floor, substituted in their stead. The pulpit is adjoining the southern buttress of the chancel. One of the windows in the southern aisle has been restored, in coloured glass, to its original style and size, and it is intended to make a similar alteration with all the others, just as the state of the funds will permit of it. The walls, pillars, and painted oak ceiling, have also been cleaned and repaired. The accumulation of earth in the churchyard, the growth of centuries, has been lowered between two and three feet, and the graves have been all redressed. These comprise the principal restorations at present contemplated, but we are given to understand that, in the autumn, Mr. Fonnereau will, at his own cost, replace the large eastern window over the chancel, with one of stained glass, when the chancel itself will undergo repair.

THE PROPOSED BRIDGE OVER THE TYNE AT NEWCASTLE.

We glean from the *Newcastle Journal*, that the site of the proposed bridge is already well known. It will extend from the Castle Garth to the high ground on the south side of the river. There will be two roadways, one on a level with the Castle Garth, for carriages and foot passengers, and the other at an elevation of 22 feet above it, with three lines of railway, for locomotives. The carriage road will be 1,380 feet in length, on a straight line, and the locomotive way will be immediately above, with the exception of a space at each end, the locomotive line diverging at a point about 270 feet from each end, to the west on the north side, to run into the general station to be built at the Forth, and to the east on the south side, to form a junction with the main line southward. These diverging portions of the locomotive way will be supported on handsome colonnades, each consisting of 20 metal pillars, which will give to the entire structure a magnificent finish. The bridge itself will consist of six river arches, with four land arches on each side, the former 124 feet 10 inches, and the latter 36 feet 3 inches span, the land arches diminishing in altitude from the foundation upwards, corresponding with the declivitous banks of the river basin.

These arches will be supported on piers of solid stone masonry, and will be constructed of cast-iron. The piers will be 48 feet by 16 feet 6 inches in thickness, and in extreme height about 131 feet from the foundation, having an opening in the centre through each, so that, to the spectator at a distance, the bridge will appear to rest on pillars, and will present nothing of that massive character which might be expected in a structure of such gigantic proportions. These piers will be built on piles piercing the bed of the river about 50 feet on the north side, and about 20 feet on the south side. The roadway for carriages and foot passengers will be 35 feet above the level of high-water mark, suspended by rods from cast-iron arches, springing from the piers at the carriage road level, and the railroad will rest on the crown of these arches, being supported also by stays from the arches at points of the space between each suspendor. The stays and suspending rods will be surrounded by a covering of metal, to take off the wiry appearance they would otherwise present, and make them harmonize with the general proportions of the structure.

HEMEL HEMPSTEAD CHURCH.

Sir,—A few weeks ago I had the pleasure of visiting the old Norman church at Hemel Hempstead, Herts, which for several reasons is well worthy of notice. The whole of the original Norman plan being still extant, it makes a good model for a parish church. The plan of the church is cruciform, consisting of a chancel 37 feet long by 16 feet wide, a nave about 72 feet long by 22 feet wide, aisles 11 feet wide, and transepts about 30 feet long by 20 feet wide each. The chancel is divided into two bays by a groined roof of stone, the intersecting ribs of which meet, with no boss. The nave is divided into six bays by semi-circular arches springing from circular piers. The arch mouldings are not the same in every bay, the arches being decorated with different combinations of the zig-zag and alternate billet in some, and in others with continuous mouldings. The capitals of the piers also vary in design, and in all the arches, only the nave face is enriched; the aisle face being in section merely a rectangular nook, or as Mr. Paley defines it in his "Manual of Gothick Mouldings," a plain arch of two orders. The clerestory windows are semi-circular headed, with a bowtell moulding, carried by a jamb-shaft in the rectangular nook of the jamb, and an internal string-course runs under them. A fine west doorway exists, and also a Norman tower at the intersection of the cross. The tower has a circular belfry turret at the south-east angle, a wooden octagonal spire covered with lead crowns the tower; though its great height and later design than the rest of the tower take away from the Norman character of the building, yet its graceful proportion makes up for the fault; the outline of its framing is thus: four beams or rafters spring from braced girders stretching across the tower; these scarfed beams or rafters about 8 in. by 7 in. meet in a point about 12 feet from the top of the spire, from which point one beam takes their place to the top. They are well braced together, and carry diagonal stays, which stays are on each of the four faces of this framing, and are continued till they meet the eight angles of the faces of the spire. These diagonal stays are continually repeated, serving to tie the faces of the octagonal spire to the central four principal beams, thus the whole spire is framed together as it were into one mass.

The above is only a general description, as drawings would be required to make the construction quite clear. Most of the windows, but the clerestory ones, are of perpendicular character, and the whole church is spoilt by high seats and galleries; the builders of which last have actually cut away part of the capitals of the piers, and neatly rounded them into a sort of flat ovolo, to prevent, I suppose, their original form incommoding the worshippers in the gallery, who have, it appears, improved upon this example of destruction by defacing them still more. So much for the moral effect of screening off by the spandrils of a low semi-circular arch, a space for the free sittings.

The church has lately undergone partial external repair; but the galleries, high pews, and flat ceilings call loudly for the work of restoration to go on.—I remain, Sir, yours, &c.,

March 9th. J. G. S.

LIST OF NEW PATENTS

RELATING TO ARCHITECTURE, ENGINEERING, &c. GRANTED FOR ENGLAND.

Furnished by Mr. A. Prince, of the Office for Patents of Inventions, Lincoln's-inn Fields, London.

[SIX MONTHS FOR ENROLMENT.]

Henry Highton, of Rugby, Warwick, master of arts, for improvements in electric telegraphs. Feb. 3.

Thomas Foxhall Griffiths, of Wolverhampton, for improvements in stamping and shaping sheet metals. Feb. 3.

William Garnett Taylor, of Halliwell, Lancaster, cotton-spinner, and William Taylor, of Halliwell, aforesaid, labourer, for improvements in consuming smoke and economizing fuel. Feb. 3.

James Palmer Budd, of Ystalyfera Iron Works, Swansea, merchant, for improvements in the manufacture of iron. Feb. 11.

John Keating, of North Mews, Fitzroy-square, Middlesex, scagliolist, for certain improvements in the manufacture of cement. Feb. 11.

Andrew Smith, of Princes-street, Middlesex engineer, for improvements in coating or covering metals for the purpose of preventing oxidation. Feb. 11.

James Murdoch, of Staple-inn, Middlesex, mechanical draughtsman, for an improved process for preparing a certain material for the purpose of painting. Feb. 11.

John Brocklehurst, of Holborn, Middlesex, lamp-manufacturer, for improvements in the hanging and disconnecting of window-sashes and frames. Feb. 11.

James Nasmyth, of Arundel-street, Middlesex, gent., for certain improvements in engines or machines for obtaining and applying motive power. Feb. 16.

Joseph Clinton Robertson, of 166, Fleet-street, London, civil engineer, for improvements in nail-making machinery. Feb. 18.

John Maddock, of Burslem, Stafford, earthenware manufacturer, for a new and improved method of building and constructing kilns and ovens used by potters and manufacturers of china and earthenware. Feb. 25.

Antonio James Mayer, of Ashley-crescent, City-road, for improvements in certain wood-cutting machines. Feb. 25.

Thomas Pemberton, jun., of Birmingham, manufacturer, for a new or improved method or methods of ornamenting window furniture and articles of upholstery in general. Feb. 25.

John Samuel Templeton, of Sussex-place, Kensington, artist, for improvements in propelling carriages on railways, and improvements in propelling vessels. Feb. 27.

Jews' Orphan Asylum.—The foundation stone of this building, to be erected in Leman-street, Goodman's-fields, was laid yesterday week by the chief rabbi.

New Books.

A Companion to the Fourth Edition of a Glossary of Terms used in Grecian, Roman, Italian, and Gothic Architecture. Oxford: John Henry Parker. 1846.

The Oxford Glossary, first published in a small and unpretending form in 1836, has gathered strength in each succeeding edition, and now presents such an amount of information condensed and classified, as can be found nowhere else, and renders it indispensably necessary for every person studying the architecture of the middle ages.

The first edition, according to the preface, laid no claim to originality, "its sole object being utility. The best authorities were consulted, and freely made use of, frequently in their own words;" information from any quarter was thankfully received, and in succeeding editions the same system was pursued. Ingram, Whewell, Willis, Bloxam, Blore, Twopeny, Hussey, and others, have contributed to render the work complete; and Mr. Parker (perhaps without anticipating it in the first instance), is thus raising a personal monument which can hardly fail to be permanent.

The volume before us is a very important addition to the work. In 1840, the copperplates and copyright of Mr. Britton's valuable "Dictionary of the Architecture of the Middle Ages," were sold by auction, and came into the hands of the owner of the "Glossary." On consideration, he determined upon publishing it as a companion to his own, extracting only so much as suited his object, rather than reprinting the whole as a separate work, which must in a degree have clashed with it. And this, therefore, forms a great part of the present volume. In addition to this, however, is a chronological table, illustrative of the rise and progress of Gothic architecture, especially in England, commencing A.D. 284, "Palace of Diocletian, at Spalatro," and ending A.D. 1538, "The old Hotel de Ville of Caen, Normandy, built." The table gives the precise dates of more than 200 buildings, a series of copies of inscriptions recording the dates of edifices, and the heads of the different kings and queens, with their respective shields and badges: a general index to the three volumes has likewise been added, so that the "Companion" is indispensable even to those who possess Mr. Britton's dictionary in its perfect shape.

Correspondence.

IRON STORY-POSTS.

Sir,—A few days since, a fire occurred at a house on Ludgate-hill, near Ave Maria-lane. A portion of the back-front, which is three stories high, is supported by a timber brest-summer, and a 2-inch square *wrought*-iron story-post in the middle of it. The brestsummer and other parts are severely scorched only, and now standing, and the great heat has caused a deflection of 5¼ inches in the middle of the iron column, which is 8 feet 4 in. long, and is now standing without sustaining any weight.

Can any of your readers inform me, what the probable result would have been if the story-post had been of 3½ inch *cast*-iron?

A. B.

A HINT TO BUILDING COMMITTEES.

Sir,—I have frequently observed in your valuable journal, that certain rewards have been offered to those architects who will forward the best plan to suit the purpose of the several committees who are about to erect new and public buildings. Now, it is well known that a knowledge of the profession is only acquired by close application and expense; it is also admitted in every society that the labourer is worthy of his hire. Applying a short time since for particulars of a building about to be erected in the neighbourhood of Lancaster, to my great surprise I found the building was to cost about 10,000*l.* or 12,000*l.*, and for all his exertion the architect was only to receive 50*l.*, providing his plans were approved by the committee. I should think that these terms will not induce my professional brethren to spend their days for so inadequate a sum for such erection. You what the cost will be for such committees; will observe the best of talent for about a fourth they obtain the proper charge for designs. I hope

the time is not far distant when the man of talent will be paid equal to his abilities. With these remarks, I am, Sir, &c.,
March 5th, 1846. W. E. S.

BUILDERS' ESTIMATES.

SIR,—As I think publicity may do good, may I beg your inserting the following list of tenders, delivered to Messrs. Croll and Glover, of Suffolk-street, Clerkenwell-green, for building a brick tank to receive a gas holder of 46 feet 6 inches in diameter, at Edmonton.

John Hill	£700
Thos. Cooper	648
Henry Johnson	583
Medwin, of Tottenham	325 !

Is not this ridiculous?—I am, Sir, &c.,
A CONSTANT SUBSCRIBER.

Miscellanea.

FALL OF WAREHOUSE AT LIVERPOOL.—In our impression of the 14th ultimo we announced this accident, and stated that fortunately no lives were lost. Since then a death originating in the fall has occurred, and an inquest has been held, which necessarily involved the cause of the accident. Several professional men were examined, who attributed it to the rottenness of the ends of the beams in the eastern and western walls, and which could not be discovered while the building stood. Mr. James Allenson Picton agreed generally with the evidence given, but laid more stress on the defective foundations on which the props rested. In two places the walls on which they had stood had cracked and given way. The props rested on mere rolling rubbish. The coroner, in addressing the jury, pointed out that there was ample evidence to shew that the tenants had not exceeded the usual stowage, but that the accident arose from hidden causes. The jury appended to their verdict of "Accidental death from unforseen causes," a request that the coroner would convey to the town council their suggestion that a surveyor should be appointed to inspect warehouses, and especially the old ones.

MALLEABLE GLASS.—A correspondent remarks, "some time since your publication contained an account of the invention of a malleable glass, by some gentleman in France. In Wanley's wonders of the little world you will find, as I did when a little boy, that a man submitted to the burgomasters of Amsterdam a glass bottle, which he bent, by violently throwing it upon the pavement, and then hammered it into its former state; but he was found dead in the high road on the ensuing morning. Mr. Samuel Etherege Acton, the father of the late Mr. Samuel Acton, of Euston-square, discovered the method of making a malleable glass, but, with a commendable though mistaken kind feeling, he steadily refused to disclose the secret, lest it should deprive the glass manufacturers of subsistence"

SOCIETY OF ARTS' PREMIUMS.—A correspondent says:—"On perusing the list of prizes in THE BUILDER, I find, in the section of the fine arts, prizes of *ten guineas* and the society's medal for what appear to me trivial objects in comparison to a cheap effective system of ventilation, for which *five* guineas and the medal are offered: take, for instance, the model of an earthenware jug, or a small tea-urn. I cannot help thinking that the preference is given to objects of little importance when compared with that of benefitting the health of society. What the society's motives are I know not, nor have I any business to inquire. I have prepared a long communication on the subject of ventilation, with models, which has in time and expenses cost me more than the value of the prize offered, besides the expenses of a journey to London, in case of success."

THE SOCIETY OF BRITISH ARTISTS are about to memorialize the Queen, praying her Majesty to grant them a charter of incorporation. The memorial states that the society are about to found "a school of art for providing instruction of the first order, and on the most liberal scale.

is to be re- CHAPELLE.—The Hotel de Ville
vision of the R. forthwith, under the supe-
Dusseldorf. Fresco Society of Fine Arts at
ployed for internal decoration. will be em-

LONDON AND PARIS.—A foreign correspondent of the *Athenæum* says:—"Improvements, restorations, and new buildings go on here with astonishing rapidity and vastness. New streets, new buildings in all directions—a new church (in the Byzantine style, it is said) in the Place de Belle Chasse,—the rich and elaborate restoration of the Sainte Chapelle, already far advanced—the projected restoration of Notre Dame—the new hotel for the Minister of Foreign Affairs, to be built near the Chamber of Deputies—these, and a hundred minor schemes and works, attest the prosperity of France, and the peaceful activity of the times. Though I see no signs of the architectural genius which has so often struck me in Germany, there is a general air of grandeur and magnificence in the new streets and buildings, which well accords with the character of Paris. On the other hand, there is an entire want of the sober quiet finish of London. Paris is a splendid slattern, and London a neat dowdy. Take your choice. People with whom the organ of sight is not the only avenue to pleasure and pain, may find the balance somewhat heavy against the former. The incredible and stunning noise of the streets, arising from the most clattering of carriages on the most horrible of pavements,—the disorderly driving and walking which exposes one, at every minute, to change one's course, to be jostled and pushed into the kennel,—the overwhelming stinks (among which I must include the nauseating perfumes worn by the women, and even by some men),—the disgusting habits of the population as to various forms of cleanliness and decency; the innumerable inconveniences of the houses, want of water, superabundance of half-closing doors and windows, the mortal fatigue of climbing two, three, and four stories high to visit your acquaintances (the 3^{me} Etage is not a whit less 'genteel,' as Mrs. Simpkins would say, 'than any other')—these things form the alloy of the glittering gold. On the other hand, I can well imagine the *triste* monotony of London to a Parisian who does not mind the noise, does not smell the stinks, does not feel the drafts, does not use the water, is bored by order and method, and likes splendour, variety, and vivacity.

SOCIETY OF ARTS.—March 11. Mr. Thomas Winkworth in the chair. The first communication was by Mr. Waterhouse, of Chesterfield, on his machine for the manufacture of Mechlin lace. It appears from the description of the machine, and the specimens of the lace exhibited, to be one of great capabilities. The next communication was by Dr. Paltrinerie, on a new steam engine, magnetic engine, and other machines in which the moving power is applied simultaneously, by action and reaction, to the work to be performed; being illustrations of a system for obtaining all motive powers and maximum of effect. Dr. Paltrinerie conceives, that the maximum of effect is to be obtained by applying simultaneously the action and reaction of every motive power with equal velocities, to the production of the useful effect. He shewed a very beautiful double turbine, in which the water, steam, or other moving fluid is applied by means of two concentric wheels, through which the fluid passes successively, and by this means he shewed that a residual effect, which is lost in the ordinary single wheel, would be converted to use by the double. He shewed the same results in the case of his new magnetic engine; and he illustrated the fact by a machine of great accuracy, in which the constant force of a spring is applied to raise a weight; first, by having one hand released and the other fixed, and next, by releasing both hands simultaneously; and in which latter case he shewed that the maximum of effect is utilised.

THE PEERS AND MR. BARRY.—The differences between Mr. Barry and Dr. Reid at the Houses of Parliament have had the effect of delaying the works in the House of Lords for some time past, and very probably will do so for some time to come. Lord Brougham directed the attention of the peers to the state of things on Tuesday, and took occasion to abuse the building.

OPERATIVES IN MANCHESTER.—4,000 men connected with the building trades have struck, partly for advance of wages and partly for an abridgment of the hours of labour. The masters have formed themselves into an association to resist the demands.

MORE SCULPTURE FROM ASIA MINOR.—According to *The Times* we are about to receive from the ancient city of Halicarnassus, now called Boodroom, some ancient marbles, supposed to be a part of the tomb of Mausolus, erected by Artemisia to the memory of her husband, and which was, in the days of the kings of Caria, considered as one of the seven wonders of the world. "The monument in question was a mass of unusual splendour, and from this magnificent sepulchre, tombs and the like edifices received their name; it was built by four different architects — Scopas erected the east side, Timotheus the south, Leochares the west, Brucis the north. Pithis was also employed in raising a pyramid over this stately superstructure, and the top was adorned by a chariot with four horses; the expense was immense, and called forth the remark made by the philosopher Anaxagoras, when he saw it, "How much money changed into stones." The marbles were found inside the fortress, and built into the ramparts and bastions, at various heights from the ground, varying from 40 feet to 12 feet; they are of considerable size, being from 7 feet by 5 feet, of great weight, varying from 25 to 46 cwt., and 14 in number." They are said to be little inferior to those of the Parthenon.

THE GLASS TRADE.—In so prosperous a condition is this branch of manufactures at the present time, and so likely is it to continue, that the Birmingham Plate and Crown Glass Company have determined upon increasing their capital to a considerable amount for the purpose of meeting the unprecedented demand occasioned by the recent reduction in the duties. It is a curious fact that within the past twelve months, owing to the then depressed state of the trade, this same company had partly suspended their operations, and were actually negotiating for the entire disposal of their establishment. No better proof than this can be adduced of the injurious influence of high duties upon the industry, energy, and wealth of the nation.

GLASS AND AUCTION DUTIES.—Sir Robert Peel stated, on Monday, he was happy to be able to inform the House that in consequence of the alteration of the glass and auction duties, a reduction of 52,000*l.* had been made in the salaries of the officers employed in collecting them.

THE AMERICAN EXCAVATOR.—A steam excavating machine, upon which the railway labourers have bestowed the name of the "American Devil," is now being employed at Hull, in excavating the Victoria Dock. It was invented about eight years ago by a gentleman of New York, and has been extensively used in the formation of American railways. It consists of a portable steam-engine of about 16-horse power, and it is furnished with a crane, to which is attached a large square bucket of wood, armed with six tusks. These tusks pierce the earth, which at once fills the buckets, two buckets filling an earth-waggon. The machine requires two engineers and three men, and does the work of thirty men; filling above 200 waggons per day, each waggon containing seven tons of earth.—*Newcastle Advertiser.*

BRICKS.—The late member for Westminster, Captain Rous, moved, soon after the opening of the present session, for a return of the duties paid upon bricks, in the several excise collections in England, from 1839 to 1845, both years inclusive. In London the duty paid for the respective years mentioned was, 23,911*l.* 11s. 6½d. (1839), 26,732*l.* 19s. 7d. (1840), 25,876*l.* 1s. 8½d. (1841), 26,358*l.* 17s. 5½d. (1842), 19,827*l.* 2s. 9½d. (1843), 25,759*l.* 16s. 8d. (1844), and 31,267*l.* 12s. 10d. (1845). The total duty in those years, in London and the country, was, 459,665*l.* 5s. 1½d., 509,794*l.* 7s. 3d., 436,841*l.* 9s. 4d., 390,185*l.* 9s. 3½d., 355,464*l.* 17s. 4½d., 435,730*l.* 8s. 5½d., and 558,415*l.* 13s. 11½d. A further return has been since moved for.

THE CHURCH FOR THE SEAMEN OF LONDON.—Messrs. Cubitt commenced the building of this edifice on Monday. It is estimated to contain 800 free sittings, and to cost, including the site and endowment, 9,000*l.* The architect is Mr. Henry Roberts.

ROMAN AMPHITHEATRE AT DORCHESTER.—Our readers will be pleased to hear that, through the interference of the British Archæological Association, this interesting antiquity has been saved from threatened destruction,

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For maintenance of the permanent way between the Derby, Nottingham, and Rugby stations on the Midland Railway.

For building 110 first, second, and third-class carriages; also a number of luggage-vans, carriage-trucks, horse-boxes, and ballast-waggons for the Dublin and Belfast Junction Railway.

For the construction of various stations and buildings on the Hull and Bridlington Railway.

For cast and wrought-iron work in columns, girders, roofs, doors, &c., required for the warehouses about to be built by the Birkenhead Dock Company.

For supplying the Bristol and Birmingham Railway Company with 5,000 sleepers.

For the execution of works on the Dundee and Perth Railway.

For the execution of works for the Harwich and Eastern Counties Junction and Pier Company.

For building the boundary walls of the Coventry Cemetery, in length 1,000 yards, and from 7 to 8 feet high.

For building a mansion and offices at Exning Hall, Suffolk.

For constructing a bridge across the river Etheron, near Tintwistle, Birkenhead.

For the construction of an iron roof to cover 800 square yards of ground for the Grand Junction Railway Company.

For building a church at Walsden, near Todmorden, Yorkshire.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At the Salisbury Arms Inn, Hoddesdon, Herts, 2,647 oak timber trees, of good metings, and superior quality.

At the Rhodes Arms Inn, Barlbro', Derby, a large quantity of oak, ash, and alder timber trees.

At Garraway's Coffee House, Cornhill, about 200 loads of valuable Moulmein teak, in log and plank, and 78 loads of Adriatic oak.

At Cambridge, 400 larch and Scotch firs; they are large, straight, and of excellent quality.

At Imber, Wiltshire, 2,000 fine larch, Scotch and spruce fir poles, &c.

At Standerwick, near Westbury, 80 prime oak, ash, elm, and other timber trees, &c.

At the Hatchet Inn, Sherfield, near Romsey, 450 excellent oak timber trees.

At the Red Lion, Heytesbury, 62 very superior maiden ash and elm timber trees.

At the Anchor Inn, Eling, near Southampton, 700 excellent oak timber trees.

Near to the Sutton Station, on the Chester and Birkenhead Railway, 400 oak and 300 ash timber trees, of large dimensions, and of excellent quality.

At the Lion Inn, Brewood, Stafford, a very large quantity of oak timber trees, of extraordinary size, and first-rate quality.

At Shustoke, near Coleshill, Warwick, thirteen lots of superior oak, ash, elm, poplar, and other timber trees, of superior quality and large dimensions.

At Lyndhurst, New Forest, Hants, 59 lots of oak and beech ends, by order of the Commissioners of Woods and Forests.

At the George Inn, Selby, several hundred oak, elm, alder, maple, sycamore, and poplar timber trees, of large size and prime quality.

MEETINGS OF SCIENTIFIC BODIES

During the ensuing week.

MONDAY, March 23.—British Architects, 16, Grosvenor-street, 8 P.M.; Geographical, 3, Waterloo-place, 8½ P.M.

TUESDAY, 24.—Civil Engineers, 25, Great George-street, 8 P.M.

WEDNESDAY, 25.—Society of Arts, Adelphi, 8 P.M.; Geological, Somerset House, 8½ P.M.

THURSDAY, 26.—Royal, Somerset House, 8½ P.M.; Antiquaries, Somerset House, 8 P.M.; R. S. Literature, 4, St. Martin's-place, 4 P.M.

FRIDAY, 27.—Royal Institution, Albemarle-street, 8½ P.M.; Philological (London Library), 12, St. James's-square, 8 P.M.

TO CORRESPONDENTS.

"A. B."—*The expression, "the front to be compo'd," without any mention of the material to be used, would be understood by a London plasterer as applying to "Roman cement."*

"Archie."—*We are endeavouring to obtain the newspapers alluded to.*

"A Young Man," "Prudent," *will find an answer in the body of the journal.*

"W."—*Next week. Will he say where a proof can be sent, as text is a little obscure.*

"T. A. H." *contains nothing more than has been said already.*

"W. B."—*Mr. J. James, York-road, Lambeth, or Mr. Walker, at York, would execute the gates well. As to the archangel battens, apply to any respectable timber merchant.*

"C. A." *is thanked.*

"A Student."—*There is no such work.*

"C. C."—*The date* (1500) *ascribed by our correspondent C. to the window from Boughton Aluph Church, should have been* 1400. *The mistake was the printer's.*

"Fair Play."—*We shall be glad to receive information as to competition for Ipswich station, and for Poulterers' and Fishmongers' Almshouses.*

"Solder."—*1 lb. of tin to 2 lb. of lead makes a good solder for plumbers.*

"An Architect's Clerk."—*Write to the patentee, Herring, 14, Kingsgate-street, Holborn. The cost is very trifling.*

"Curious."—*The cost of an eight-roomed house depends on circumstances: say 500l.*

"Z. Z." *should have given us names and particulars.*

"A Subscriber."—*Designs for the Hospital at Birkenhead must be sent in on or before the 1st of April next with a motto attached, accompanied by a sealed letter containing name and address, and superscribed similarly to the design.*

Received: "A Bridge Builder," "J. R." (Brighton), "W. R.," "J. J.," "T. I. M." "R. H." "Budownik," "On Horizontal Water-wheels, especially Turbines or Whirl-wheels," by Moritz Rühlman; edited by Sir Robert Kane (Hodges and Smith, Dublin).

ERRATUM.—In the advertisement which appeared in our last number headed "To Builders, Carpenters, and others," the address of Mr. Lewis should have been 17, Ordnance-road, instead of Andover-road, St. John's Wood.

ADVERTISEMENTS.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above.

N.B.—A weighbridge on the premises.

TO BRICKMAKERS, &c.

THE Subscriber is ready to CONTRACT for the supply of North Country Ashes, suitable for brickmaking, at 3s. per Newcastle chaldron (about 1s. per ton), free on board in the Tyne.—JAMES TURNER, 3, Indian King's-court, Quayside, Newcastle-upon-Tyne.

BRICK MACHINE.

JONES'S PATENT MACHINE is acknowledged by old-experienced workmen to turn out far superior Bricks to what can possibly be done by hand. Expedition and cheapness guaranteed. They are moulded stiffer, put in the walls at once to dry, and will bear two high a day. So that nearly double the quantity is in process of drying, and consequently less covering required. Contracts for brick-making, by machines, entered into, and licenses granted.—Apply to EDW. JONES, Queen's Wharf, King's-road, Camden Town.

REPEAL OF THE METROPOLITAN BUILDINGS BILL.

AT a Meeting of the Builders of the Parish of Woolwich and its vicinity, held at the Castle Inn, on Monday, March 16th, 1846, Mr. G. HUDSON in the Chair, the following resolutions were passed unanimously:—

1. That this meeting have observed with regret the influence of the Metropolitan Buildings Bill, not only causing depression of trade, the non-employment of artisans, and discouragement in the improvement of house property, but the very serious inroads made upon householders and proprietors generally.

2. That this meeting are aware of facts in which grevious and vexatious infringements have been made by district-surveyors, which the Legislature never contemplated.

3. That a petition be immediately prepared, praying an immediate and total repeal of the Metropolitan Buildings Bill, and that this Society appoint deputations to wait upon the inhabitants of this town on Wednesday next, for the purpose of obtaining their signatures.

4. That a deputation, to consist of Messrs. Hudson and Jolly, be appointed to wait on the two Members of Parliament for this borough on Friday next, to solicit them to present the petition to the honourable the House of Commons as early as possible.

The Woolwich Builders' Protective Society,
March 16th, 1846,
W. GOSLING, Hon. Secretary.

ARCHITECTS, SURVEYORS, AND BUILDERS, are respectfully informed, that CHAS. GODWIN, of 67, Great Guildford-street, Borough, is enabled to supply Plaster, Hair, &c., at the following reduced prices:—Coarse Plaster per ton 2l. 10s., Fine 3l. 10s., Hair 8l. to 10l. cash, at Manufactory. C. G. can also supply Architectural Ornaments of every description in a most superior style.

PATENT WINDOW BLINDS.

TYLOR and PACE manufacture every description of WINDOW BLINDS entirely upon their own premises, by the aid of steam machinery, insuring the best materials and workmanship, at the lowest cost. Patent metallic gauze and perforated Zinc Blinds, in mahogany frames, at 1s. 8d. per square foot; ditto, in metal frames, 1s. 2d. per square foot. A large and choice assortment of Transparencies, mounted, from 19s.; Holland Blinds, on plain or spring rollers, Outside Shades, Venetian and Sun Blinds of every description.—TYLOR and PACE'S Showrooms, 53, Cornhill, entrance St. Peter's-alley.

HERRING'S PATENT WINDOW for hanging the Sashes, whereby they may be instantly disconnected from the Frames, without removing the Beading. It is now being applied in Palaces, Castles, Mansions, first-rate Houses, Villas, &c. It is universally approved and adopted by every Architect that has seen it. Builders in the Country will have a full-sized Window forwarded on receiving an order and reference, and taken back if returned within eight days free. To be seen daily. Licences and other particulars had of the Patentee, 14, Kingsgate-street, London.

This invention is exceedingly simple, increases the cost but slightly, and appears to answer the purpose well.—BUILDER, 28th February.

A Premium of 5l. will be given to the first fitter-up of a first-rate House with this Patent, and in proportion for second, third, and fourth-rate Houses.—March 20, 1846.

STOP, READ! Answer this Question.—Have you provided against the casualties of Life, Sickness, and Death? If not, haste and enter that flourishing BENEFIT SOCIETY, the UNITED PATRIARCHS. Society House, Round Table Tavern, St. Martin's-court, Leicester-square. Society Office, 13, Tottenham-court, New-road, St. Pancras, London. (Near 400 persons have become members of this society in six months.) Open for a short time to persons in good health up to 45 years of age. Enrolled and empowered by Act of Parliament to extend over the United Kingdom.

The Society is in four divisions for its members to receive according to their payments the following benefits:—

	£ s. d.		£ s. d.
In Sickness per week from	0 9 0	to	0 18 0
Death of Member	10 0 0	to	20 0 0
Death of Wife or nominee ..	5 0 0	to	10 0 0
Loss by Fire	5 0 0	to	20 0 0
Superannuation per week ..	0 4 0	to	0 6 0
Contributions per calendar month for Sickness and Management.	0 1 4	to	0 2 7

Meetings at the Society House every Monday evening. Persons can enter at the Society House or at the office any time.

Blank forms and information for the admission of country members can be obtained at any time by applying to the secretary or treasurer. Also information for forming Localities, appointing Agents, Medical Attendants, &c., can be obtained by letter, pre-paid, enclosing postage stamps for return letter, or three postage stamps for form, &c. Direct, Mr. D. W. RUFFY, secretary, London Office, No. 13, Tottenham-court, New-road, St. Pancras.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 20s. per gallon.

STEPHENS'S LIQUID OAK, MAHOGANY, ROSE, and SATIN WOOD STAINS, for Staining various sorts of Inferior Woods, so as to give them the appearance and character of the more costly and ornamental kinds; also for reviving the natural colour of Wood Carvings and Panellings, and other ornamental Wood Work, when such has become faded from age or other causes.

IN THE BUILDING AND DECORATING NEW CHURCHES, where it is desirable to give to the cheaper kind of Woods the appearance of Antique Oak, or to make Deal assume the character of Oak Panelling, whereby the effect of the more costly may be produced by the use of a cheaper material, these Stains will be found more effective than any means hitherto employed.

IN OLD MANSIONS AND HALLS, where the Wood Carvings and Panellings have faded, the application of these Stains will be found to revive and bring back the rich natural colour, and which colour may be varied from the lighter to the deeper shades of the most Antique Oak.

The BIRCH WOOD, which has a fine natural grain, with little colour, is particularly suited to the application of these Stains; and the appearance which it assumes after Staining is so near that of the natural wood, that is is only when the grain and colour of the latter is particularly fine that it is preferred. Beech, Birch, Elm, Ash, and other Woods, English and Foreign, receive the Stains and produce various imitations.

For the exposed Timbers of the inside of the ROOFS of CHURCHES, for which north country Timber and Deals are generally used, by brushing them over with the Stain, which operation is very rapidly, and of course economically, effected, the appearance of an Oaken Roof will be produced. For colouring the backs of the Seats, Pews, the fronts of Galleries, the Pulpit, &c., it is equally advantageous.

Prepared by HENRY STEPHENS, and may be obtained at 54, Stamford-street; of Mrs. ROWLAND, Painter and Glazier, 3, Broad-street, Golden-square; at the Office of "THE BUILDER," 2, York-street, Covent-garden, and in Manchester, at Crake's Marble Works, Garratt-bridge, David-street, at which places specimens of their application may be seen.

TO ARCHITECTS, BUILDERS, & BRICK MAKERS.

PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Roads, Gardens, and for Liquid Manure. BRICKMAKERS' PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to 12-inch bore, kept for Hire.

BENJ. FOWLER, 63, Dorset-street, Fleet-street.

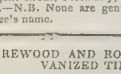
PROTECTION OF LIFE AND PROPERTY.

J. READ begs to inform the Public, that after 31 years' experience in the use of Garden Engines and Machines, and 24 years' practice in the manufacture of Fire and Garden Engines, he has taken out a New Patent for improvements in the valvular action of the above, which are made of the best metal and workmanship, and which are so simple, they cannot get out of repair; if standing by for months, they are ready to act in an instant. The above engines are well adapted for mansions, villages, factories, agricultural buildings, or wherever there is danger of fire. Made to order, of any power or dimensions, discharging from 20 to 100 gallons per minute. The smallest and middle-sized engines are so portable, they will pass through any common doorway; may be kept in a hall or passage, and worked by two-thirds the labour required for any other engines of the same power. Manufactured only by the Patentee, 35, Regent-circus, Piccadilly, where they may be seen and proved.—N.B. None are genuine except stamped with the Patentee's name.

MOREWOOD AND ROGERS' PATENT GALVANIZED TINNED IRON.

T. W. BEALE begs to acquaint the public that he is prepared to lay roofing, plain or corrugated, fix pipes, gutters, &c. Also chimney-tops and ventilating cowls of every description; also water and oil cisterns, of this incorrodible and fireproof metal. He manufactures all kinds of baths, as hip, shower, Roman, open, slipper, sponging, foot, children's, and self-heating baths; also toilet-cans and pails, slop-pails, coal-scuttles, cash and deed-boxes, and fire-proof safes of every description, 10 per cent. cheaper than any house in London.

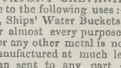
The PATENT GALVANIZED TINNED IRON is applicable to the following uses:—The Lining of Ships' Store Rooms, Ships' Water Buckets, Water Jugs and Receivers, and for almost every purpose to which zinc, tin, copper, brass, or any other metal is now applied; is more durable, and manufactured at much less expense. An experienced workman sent to any part of the kingdom. All orders punctually attended to. For particulars, apply to T. W. BEALE, 46, Bridge House-place, Newington Causeway.



PATENT GALVANISED TINNED IRON.
(MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and water-closets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 9oz. to any required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quick-set-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.



MOREWOOD and ROGER'S PATENT GALVANIZED TINNED METAL. — This article was at first sold under the name of Galvanised Tin Plates, but the Patentees finding that the public, in some instances, overlooking the word Tin, confounded the article with Galvanised Iron, and that the character of their metal has thereby sustained injury, are desirous of giving it a name so distinctive as to prevent such mistakes, and consequent disappointment to purchasers in future. They therefore respectfully request purchasers to inquire for MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON. In order to enable the public readily and at first sight to distinguish between the two metals, it may be well to inform them, that Galvanised Iron has a plain zinc-like appearance, while M. and R.'s Patent Galvanized Tinned Iron has a smooth crystalline surface.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON, Patronized by the Admiralty and the Honourable Board of Ordnance, being extensively used in her Majesty's Dock-yards, at the Tower, and elsewhere, for every variety of Roofing, and other purposes, where a strong, light, cheap, and durable material is required.

It has been found by experience that this article is beyond all comparison superior to zinc; possessing, as it does, all the advantages arising from the strength and firmness of iron, combined with perfect immunity from rust; whilst it is free from the very serious objection which applies to zinc, viz. its contraction and expansion, consequent upon every change of temperature, and from which circumstance leakage must of course result.

This material is not likely to be destroyed by fire, as is the case with zinc and lead, which melt and run down, thus freely admitting fresh air to the fire, and causing it to burn more fiercely. It is, therefore, obviously well adapted for all the purposes above-named, and most importantly so, when there is the possibility of fire. It is also peculiarly suitable for chimney-tops, gutters, spouting, and out-door work generally, possessing the strength of iron, without its liability to corrosion. It is by far the most economical metal roofing that can be obtained, in consequence of its strength, as it may be laid without boards, and upon the lightest rafters.

This mode of preserving metal from rust does not only apply to sheet-iron, but also to manufactured iron in any form, as bolts, nuts, hinges, nails, &c. &c.

For full Particulars apply to S. HOLLAND, 34, Grace-church-street.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

THE ARTICLE GLASS.

MESSRS. DAINES and BRADDOCK have made arrangements to supply the Public with Glass for Sashes and Horticultural purposes of superior quality and substance, and at much lower prices than that which may have been obtained through the medium of any previous advertisements as the size therein quoted at 1d. per foot may be obtained at 3s. per 112 lbs. upon application 6, Fore-street, Fore-street.—London, March, 1846.

N.B. A Stock of Patent Plate and Stained Glass constantly on hand.

FOREIGN SHEET GLASS and GLASS TILES, sold at C. JARVIS'S old-established Window Glass Warehouse, 38, Great Castle-street, a few doors from Regent-street, at the lowest prices, averaging 16oz. to the foot superficial and upwards; at 4½d. per foot, for sizes as large as 24 and 16, in boxes. Glass Tiles equally low.

English Manufactured Glass of every description on the lowest terms. A Crate of Crown Glass, containing 18 Tables for 70s. Orders forwarded with reference will meet with prompt attention.—For ready money only.

TO THE PLATE GLASS TRADE.

THE BIRMINGHAM PLATE AND CROWN GLASS COMPANY, "Registered," beg to inform the Trade and Public, that the extension of their Works at Smethwick, near Birmingham, being now completed, their Warehouse 141, Fleet-street, is now open for the Sale of their Crystal Plate Glass, which will be found to stand unrivalled by that of any other manufactory. They are also in a position to supply Rough Plate of any substance for Skylights or Floorings on the shortest notice.—Orders addressed to B. MOSS, 141, Fleet-street, will be promptly attended to.

SASHES primed, glazed, and sent to any part of London at 6d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.

FOREIGN SHEET 5d. per foot.
BRITISH CROWN 5d. per foot.

Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Shew-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.

Dry and Good Colours of the best quality; Brushes Dryers, and every article used in the Trade Warranted.

VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.

For complete lists priced.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

FOREIGN SHEET GLASS, in Cases as imported.

		Common.	Second.	Best.
Under 1 ft. 0 in. super- ficial		3½	4	5
1 ft. 0 in.	„ 3 ft. 0 in.	4½	5½	
3 ft. 0 in.	„ 4 ft. 6 in.	5	6	
4 ft. 6 in.	„ 6 ft. 0 in.	4½	5½	7
6 ft. 0 in.	„ 9 ft. 0 in.	4½	6	8

THOS. MILLINGTON has always a large stock in hand, and receives weekly large supplies: T. M. is nearly the only real importer.—Address, Thos. Millington, 87, Bishopsgate-street Without, London. Dealer in all kinds of Plate, Sheet, and coloured Window Glass. Manufacturers of Paints, Varnishes, and Colours.

An immense stock of Varnish, very old, &c.
Fine Oak Varnish, 10s. per imp. gal.
Fine Carriage ..... 12s.
Fine Copal ..... 18s.
Fine Body ..... 24s.
No charge for cans if taken in quantities of 6 gallons.

POLONCEAU'S BITUMEN PAVEMENT for paving Foot walks, Terraces, Garden walks, Stables, Coach Houses, Granaries, Corn Stores, and Salt Warehouses. For the exclusion of Damp and Vermin in Basements it is particularly adapted, and for Roofing Dwelling Houses, Porticos, Balconies, and Sheds.

Price 3s. 6d. per square yard.

BITUMEN for covering the Arches of Bridges, Culverts, &c. &c. on Railways and other places (with instructions for laying it down), may be had at the rate of 45s. per ton, by applying to JOHN PILKINGTON, 16, Wharf-road, City-road.

TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorized CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

has been used. For the purpose of securing the use of the Genuine Article, Architects are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced. I. FARRELL, Secretary.
Stangate, near Westminster Seyssel Asphalte Company.
Bridge, Jan., 1845.

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 168, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

IRON BRIDGES AND PIERS.

THE Economy and Safety of DREDGE'S PATENT PRINCIPLE are explained in the "Mechanic's Magazine" No. 1172, and practically proved in Fifteen Public Bridges in Great Britain alone, four of which are Country Bridges for Common Road Traffic, varying from 50 to 294 feet in length. The continual destruction of Bridges and Viaducts is owing to an error of principle in their construction which is this. The line of equal horizontal thrust or pressure, both in suspension and compression bridges, should be sustained by the roadway, and not by the arch, as it universally is in the old systems; and hence the cost, the undulation and oscillation, and destruction of bridges are enormous.

Bath, Feb. 1846.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—Wyatt, Parker, and Co., Agents. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

ORNAMENTAL TILES FOR COVERING BUILDINGS.

ROBERT BROWNE'S newly-invented CURVED ITALIAN TILES, for which invention the Society of Arts and Sciences awarded a medal. The Gothic Grooved Ridge Tile, with vertical ornaments, invented by R. B. in 1840; also a variety of plain Gothic Ridge Tiles adapted for tile or slate coverings; ornamental Plain Tiles of various patterns.

Tiles form in winter a warmer and in summer a cooler covering than slates or metal, and may be burnt of any desired colour. Address ROBERT BROWN, Tile Works, Surbiton Hill, near Kingston, Surrey.

HIP TILES to suit slate roofs in colour; Ridges, with plain or rebated joints, roll tops, and vertical ornaments; drains, many sizes, with plain or socket joints; paving in squares, hexagons, octagons, &c., different colours; roofing, in Grecian or Italian styles, other devices also, or plain; conduits, which do not injure pure water; fire-bricks and tiles; clinkers, and cut-door paving; sundry wall-coping, garden-borders, chimney-tops; also tubular and other flues of peculiar material. No agent, but a depôt at 22, WHITEFRIARS-STREET, FLEET-STREET, LONDON, under Mr. PEAKE'S personal care, to supply genuine TERRO-METALLIC goods at fair prices as per quality; also, additional Stock at No. 4 Wharf, Macclesfield-street, South, City Basin.

The TILERIES, TUNSTALL, STAFFORDSHIRE, are near the centre of England, whence boats are sent direct to any inland place; or to the Mersey for the coasts, the colonies, and elsewhere.

HOLBORN AND FINSBURY SEWERS, MIDDLESEX.

THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persons about to Purchase or Rent Houses or Property, or take Land for Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Persons to apply for at the above Office.

By the Court,
STABLE and LUSH, Clerks.

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDDLESEX, No. 1, Greek-street, Soho-square.

TO BUILDERS and Others interested in buildings or in ground for building upon, within the district under the jurisdiction of this Court, drained by water-courses falling into the river Thames, between the city of London and the parish of Fulham.

The Commissioners hereby give notice, that by an Act of the 47th Geo. III. (chap. 7, local) it is required that, previously to the making of any new sewer in any street, lane, or public way, or in any part intended to become a street, lane, or public way, or to carry or drain off water from any house, building, yard, or ground, into any sewer under their management, or within their jurisdiction, a notice in writing shall be given to them, or to their clerk at their office, and that such new sewer or sewers shall be constructed and made in such manner and form as shall be directed by the said Commissioners, and not otherwise.

And, in order to prevent the serious evils and inconveniences that must arise from ground proposed to be built upon being excavated at too great a depth, the Commissioners have directed that, upon notification being made at this office previously to the excavation of such ground, information shall be given as to the lowest depth at which the same can be drained.

And the Commissioners do also give notice that, whenever the lower floors or pavements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any sewers, or drains into sewers, to be made for the service of such buildings.

It is recommended to all persons about to purchase or take houses, or other premises, to ascertain whether such premises have separate and distinct drains into common sewers.

All petitions must be delivered at this office at least three clear days before they are presented to the Commissioners; and all such petitions will be called on in the order of their application, and the name of any party not present when called on to support the application will be struck out, and the proceedings must in consequence be commenced de novo.

All communications made with any sewer without leave of the Commissioners will be cut off, and the parties making the same will subject themselves to a fine.

The provisions of the Metropolitan Buildings Act (7 and 8 Victoria, c. 84) do not supersede the authority of the Commissioners of Sewers in the above respects, but their powers are expressly reserved, and their regulations made subservient to the purposes of that Act. The execution of such works, under the superintendence of the district surveyor alone, cannot therefore warrant the making of any sewers or drains within this commission, nor relieve the parties making them from the penalties above mentioned.

By order of the Court,
LEWIS C. HERTSLET, Clerk.

The Builder.

No. CLXIV.

SATURDAY, MARCH 28, 1846.

IN September last, we gave the particulars, illustrated by diagrams, of some improvements in arranging stoves and other apparatus for heating and ventilating, for which her Majesty's letters patent had been granted to Mr. Leslie.* The improvements contemplate the two-fold advantage of economy of fuel, and a means of ventilation more perfect and extensive, than has yet been ventured on for dwelling-houses.

The plan, our readers will remember, includes the construction of flues of a different form from those usually adopted, viz., a rectangle, 18 by 4½, and the formation of a long, narrow, opening or chase into the flue above the fire-place. The latter is thus described in the inventor's specification:—

"In order to ventilate the kitchen or room in which such apparatus is set, I cause a long opening to be made into the chimney, rising from the upper surface of the boiler to the cornice or ceiling, which opening may be from two to four inches wide; and it will be found that by such means there will be a constant passage of the air from the kitchen or room, through such long opening, by which any impure air will be carried off; and, in order that the outgoing air may not be greater than the case requires for the time being, I have iron covers, shutters, or slides, which may be caused to cover such opening to a greater or less extent, and such covers may be a series of doors, slides, or shutters, one above the other, hinged to the side of the opening; or they may be metal plates moving on axes, in the character of louvre boards, so arranged, that any of them may be closed, or more or less open. And it will be found by this arrangement of apparatus there will be no tendency for the smoke or vapours passing up the chimney from the fire, to pass into the kitchen or room, but there will be a constant draft from the kitchen or room up the chimney, which will not only carry away the products from the fire up the chimney, but also the air from the room or kitchen; thus producing any desired degree of ventilation, as well as an advantageous consumption of fuel."

Now it will be remembered, that both these arrangements are expressly prohibited by the unlucky Metropolitan Buildings Act, which absurdly provides, that "no flue may be used for a smoke-flue which is of less internal diameter in any section than 8½ inches," and that no chimney-breast or flue shall be cut into for any other than two or three particular purposes specified, not including the purpose in question. We say "absurdly" provides that no flue may be used which is of less internal area in any section than 8½ inches, because it assumes a knowledge which, undeniably, is not possessed,—as in the case of drains, the folly of which we have already demonstrated. There are few things of which architects and builders, indeed all, are more profoundly ignorant than they are touching the size, form, and arrangement of flues and fire-places, in proof of which, we would simply point to the tops of the houses in any street or square in the metropolis, or to the abominable disfigurement of the Royal Academy of Arts in Trafalgar-square. And yet, forsooth, the Buildings Act is to forbid, without any ground whatever for the prohibition, that no flue shall be less in any section than 8½ inches!

* See p. 451, Vol. III.

The Act, however, provides for errors of this sort, by giving certain modifying powers to the official referees and Commissioners of Works in the 11th section, "for the purpose of preventing the express provisions of this Act from *hindering the adoption of improvements*, and of providing for the adoption of expedients either better or *equally well* adapted to accomplish the purposes thereof." Accordingly, Mr. Leslie, wishing that his patent should not be confined to the suburbs and the provinces, and learning that permission had been obtained, by a modification of the Act, for the insertion of Dr. Arnott's ventilating valve, forwarded a description of his apparatus to the official referees, and requested the same facilities.

The official referees, as in duty bound, reported the representation to the Commissioners of Works, but to our surprise and regret, accompanied it with the following expression:—"It is our opinion that the modifications requested should not be made, because the same would tend to lessen the stability and security from fire of buildings, which it is the principal object of the Metropolitan Buildings Act to increase and maintain."

The commissioners accordingly decided against the inventor's appeal. The inventor then solicited a statement of the specific grounds on which their opinion was founded, and of any mode by which the objections might be obviated. This was granted, and is as follows:—

"That the form which Mr. Leslie desires to be permitted to adopt for the inside of flues, (namely a rectangle 18 inches by 4½ inches on plan, as shewn by the diagram annexed to his representation) is objectionable as it regards stability of structure, inasmuch as (if permitted) flues might be carried up in 14 inch walls, and tend greatly to diminish the efficacy of party-walls.

That the said form is also objectionable as it regards the tendency which it would have, as we believe, to increase the deposition and accumulation of soot, whilst its long and narrow transverse section would materially increase the difficulty of cleansing the flue; it would indeed require a different apparatus from that in ordinary use.

That the cutting which Mr. Leslie desires to be permitted to make into flues, (namely a slot or chase about 4 inches wide, and the whole height of the breast within any story, or nearly the whole height of the breast from the top of the chimney opening to the ceiling, as shewn in the diagram annexed to his representation) is objectionable, inasmuch as it would materially weaken the structure of the wall in which it might be made.

That the said opening is also objectionable, inasmuch as it would not be properly protected, for Mr. Leslie's apparatus is not self-acting; it is liable from neglect to be left with the valves open.

And, secondly, with respect to the mode by which, in our opinion, "such objections may be obviated so as to insure stability and security from fire, we hereby report,—

That we are not aware that the said objections can be entirely obviated, and having regard to the peculiarly important provisions of the Act to guard against risk by fire, we do not feel that we can submit any mode in connection with the proposed operations, that will ensure stability of construction and security from fire."

Now we have no hesitation in saying that these objections may be removed without the slightest difficulty,—they have really no weight whatever; and knowing as we do, the scientific acquirements of Mr. Hosking, and his own efforts to improve the ventilation of dwelling-houses, to which subject he justly attaches much importance, we feel satisfied that they are the result of wrong or insufficient information. The simplest provision possible, would prevent what the referees deprecate, as to carrying up the flues in 14-inch party walls without additional brickwork, or weakening the walls by the chase; the difficulty of sweeping is merely a joke, and as to the danger from fire, we advise Mr. Leslie to invite the referees (now that he himself is better qualified to develop his ideas than he was when he first applied), to accompany him to Lord Lonsdale's house at Barnes, where his arrangements have been adopted in the sitting rooms, and let them make what experiments they please to arrive at a sound judgment.

When we first alluded to the patent, exercising a necessary caution, we did not express an opinion as to the value of the long chase; we said simply what is unquestionable, that "as a ventilator its effect is necessarily very powerful." Consideration, however, and our recent examination of Lord Lonsdale's rooms, have satisfied us of its value, and of the importance of removing any difficulties that may lie in the way of its adoption, or at all events the adoption of the principle.

Arnott's valve is useful, but limited in its action; whatever is said in favour of its introduction, can be said with still greater force for Leslie's arrangement. It is only by degrees that a knowledge has been obtained of, *how much* pure air is required to support healthy life; the necessity of providing means for getting rid of a corresponding quantity of vitiated air is not yet fully understood. We do hope that the referees will consent to receive fresh evidence on the subject, to see the arrangement in operation, and to re-consider their opinion. In assembly rooms, workshops, hospitals, it will be of the greatest value, and it seems desirable that it should be applied and perfected in the metropolis, and thence spread into the provinces, rather than be kept out of the former by law, until public opinion insists on its admission.

Amongst other advantages, it seems likely to induce a greatly extended use of gas; and as respects decoration, it opens a fresh field. At Lord Lonsdale's the fire-places are faced with painted porcelain, by Copeland and Garrett, with excellent effect, and the valves will be formed of the same material; this is a part of the subject, however, to which we may have occasion to refer at greater length hereafter, our present purpose is, on public grounds, to assist in obtaining immediately such a modification of the Act, that it may no longer hinder the adoption of the arrangements in question.

ROYAL INSTITUTE OF ARCHITECTS.

ENGLAND INDEBTED TO THE ARCHITECTS FOR THE BOODROOM MARBLES.

AT the ordinary meeting of the Institute, held on Monday last, Mr. Tite, vice-president, in the chair, much interesting matter came under notice. The subjects for designs and essays, for which medals will be given next year, were announced as follows:—

1 On the adaptation and modification of the orders of the Greeks by the Romans and moderns.

2. On the best system to be adopted, with regard to the arrangements for the thorough drainage of a town house, and of a nobleman's mansion and offices in the country respectively, comprising the general arrangement for carrying off the waters and sewage, the sizes and most convenient forms for the drains or conduits, the requisite fall, the description of material to be employed, and the several precautions for the prevention of damp, smell, and passage of vermin, to be accompanied by block-plans and details.

The Soane medallion to be awarded to the best design for an edifice suitable to the congregational worship of the Church of England and capable of accommodating 1,000 persons

without galleries. The design to be Roman or Italian, expressive of its purpose both internally and externally, presenting as little obstruction to sight as possible. The chancel to be properly marked in plan and decoration with reference to its Protestant uses. All the windows to be charged with stained glass. There must be a conspicuous belfry, but the body of the church is not to be surmounted by a dome.

The inquiry into drainage, we venture to think, was suggested by recent articles in THE BUILDER; the subject is one of extreme importance, and it is to be hoped that the offered distinction may have the effect of inducing some well-qualified person, to take up the subject, aided by all that has been recently propounded, and place it on a proper footing.

Mr. Poynter, honorary secretary, read an account of the stained glass in the Sainte Chapelle at Paris, drawn up in consequence of a wish to that effect expressed at one of the meetings. The building was erected in the 13th century: the greater part of the glass is of the same century, and is more perfect than any other example of the same date with which he was acquainted; although much injury had been done to it, 800 compartments remain, and from two to three thousand figures. Previous to the general restoration of the building, and its coloured decorations, now going forward, the Sainte Chapelle was used for the preservation of records; and when his sketches were made, eight or nine years ago, permission could not obtained to examine the interior without much difficulty. The windows are sixteen in number; the sixteenth, a rosace, is later than the others, and belongs to the 15th century. The ironwork to which the glass is attached is in beautiful forms, circles, semi-circles, lozenges, quatrefoils, &c. The glass is not remarkable for drawing or composition: the fleur-de-lis and the arms of Castile are conspicuous amongst the ornaments. The restoration of the glass has not yet commenced. A few years ago ancient glass was not well understood in France, but at the present time knowledge on this point is more general.

The coronations of kings, the life of Moses, the book of Joshua, history of David, supply the subjects; the figures being nevertheless all attired in the costume and arms of the 13th century. Mr. Poynter then described the windows *seriatim* with the aid of his sketches. Speaking of the general effect, he said the whole is very harmonious; blue preponderates greatly, reds, greens, and violets, being used as contrasts. The stone-work is coloured maroon, and the glass looks much better than it would if it were between jambs and mullions of stone colour. At first sight the subjects are indistinct; the effect is that of the kaleidescope. This harmonious blending of colours is not easy to obtain; it was well understood by the painters of the 13th century. Whether or not, this is the *best* way of treating stained glass, continued Mr. Poynter, is a question. It was not followed when stained glass and good art were joined. One thing is certain, that profusion of detail, obtained either by colour or drawing, is the one thing needful in stained glass.

In answer to a question asked after the reading of the paper, it appeared that the glass is in lead, and that it is simply held up against the iron-work by means of eyes projecting from the latter, through which are passed iron pins.

The chairman then rose and said, he thought it necessary to address a few words to the meeting on the subject of the Boodroom marbles, which, according to an article in *The Times* (partly quoted in THE BUILDER of last week), were on their way to this country. The article said, "Thanks to Sir Stratford Canning, England may now congratulate herself on possessing some of the finest specimens of ancient sculpture in existence," he begged leave, however, to state, it was to the efforts of the architects that the country was primarily indebted for them. Halicarnassus, now called Boodroom, was situated at about the south western point of the coast of Asia Minor; it was the capital of Caria, and the site of the famous tomb of Mausolus erected about 330 years before Christ. The existence of certain valuable sculptures there had long been known, Dr. Clarke gave some account of them in the third volume of his travels (p. 256 and p. 268), and the *Voyage Pittoresque* contained an engraved representation of some of them. In 1839 or '40, the Institute and the Architectural Society, of which latter he was president, simultaneously drew the attention of Government to the fact, and urged in a memorial, the importance of obtaining them for England. With a deputation from the society, he had waited on Lord Palmerston and laid the whole subject before his lordship, who promised immediately to write to Lord Ponsonby and to Admiral Stopford. A firman authorizing their removal was in consequence obtained, but through circumstances had not been acted on till now. From the information he had obtained, he was disposed to think the sculptures did not belong to the tomb of Mausolus, they were probably older than the Parthenon. The only person he could find who had seen them was Mr. Barry, who had not been allowed to sketch them. In conclusion, he congratulated the Institute on having been the means of drawing the attention of Government to these interesting specimens of early art, and on the successful issue of the application.

A paper by Dr. Bromet was then read, descriptive of some curious moulded bricks found in the walls of a 12th century church in Normandy. Some were of a pyramidal form, and others like a fish-scale or a butterfly's wing, and some were parallelopipeds with a singular rectangular projection on the face. Dr. Bromet thought they were of the 6th century and that they were made after Roman models. Moulded bricks were used in England as early as the Saxon times.

Allusion being made to Tudor houses having jambs, mullions, &c., wholly of brick, Mr. Godwin thought it was worth mentioning that Mr. Hitch, of Ware, had made the bricks for several houses in the Tudor style, including the mullions, labels, copings, &c. It was necessary that the bricks should be well *dried* before they were put into the kiln.

Mr. Scoles said Cossey Hall was a good example of the modern use of moulded bricks.

Mr. Sambroke said that in Munich he found that the bricks for a Byzantine church which was in progress when he was there, were dried for twelve or fifteen months, and then cut by hand like stone.

In connection with brickwork, Mr. Wyatt stated that in a church he was building in Wiltshire, where the walls were faced with Bath stone, the bricks had been laid without mortar, merely grouted together, in consequence of his fear of unequal subsidence, and and that the work was exceedingly solid.

The chairman said it was curious to find that while in England all acknowledged the value of grouting brickwork generally, in France it was not permitted. They went so far there, as to ascribe the fall of the great viaduct at Barentin to the use of grouting.

ORNAMENTAL AND DECORATIVE ART.

DURING the last month Mr. George Wallis delivered a course of lectures at Manchester on ornamental and decorative art. The following is a correct abstract of them:—

Mr. Wallis introduced his subject by the consideration of the artistic, educational, social, and commercial importance of ornamental art; and proceeded to shew how valuable a source of excellence was to be found in its study, and that no artist could really be said to possess the true requisites of his art, without the knowledge which the study of ornament brought with it, as applicable to the necessary adjuncts to an historical picture—*architecture* and *costume*; inasmuch as these give locality and period to such works. The works of McClise were quoted as an extraordinary example of the use of this kind of knowledge; but this artist stands almost alone in its possession. Educationally the subject has been much neglected and misunderstood, and youths are trained up with the notion that nothing is a work of art but a statue and a picture; totally leaving out of the question a knowledge of the various periods of architecture and the various styles of decoration, than which nothing was better calculated to expand the ideas and give increased value to a good education. *Pretty* drawing and *good* drawing are two different things, so a smattering of art and a critical knowledge of it were as widely different. Socially, the lecturer shewed that the importance of this knowledge was great, first as making a stepping-stone for the unassisted artist, by which he could connect his art with the every-day wants of life, and thus gain his bread in an independent manner whilst seeking fame, and on the public, a general diffusion of intelligence in art would be the means of refinement, and frequently of an abstraction from objectionable pursuits. The commercial importance was shewn in the fact that our continental rivals, the French and Germans, had long considered art as a legitimate means of national wealth, in the improvement of their manufactures, and had fostered and encouraged it accordingly. The origin of decoration was based in an inherent love of ornament existing in man, and it was argued that he decorated his body before he clothed it. With clothing came an increased love of ornamentation; and ear and nose rings, the use of coloured feathers, the plaiting of variegated grass, and other means of decoration, shewed another step towards civilization; but the lecturer contended that it was only when art began to be used as an illustration or manifestation of some religious or moral sentiment, that it became truly and legitimately an evidence of progression. Looking upon Egyptian art as the exponent of the earliest positive principle, Hindoo design was regarded as the earliest practical illustration, and the rock-cut temples of India were quoted as examples. The indefinite nature of the principles of Hindoo design was then pointed out, and a comparison made between the decorations of the excavated and the constructed temples. The Hindoo sphinx was quoted as shewing the identity of tradition between Hindoo and Egyptian art, and the difference shewn to consist in the use of the head of a man in the Hindoo, whilst that of a woman was used in the Egyptian. Symbolism as the basis of art, historic and decoration, was well illustrated by an allusion to the Hindoo Pranava; and the earliest representation of their Trinity—Bal Ram, Subhadra, and Jagunath. All art should aim at elevation of sentiment, and it was for a people to decide whether morally it should elevate or degrade, whether intellectually it should instruct or merely astonish.

Architecture was considered as a constructive and not an imitative art, the invention of man, and arising entirely out of previous cultivation of his mental powers, and the means of adapting the materials around him to his wants and wishes, as arising out of the circumstances in which he was placed. Egyptian design was shewn to consist of the adaptation of the type of the cave and tent, and the immense lythic fragments of which the temples of Egypt were composed, was shewn to have arisen out of the monolythic idea engendered by the excavated temples of Nubia, which was described as standing half way in art between the wonders of Ellora and the ever enduring grandeur of Memphis. The severity of form and positive nature of the principles of Egyptian design were fully explained, and its chief peculiarity shewn to consist in the sudden amalgamation of the right line with the curve. The polochromatic effects were illustrated by large coloured drawings of capitals, fragments from ceilings, and decorated musical instruments, and the diaper work was shewn to be geometric in its character, and in many instances similar in forms to the decorations of Etruscan vases. The periods of Egyptian art Pharaonic, Ptolomaic, and Græco-Roman, were briefly summed up, and the distinctive difference of each explained. The purity of feeling observable throughout Greek art was traced to its unity of principle, and its positive adaptation from nature without the conventional being allowed to interfere too far. The principle of Greek construction was laid down as rectangular, and that of the decoration as radiatory and curvilinear. The columnar arrangement was shewn to be based in repetition, but monotony would have been the result but for the skill with which the whole building was proportioned, and the parts arranged. The Panathenaic Frieze was quoted by the lecturer as the positive embodiment of the historic with the ornamental, and its arrangement was demonstrated as based on the same principles which ought to govern the production of all decorative works—a full and perfect adaptation to the purposes and situation for which it was executed. The metopes of the Parthenon were also quoted as equally effective examples.

The lecturer gave a summary of the general results of Greek art, and a powerful exposition

of the principles of ornamental art to be found in the human figure. He considered that the proposition that a student who knew the figure, and drew it well, was therefore capable of drawing and designing other things equally well, was a fallacy, and shewed that though all the principles of a pure type were to be found in the human figure, yet it was all useless unless the student could read, and understand it with reference to his own pursuits. This implied that the student had already studied ornament, for unless he had done so he could not possibly see the analogy, and therefore, to the student whose perceptions have to be cultivated, whose mind has to be stored with images as varied as his artistic wants, the study of one type only, however perfect, is merely the study of one book, on one subject, which, however excellent itself, will not prove much of an instructor beyond the subject on which it treats. To know ornament well, it must be studied for its own sake. A knowledge of the figure would, no doubt, be of great assistance to the intelligent student; but this depended in a great measure upon how he had been taught, for experience had shewn that it had been a stumbling block to those of small capacity, as begetting a conceit of their own powers totally incompatible with their knowledge and ability. But he yielded to no one in his estimation of its high value to the ornamentist equally with the historic artist. Both should be well, thoroughly well taught. Nay, in some instances, he maintained, the ornamentist should be able to draw it with more severity, from the fact of using it without the adjuncts of a back ground; and thus, like the sculptor, his figure must speak for itself without the accessories of a picture.

Roman design, and the spirit in which art was wrought out by these mighty rulers of their age, were exemplified by their treatment of the Corinthian. Grandeur and magnificence was the point at which the Romans aimed, and mistaking bigness for the former, and the overloaded effects of ornamental details for the latter, they lost the purity and simplicity which characterised the works of the Greeks, which they were so ambitious of rivalling. Their mechanical use of the acanthus was forcibly demonstrated, and the clumsy adaptation of geometry to the production of mouldings, instead of using the hand-curve of the Greeks, was also pointed out. The use of the spiral as a primary element in ornament, was also demonstrated, and the different use to which it was put by the Greeks, as compared with the Romans, very plainly shewn. The use of relievi, however, formed one of the most interesting points in this lecture, but would occupy too much space for us to do justice to it; as also the consideration of Etruscan art, which was shewn to be essentially Greek in its principles. The method of construction adopted in the forms of the vases was demonstrated. Pompeiian design was illustrated by admirably executed drawings of large size and excellent effect. The polychromatic effects were traced back to Egyptian art, and the forms shewn to be based on Greek, with a Roman feeling in the adaptation, and the combination of the historic with the ornamental, was shewn as an exemplar for our guidance in decoration, particularly as Pompeiian art is in a great degree domestic in its application.

The transition from pagan to Christian art, was a result which arose out of the transfer of the seat of the Roman empire from Rome to Byzantium. This change was attributed to those Greek artists who followed the Emperor Constantine to this city of the east, and their adaptation of the fragmentary constructions of the western empire to the requirements of their new faith, modified in a degree by an Asiatic peculiarity in all probability found already existing in the city in which Constantine desired to revive all the glories of Memphis, of Tyre, of Athens, and of Rome. Byzantine design, as the earliest Christian was proved to be essentially mosaic in its character, and this might probably have originated in a degree in some of the peculiarities of early Persaic art. The identity of the relievi of the Byzantine with Saxon and Norman art was fully proved. Persian, Turkish, and Moresque design were each considered, and the adaptation of the principle of the Greek fret to Turkish decoration was shewn to consist in the use of the diagonal instead of the perpendicular and horizontal lines only. The Moresque style was illustrated, and the peculiar character of the ornaments traced out, and illustrated by reference to the simplest principles of geometry. Early Italian art followed, and the works of Cimabue, and his pupil Giotto, were quoted as examples of that spiritualization in design which reached its perfection under Raffaelle. The arabesques of this prince of painters were quoted as a proof how thoroughly he understood every thing appertaining to his art; and the works of his pupils, Julio Romano and Giovanni da Udine, were further evidence of the value of his school in the training of true artists. British art, as the perfection of Gothic design, to use the popular phrase, formed an admirable field for disquisition, and the lecturer proved how completely and perfectly the arts were at one time developed in Britain. Illuminated MSS., decorated silks and velvets, stained-glass windows, ornamental ironwork, and the painted and gilded effects produced in the decorations of the cathedrals of this country were glanced at.

Italian art in the 16th century, and the absurdities of Bernini and Borromini were next noticed. The advent of the Renaissance in the works of that artist-goldsmith Benvenuto Cellini was considered, and a rapid glance taken of the style of Francis I., of France, as displayed at Fontainebleau. The Italian origin of French art was thus traced through, and the employment of such men as Rubens, Poussin, and Philip de la Champagne, in the decorations of a room in the Luxembourg, quoted as a proof that artists were in those times much more of workmen than at present. Elizabethan, and the domestic architecture and decorations of the Tudor age next received attention, and the carved furniture of the period quoted as a proof how largely art entered into the service of every-day life. The classic revival which occurred after the restoration, was argued as having done more injury to true art than all the destruction and whitewash of the puritans, and the no-taste displayed in some of the continental cathedrals, in the placing of classic screens across Gothic buildings, shewn to have originated in the same source with much of the literature of the time—a constant following after classic models. The leading features of the style of Louis XIV. was then explained, and the sentiment in which it originated proved to be that of self-glorification, a perversion of the true purposes of art from the embellishment of religion, morality, and patriotism, to that of vain-glory. Louis XV. and the pastoral school were glanced at, and Chinese, as a *modern* style, was argued as possessing the essential principles of a true style of decoration. Modern French being compared with modern German, the sentiment of the latter was shewn to be superior alike in originality and purity.

The course of lectures was concluded by some appropriate remarks as to the present state of the arts in Britain, and the *material* was denounced as standing in the way of the *spiritual*. The British public looked for matter-of-fact productions, not for the elevation to be found in the ideal. Our ornamentists were little else but dove-tailers of the odds and ends of every style of every age; and instead of looking to principles first, as arising out of the study of the antique, then to nature as a new source from whence to adapt forms for the illustration of their own age, country, and literature, they either slavishly copied all that had preceded them on the one hand, or totally neglected every thing in the shape of ornament on the other; consequently our schools formed nothing but puny painters of pretty pictures, ambitious spoilers of colours and canvass, whose ideas never ranged beyond dog-kennels or heaps of lumber.

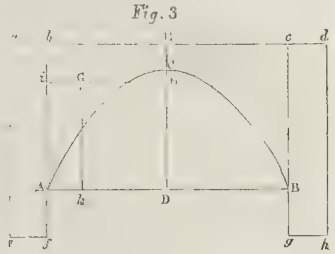
NEW CHURCHES.—At a meeting, held last week, of the Society for Enlarging, Building, and Repairing Churches and Chapels, grants were made in aid of the erection of new churches as follows: at Collier-street, in the parish of Yalding, near Maidstone, and at Wolsden, in the parish of Rochdale. For rebuilding, with enlargement, the parish churches of Llangaffno, near Carnarvon; Shalford, near Guildford; Wambrook, near Chard (the town excepted), and Aspatria, near Carlisle. Also for erecting transepts to the Church of St. Barnabas, Liverpool, erected in the year 1841.

ON THE EQUILIBRIUM OF PIERS.

THE cases of this problem previously illustrated had reference to the semi-circular and segmental arches proposed in the secon ; volume of Dr. Hutton's course of mathematics (see p. 8, *ante*); but since arches are frequently built of other forms, such as the *parabola*, the *ellipsis*, the *hyperbola*, the *cycloid*, the *curve of equilibration*, *&c.*, we should consider the solution of the problem as being incomplete if these other curves were omitted, but more especially the *ellipsis*, the *hyperbola*, the *cycloid*, and the *curve of equilibration*. The *parabola* being used only on certain occasions, is of less importance, but since it *does* sometimes occur in military works, it may be as well to bestow a little attention on it, and because it is somewhat simpler in its nature, than any of the other curves just mentioned, we will begin our investigations with it.

Let ACB fig. 3, be a parabolic arch, of which AB is the span, DC the axis or rise, CE the thickness at the crown or length of the key-stone, and *abfe*, *cdhg* the piers by which it is supported, the road-way and the top of the piers being in the same horizontal

Fig. 3



plane; it is required to determine the thickness of the pier to support the arch in equilibrio without the reaction of any other arch; the piers being of the same rectangular form as represented in the drawing.

Since the axis CD bisects the arch ACB in C, it divides it into two equal and symmetrical portions AC and BC, and for this reason, the mixed figures ACE*b*, BCE*c*, contained between the arch, the piers and the roadway, are also equal and similar with respect to the portions of the arch on which they rest; it therefore appears, that each pier must sustain one half of the materials that constitute the arch, so that the area ACE*b*, is a proper representative of the weight of the materials which the pier has to sustain.

Let G be the position of the centre of gravity of the area ACE*b*, and through the point G draw *i*H parallel, and G*k* perpendicular to the horizon, and draw the diagonal GA; then, since the point G is the centre of gravity of the semi-arch ACE*b*, it may be considered as the place of that semi-arch; for by the principles of mechanics, if the whole mass were concentrated in the point G, it would produce the same effect on the pier as is produced in the usual state of a balanced arch; consequently, if the vertical line G*k* denote the weight of the incumbent materials, or the tendency of the semi-arch to descend in the direction of gravity, then will *k*A denote the horizontal thrust against the pier, to turn it about the point *e*, that angle of the pier acting on the ground as a fulcrum. This, however, supposes that the pier is free to move about the point *e*, and that there is no resistance offered to the thrust by friction, or the adhesion of the mortar.

If we conceive the horizontal force which acts in the direction *k*A, to be exerted at the extremity of a lever A*f*; then its momentum to overturn the pier will be $k\text{A} \times \text{A}f$. Now, if the whole effort of the weight in the direction of gravity be represented by *w*, that portion of it which acts in the direction *k*A, will be $\frac{w \cdot k\text{A}}{\text{G}k}$; for according to the *parallelogram of forces*, it is

$$\text{G}k : k\text{A} :: w : \frac{w \cdot k\text{A}}{\text{G}k}.$$

Therefore, by substituting this result for *k*A in the expression for the momentum to overturn the pier, we get

$$k\text{A} \times \text{A}f = \frac{w \cdot k\text{A} \cdot \text{A}f}{\text{G}k},$$

But when the semi-arch and the piers are in equilibrio with each other, the momentum of the one must be equal to that of the other. Now the weight of the pier will be appropriately represented by its area $bf \times ef$, in like manner as the weight of the semi-arch is represented by the area ACEb; and the leverage by which it resists the horizontal thrust of the semi-arch, is equal to one-half of ef; the centre of gravity of the parallelogram $abfe$ being situated in the centre of magnitude; consequently, the momentum of the pier to resist the horizontal thrust of the semi-arch, is $\frac{1}{2}ef^2 \cdot bf$: therefore, by equating this with the momentum of the semi-arch, we get

$$\frac{1}{2}ef^2 \cdot bf = \frac{w \cdot kA \cdot Af}{Gk}.$$

This equation is general, and will assume the same form whatever may be the nature of the curve on which the arch is formed. Reducing it in reference to ef, the thickness of the pier, we get

$$ef = \sqrt{\frac{2w \cdot kA \cdot Af}{bf \cdot Gk}}. \quad \ldots\ldots (1)$$

In this equation the quantities Gk in the denominator of the fraction, and kA in the numerator are unknown, and it is these that we now proceed to determine.

In consequence of the very simple mensuration of the parabola, the position of the centre of gravity at G is easily found; for we have only to consider the rectangular parallelogram ADEb, and the parabolic space ACD, which is in the same plane with it, and forming a part of itself, to revolve about the semi-base AD, which remains fixed, in this case, the parallelogram will generate a cylinder of which the radius is DE, and altitude AD, while the parabolic space describes a conoidal solid, the radius of whose base is DC and altitude or axis AD; it therefore follows, that the difference between these two solids is equal to the solid generated by the figure ACEb during the revolution.

By the rules of mensuration, the solidity of the generated cylinder is expressed by the term $3{\cdot}1416AD \cdot DE^2$, and that of the conoidal figure by the term $1{\cdot}67552AD \cdot DC^2$; and the difference of these is

$$3{\cdot}1416AD \cdot DE^2 - 1{\cdot}67552AD \cdot DC^2 = 1{\cdot}67552AD(1{\cdot}875DE^2 - DC^2)$$

This is the solidity of the figure which is generated by the revolution of the semi-arch ACEb; but it is evident, that while the semi-arch revolves about AD, and describes the solid just named, the centre of gravity G describes a circle whose radius is kG; and by the properties of Guldinus, the solidity of the figure described by the revolution of the plane ACEb, is equal to that of a prism whose base is the area of the describing plane, and altitude equal to the circumference of the circle traced out by the centre of gravity of that plane; consequently, by having both the area of the semi-arch, and the solidity of the figure generated by that area, the position of the centre of gravity, in reference to the semi-base AD, can readily be found. This is the principle to which the reader's attention is more particularly directed; for by its application, the position of the centre of gravity of the balancing materials of an arch can be more readily found than by any other method whatever, since it requires no other knowledge than the simple rules of mensuration.

The area of the semi-arch ACEb, is equal to the difference between the rectangle ADEb and the semi-parabola ACD; but the area of the rectangle is expressed by the term AD$\times$DE, and that of the semi-parabola by $\frac{2}{3}$AD$\cdot$DC; and the difference of these is AD$\cdot$DE$-\frac{2}{3}$AD$\cdot$DC$=$AD (DE$-\frac{2}{3}$DC), and it has been shewn that the solidity of the figure generated by that area, is $1{\cdot}67552AD(1{\cdot}875DE^2 - DC^2)$; therefore by division, we get

$$\frac{1{\cdot}67552AD(1{\cdot}875DE^2 - DC^2)}{\frac{1}{4}AD(3DE - 2DC)} = \frac{5{\cdot}02656(1{\cdot}875DE^2 - DC^2)}{(3DE - 2DC)}$$

This is the circumference of the circle described by the centre of gravity of the semi-arch, and the radius will be found by dividing by 6·2832; hence we have

$$\textit{co-ordinate, } kG = \frac{0{\cdot}8(1{\cdot}875DE^2 - DC^2)}{(3DE - 2DC)} \ldots (K)$$

This equation expresses the value of the vertical distance between the base or span of the arch, and the centre of gravity of the semi-arch at G, and by a similar process the horizontal co-ordinate, or the distance between the axis and the same centre of gravity, can readily be found. For let us now suppose, that the rectangular plane ADEb, and the semi-parabola ACD, perform their revolutions simultaneously about the axis DE, which remains fixed, the one will generate a cylinder whose radius is AD, and altitude DE, while the other generates a paraboloid, whose radius is AD and axis DC. But by the rules of mensuration, the solidity of the cylinder is represented by the term $3{\cdot}1416AD^2 \cdot DE$, while that of the paraboloid is represented by $1{\cdot}5708AD^2 \cdot DC$, and the difference of these is

$$3{\cdot}1416AD^2 \cdot DE - 1{\cdot}5708AD^2 \cdot DC = 1{\cdot}5708AD^2(2DE - DC).$$

This is the solidity of the figure described by the semi-arch revolving about the axis DE, and we have already seen, that the area of the describing plane, is represented by $\frac{1}{4}$AD (3DE$-$2DC); therefore, by division we get

$$\frac{1{\cdot}5708AD^2(2DE - DC)}{\frac{1}{4}AD(3DE - 2DC)} = \frac{4{\cdot}7124AD(2DE - DC)}{(3DE - 2DC)}.$$

And this is the circumference of the circle described by the centre of gravity of the semi-arch while it revolves about the axis DE. Let this be again divided by the constant number 6·2832, and we obtain for the

$$\textit{co-ordinate, } GH = \frac{{\cdot}75AD(2DE - DC)}{(3DE - 2DC)},$$

and if this be subtracted from the semi-base AD, it becomes

$$iG = AD - \frac{{\cdot}75AD(2DE - DC)}{(3DE - 2DC)},$$

which, being reduced to its simplest form, gives

$$iG = kA = \frac{AD(1{\cdot}5DE - 1{\cdot}25DC)}{(3DE - 2DC} \ldots (L)$$

Now, if these values of kA and kG, that is, the horizontal and vertical co-ordinates, be substituted instead of them in the equation marked (I), we shall obtain

$$ef = \sqrt{\frac{2w \cdot Af \cdot AD(1{\cdot}5DE - 1{\cdot}25DC)}{bf(1{\cdot}5DE^2 - 0{\cdot}8DC^2)}},$$

And, finally, by substituting $2AD(DE - \frac{2}{3}DC)$, or twice the area of the semi-arch, for $2w$, the expression for the breadth or thickness of the pier, becomes

$$ef = \sqrt{\frac{2Af \cdot AD^2(1.5DE - 1{\cdot}25DC)(3DE - 2DC)}{bf(4{\cdot}5DE^2 - 2{\cdot}4DC^2)}} \ldots (M)$$

In this equation there is nothing but known quantities, all having reference to the dimensions of the arch and its supporting piers; it is, however, of such a form as not to admit of being clearly expressed in words, and consequently the method of reducing it must be obtained by an attentive examination of the several steps in the working of the following example:—

Example 3.—Suppose the arch ACB to be a parabola, of which the span or base AB is 40 feet, the axis or height DC 20 feet, the thickness at the crown CE 4 feet, and fA, the distance between the bottom of the pier at f and impost at A 8 feet; what must be the thickness of the pier to sustain the thrust of the arch, the summit of the pier and the roadway being in the same horizontal plane?

Here, then, we have given $Af = 8$ feet; AD $= 20$ feet; DC $= 20$ feet; DE $= 20+4 = 24$ feet, and $bf = 20+4+8 = 32$ feet. Hence we get, $1{\cdot}5DE - 1{\cdot}25DC = 24\times1{\cdot}5 - 20\times1{\cdot}25 = 36 - 25 = 11$;

$3DE - 2DC = 24\times3 - 20\times2 = 72 - 40 = 32$;

$2Af \times AD^2 = 8\times2\times20\times20 = 16\times400 = 6400$;

Then, if these three results be multiplied together, we get $11\times32\times6400 = 2252800$; this is the numerator of the fraction under the vinculum in equation (M), and the denominator is found as follows:—

$$4{\cdot}5DE^2 - 2{\cdot}4DC^2 = 4{\cdot}5\times24\times24 - 2{\cdot}4\times20\times20 = 2592 - 960 = 1632,$$

which being multiplied by $bf = 32$, we get, $1632\times32 = 52224$ for the denominator of the fraction; therefore by dividing and extracting the square root, we obtain

$$ef = \sqrt{\frac{2252800}{52224}} = \sqrt{43{\cdot}1372} = 6{\cdot}57 \text{ feet}$$

very nearly.

N. B.—This form of arch is very frequently employed in the construction of powder magazines and other military works. T.

DWELLINGS, DRAINS, AND SUPPLY OF WATER IN THE CITY.

On the 12th inst., Dr. Lynch presented to a Court of Common Council a well-timed and judicious petition on subjects of the utmost importance, as affecting the health and well-being of the community, and supported the prayer of it in an admirable speech, which ought to be published in a separate form and distributed throughout the country.

We purposely avoided reference to the statement at the moment; when it occupied the attention of the daily papers, in order by recurrence, to increase its effect. The subject being of permanent and engrossing interest, we feel impelled to record the petition in full:—

"*To the Right Hon. the Lord Mayor, the Aldermen and Commonalty of the City of London, in Common Council Assembled.*

The following petition of the Metropolitan Working Classes Association for improving the public health.

Humbly sheweth—That the corporation have set the example of applying a large, and as your petitioners are informed, a sum of no less than 20,000*l.* per annum, to the improvement of the city as a part of the metropolis.

That your petitioners think the improvements good in themselves; that the widening of the streets is good as a means of ventilation; that your petitioners admire wide and magnificent streets, and take pride in the improved general aspect of the city and of the metropolis. But they humbly submit, that whilst all is thus made fair and good to behold without, all should not be left foul and miserable within; and that these benefits may be carried out otherwise than to the injury of the working classes, which effect has been and is now produced.

Your petitioners aver, that by every old street occupied by the labouring classes pulled down to form a new street, the evil of overcrowding the existing old streets, courts, and tenements near the street pulled down, is generally aggravated.

Your petitioners know that this effect was produced by the pulling down of houses to form the Farringdon-market. They know (and it is in evidence before the Commissioners for Inquiring into the Means of Improving the Health of Towns) that the like effect was produced by the pulling down old houses to form the Blackwall Railway. They know that the like effect has been produced by the removal of the old and poor houses to form the new streets which traverse the site of St. Giles's. Good new streets have been formed, but the poor population of St. Giles's has been only wedged in more densely upon the poor population of Seven Dials, and the bad made worse.

Your petitioners see that new lines of railway are proposed to be carried, some into the city of London, others through other parts of the metropolis, and that large numbers of old houses are to be pulled down, but they see no provision made, or consideration given, for building new ones for the accommodation of the poor people who cannot remove from their places of work.

Your petitioners pray that whilst the corporation devotes its funds to the formation of new and magnificent houses, it will at the same time exercise its power in building for the working classes, at reasonable and yet remunerative rents, improved tenements, in numbers equal to those pulled down, and by so doing a benefit will be conferred, instead of an injury inflicted, on those whose condition most need improvement.

Your petitioners observe with much satisfaction that new large main sewers are in course of construction down the main streets. They regret, however, to find that the streets occupied by the labouring classes are still badly drained; that their houses are still left undrained; and whilst in the new prisons, and for the use of prisoners, an apparatus of the nature of a water-closet is provided, and a supply of water carried into each cell, the houses of the working classes are only provided with disgusting and unwholesome privies and cesspools, and have only dear and bad supplies of water, kept stagnant in butts in the yards, exposed to contamination from soot and dust.

Your petitioners further pray, that at the same time that drains for houses and sewers for streets are provided, your hon. Court will exercise its power and influence to procure a good constant supply of water to make the drains and sewers to act, and constantly remove all accumulations of offensive matter, and to have such supplies carried at a cheap rate into every set of rooms occupied by honest and industrious labouring men, who are willing to pay a fair and reasonable rate for the accommodation; whereas the price now charged for bad supplies, is proved to be more than three times the amount for which supplies of a better description might be ensured.

Your petitioners humbly represent, that besides sewers' rates, payment of scavenging, and cleansing rates are made on account of most of the houses occupied by the labouring classes. That whilst their houses are badly drained, and the streets, in respect to which the owners or occupiers pay scavenging rates, are badly cleansed; and that, however the service of the scavenger may be contracted for, and paid for, the duty is rarely if ever properly done. Your petitioners beg leave to bring before your notice the evidence, in this respect, of the medical officers, given in answer to the inquiries made under the authority of the Government, and appended to the report on the sanatory condition of the labouring population."

We would gladly give the whole of Dr. Lynch's observations, but are prevented by our narrow limits. He said it was a subject of congratulation with every reflecting mind to see the working classes struggling to improve their social condition. It was one of the most gratifying results of the diffusion of useful knowledge, and one of the best signs of the times. That laudable endeavour had originated with their clear-headed brethren in Edinburgh, Glasgow, and Dundee, where public meetings were called and resolutions adopted, that shewed how well they understood the evils and the means best calculated to remove them. The determination to form similar associations in each of the great towns of this country had met with encouragement from the highest, the noblest, the most pious, and some of the most scientific in the land. The wants of the poor, who were dispossessed by the alterations, had been entirely overlooked in the new arrangements. That was a great evil, and had a strong tendency to aggravate all the evils arising from the neglect of proper sanatory regulations, and affecting the comforts and even the lives of the working classes to an extent that would appear quite incredible, if it was not for the searching and well-digested investigations of the Parliamentary commission for inquiring into the health of towns. Although every other class had been benefited by the march of science, no provision had been made for the benefit of the working classes. The result was, that one-half of the children born in Great Britain died before they reached five years of age; and taking the young and the old together, 26 years was the average at which people died in London, and 17 in Liverpool. 50,000 died annually of diseases, which might be prevented by proper precautions. It appeared, from indisputable calculation, that the class of artisans, instead of attaining the average, were cut off at 19, thus losing 15 years of existence, and including in that the loss of 15 years of productive labour to society. In the ward of Farringdon-without, the habitations of the poor were in the most deplorable condition. Behind the finest streets, with their magnificent plate-glass windows, displaying the most costly productions of the earth, was to be found a revolting mass of filth and misery, which it was impossible to describe. In Holborn they had Fieldlane, and its shocking courts. On the other side they had Plumtree-court, with 600 inhabitants in 28 houses, the houses not averaging more than four rooms each; the rooms were but 8 feet in height and width, and the average of occupants was six persons in each room, while the inspector of prisons allowed a room of 10 feet to every individual prisoner. The houses in the court were built back to back, and the cellars, which contained an accumulation of every filth, were never cleared out. From these nests of pestilence were hourly issuing poisonous gases fatal to animal life. They need not but enter a newly-painted room to find how soon substances suspended in the air, imperceptibly entered and impregnated the fluids of the body. So fatal were the effects of the poison to which he alluded, that medical men were afraid of applying a blister to a patient, from the fear that it would run into a mortification. Similar close courts, in an equally bad state, were to be found off Fleet-street. In the Old Bailey there were nine courts, all without sewers. Contagious diseases were never absent. In Black Bear-alley, which was only two yards wide, and had but five houses, he had himself attended in one summer forty cases of typhus. By the census returns, the average in England and Wales was five persons to each house, but in John's-court, and Crown and Phœnix-court, West-street, he found in three-roomed houses eighteen people to each house. In some of the dens, called lodging-houses, he had found six beds in a room, with two and three persons in each bed, at 2d. a-head. In Fetter-lane there were 2,000 inhabitants in 145 houses, and in Plough-court, in thirty houses, there was an excess of 400 over the healthy standard, and no sewer to mitigate the impurities. The number of occupants in a house might be taken as a good criterion of their circumstances. There were twice as many residents in the wretched hovels as in the better class of lanes, and it was exactly where it was most wanted that there was the greatest absence of every sanatory provision. Both physical and moral deterioration were the inevitable consequences of all that misery. That the morals of the people were contaminated by such means was undeniable. To mitigate the evils so inadequately described, they must in the first place provide a constant and unlimited supply of water to the poor. They must shut up the wretched hovels which generated disease, and appropriate some of their vast revenues to accommodate the poor with cheap, well-drained, and well-ventilated dwellings. Of the 125 who died daily in London, fewer than nine died of old age. The supply of water in London was a gross monopoly in the hands of a private company, and their charge was most exorbitant. Dr. Lynch here exhibited the prospectus of a company, with Lord Francis Egerton as chairman, and Mr. Baring and Mr. Jones Loyd as trustees, which was ready to furnish the metropolis with filtered water forty gallons per diem to each house, at the rate of 2d. a week, or 7s. a year. Amongst the many wise dispensations of Providence, there was none that more clearly indicated its Divine origin than the intimate connection which subsisted between our interest and our duty. Whatever was best calculated to promote the well-being of the human family, would be found to be the most economical in the end. On the contrary, whatever violated a sanatory law, or tended to produce suffering amongst any portion of the people would be found to operate injuriously upon the rest. Here was a bond of union between the different classes, which rendered it an act of common prudence as well as of humanity to observe the condition and provide for the comforts of those who stood lowest in the social scale. Ancient cities, once the envy of surrounding nations, had fallen because they did not secure their permanency by providing for the happiness and improvement of the masses. The interest of the labouring man ought to be an object of endearing interest with the members of that court. By labour the country had obtained within the last fifty years a mechanical power equal to the labour of 500,000,000 of human beings. London boasted to be the centre of civilization, the mighty heart of the political frame, whose size and wealth, whose pomp and commerce had gathered within its limits all that could contribute to the wants and pleasures of mankind. He referred to this picture of its greatness and glory, in order to contrast it with the deep disgrace of having such hovels as homes for the productive classes, in the very heart of the first city of the first empire of the world. He hoped, however, that they would now act a part more consistent with their honour—that having done so much for the ornamental, they would at length do something for the useful, and lay the foundation of a good work for which the press would praise them, the people would bless them, and their own consciences would reward them, as benefactors of the poor and the afflicted. Dr. Lynch concluded by moving that the petition be referred to the Improvement Committee.

Mr. Anderton seconded the motion.

Mr. King, with more bravery than good judgment, said he looked upon the appeal as ridiculous and nonsensical! and was determined for the sake of *common sense* to give it his most strenuous opposition.

Mr. Stevens evidently had the whole court with him when he replied to Mr. King with the remark, that it was important to the working classes that the court should at all events, manifest its sympathy with them. It had been intimated that the petition had a visionary object. When it was said that cleanliness could be produced, if the inmates of these wretched habitations were supplied with water, was that he would ask merely visionary? Was it merely a visionary good, if the tottering and miserable hovels which abounded in the city were pulled down, and substituted by cottages in which cleanliness could, according to the statement of Dr. Lynch, be supplied at so cheap a rate? Whatever the court might ultimately be able to do, it was at all events the duty of the court to treat such an appeal, not with sneers, but with respect and attention.

Mr. Stacy said it was allowed on all hands that an abundant supply of water, would effect a sort of revolution in the densely crowded lanes and alleys of the city. If the Commissioners of Sewers would begin by directing their labours amongst the inhabitants in supplying them with the one great necessary of health, the good example would be speedily followed, and all classes of the community would feel the blessing of the benefits.

Sir James Duke strongly supported the motion, which was ultimately agreed to by an immense majority.

We earnestly beseech every corporate body in the kingdom, to consider that the same petition and statement have been laid before them, and to give instant and earnest attention to the various points embraced by them The question is of universal concern, and demands immediate attention.

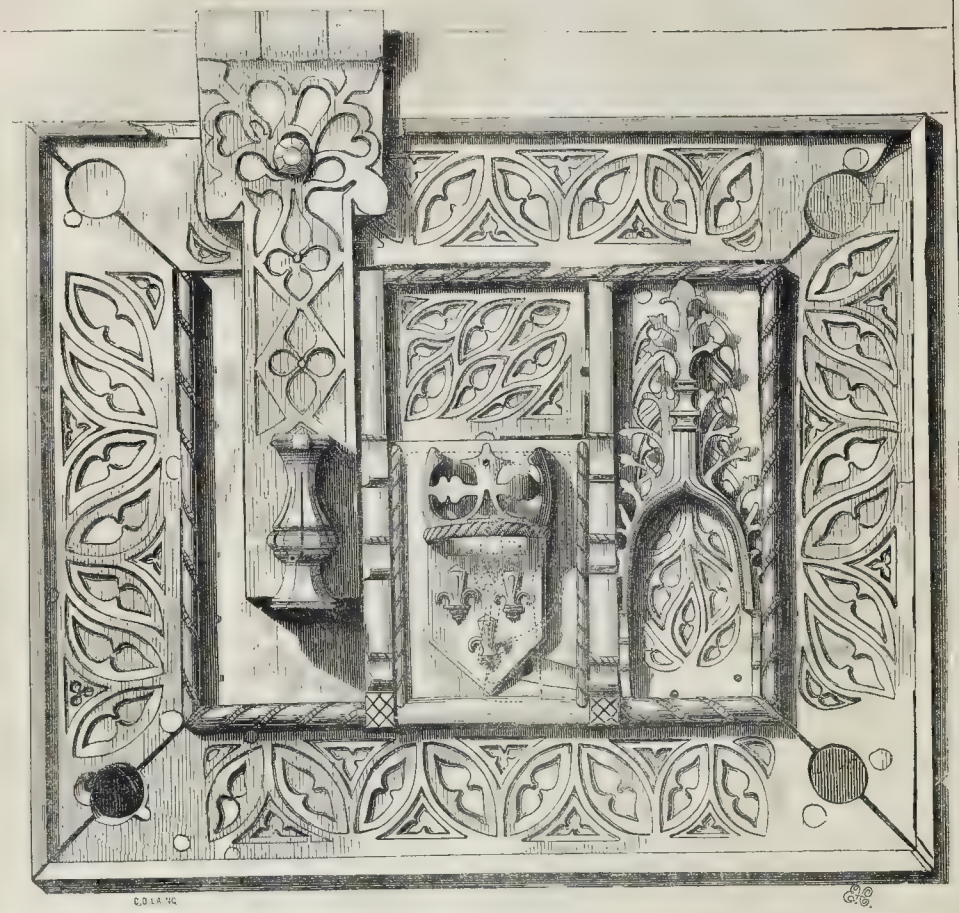
REGENERATION OF THE SOCIETY OF ANTIQUARIES.

We have several times mentioned that a strong feeling of discontent prevails in this ancient and important society. While all around were active and energetic, the managing body of the Society of Antiquaries were apathetic and indifferent. Little has been done, the weekly meetings have become a reproach, and though more life is beginning to be exhibited by the executive, it is not sufficiently so to satisfy those members who have a just notion of what the society, with its long standing and great power, ought to do. On the 19th instant the general feeling was strongly shewn, and it is to be hoped that the opinions which were expressed will produce a good result. The council had determined to create a new office of assistant secretary, with a salary of 150*l.* per annum, and had chosen Mr. Thoms to fill it. Mr. Pettigrew shewed conclusively, so conclusively that not a word was said in support of the proposition, that such a step was directly contrary to the charter. He expressed his astonishment that the council and vice-presidents, at a moment when beyond all others the welfare of the society was most at stake, should have ventured on such a step. It was of the utmost importance that the society should have an officer of their own choice, and a man known abroad as well as at home. The subject was referred back to the council.

The Rev. Joseph Hunter said, all the difficulties at present existing in the society were owing to the mode in which the council were elected. They were not the council of the society, but were the representatives of a party unknown. Mr. H. ultimately moved that in future the secretary should not prepare any house list. An amendment was moved to the effect that the house list should be sent round to the members a short time before the day of election, and ultimately the further consideration of the subject was adjourned till the next meeting. Lord Northampton, Sir H. Ellis, Mr. Disney, Mr. C. Robinson, and others took part in the discussion. Mr. Amyot was in the chair.

Last Thursday evening, Lord Mahon, on taking the chair, communicated a letter from the Earl of Aberdeen, expressing a desire that the council should elect another president at the annual meeting. A vote of thanks to his lordship, moved by Mr. Pettigrew, and seconded by Mr. A. J. Kempe, was passed unanimously. Relative to the question on which the adjournment was moved, the chairman announced, that the council had determined on forwarding the house list to each fellow eight days before the election. Mr. Thoms explained, that his part in the preceeding discussion was quite involuntary. Mr. Hailstone, Mr. Lott, Mr. Tite, Mr. Taylor, and Mr. Hallam, besides the members abovenamed, addressed the meeting. Considerable excitement prevailed, and much credit is due to Lord Mahon for his able conduct in the chair.

ANCIENT WROUGHT LOCK AND KEY.



THE IRONWORK OF THE MIDDLE AGES.

The present increasing value of the metals, as applied to constructive purposes, whether in buildings, in railways, or machinery, indicates a remarkable period in the history of science and the useful arts. But it would be difficult to call to recollection any period in which their importance, as materials susceptible of the influence of design, has had so inadequate an estimate. In the last volume of The Builder,* this fact was noticed in a leading article, and, subsequently, an endeavour was made to draw further attention to the same subject.† In the earlier periods of the Gothic style, we find that ironwork played an important part in the decoration of the doors, the hinges being, in fact, the only decoration. They covered the whole door in beautiful scrolls, as may be seen at Lichfield and Windsor. At a later period, the material was wrought into equally beautiful forms in locks, latches and keys, sconces, screens, coffers, rings, with many others. In all these, as before referred to, we discover that particular treatment, which is peculiarly suited to the material, and is also capable of producing a result greatly surpassing the effect of cast-iron, as at present worked. The subject treated, in each case, seems to have been a labour of love, to one whose ambition it was to engraft the influence of art upon what was the work of hands, but which the result elevated above the rank of a craft.

The lock, which in modern doors and chests is mortised in the wood, was formerly a subject on which the artist exerted all his ingenuity. The early locks seem to have been either padlocks, or to have had the simplest form. But at a later date, when doors and chests were panelled with elaborate tracery, the lock became similar to the example given above. It was sometimes enriched with leaf and scroll work, with ogee canopies and elaborate panelling, sometimes the catch had the figure of a saint, and even the rivets were converted into beautiful forms. The wards of the lock in the examples before us, display no great skill, though we find very ingenious contrivances for security in specimens of later date. The lock of a casket, in the possession of the late Mr. Rhodes, placed on the underside of the lid, has four bolts to shoot in different directions by one turn of the key. But there was often some contrivance to conceal the key-hole in locks of the period under notice. In the *Instrumenta Ecclesiastica*, now in course of publication, there are several illustrations of iron-work, including escutcheons and handles to doors. There is also a drawing of a lock to the chest at Great St. Mary's church at Cambridge, which shews it in its position with the wood-panelling. This example is, however, not equal to the present one, and is drawn with such a character of regularity, that we can hardly think it represents the precise appearance of the old work, which wanting the precision attainable by mechanical aids, and by turning the circles in with compasses, has nevertheless an impress of integrity upon it, which is more pleasing than the unvarying outlines of the machine. To express these points accurately, and in other respects to give a faithful representation, we have made the drawing the full size.

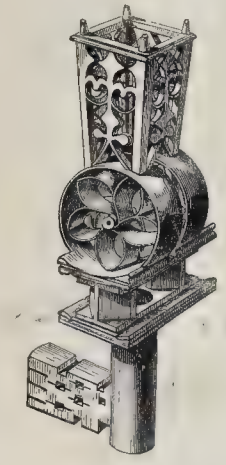
The example here shewn gives an excellent idea of the usual mode of execution in such subjects. The traceried portions, as in each side of the border, are formed of three distinct and thin plates, separately pierced and closely rivetted together. The third plate is uncut in this instance; in many cases the panels were open. The catch has only two plates fastened to a groundwork of the requisite strength; the rivet at the top may not be original. The edges, the twisted beading, the buttresses, the shield, the mouldings of the ogee, with the finial, the crockets, the handle of the catch, are all wrought out of distinct pieces by

* Page 97.

† Vide "Gothic ironwork considered in reference to its influence upon the future development of the style," vol. 141., p. 397, and elsewhere.

stamping or filing. The fleurs de lis are wrought separately, and rivetted to the shield, which again is fastened to the piece below it. The coronet is cut from thin plate, and is curved forward in semicircular form. The ogee, which in the lock itself has been turned upside down, has here been restored to what was probably its original position. The ogee, with the mouldings and finial, are rivetted upon the plate in which are cut the crockets. These are executed with great sharpness and precision. The four rivets which fastened the lock to the chest are lost. The portion between the buttresses, to which the shield is attached, concealed the key-hole, and was fastened by spring lever and snap, as shewn by dotted lines. To open it, a crooked instrument was introduced at the hole near the shield, and the lever being drawn back, the door turned down on a swivel axis at the bottom. The material of the lock is polished steel.

It will be seen, that there is great distinction between the kind of work here illustrated, and the modern practice, even in *wrought* iron. The labour of filing was inconsiderable, when separate pieces were employed, and when the object was not to imitate the treatment of



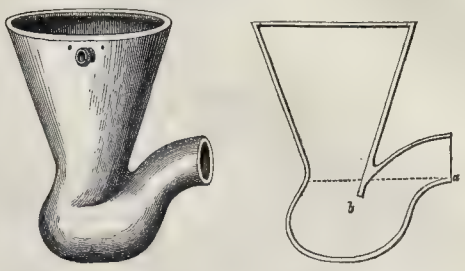
stone or wood. Large crockets and leaves cut of thin plate, and then twisted to the required form, presented all the richness of relief and undercutting. The lines of stems were engraved or fastened on. Large tracery was formed of rolled or bar iron, bent to the required shape, and rivetted together. But with all this apparent facility of execution, the difficulty of getting such works executed now is inconceivable. Though the process of casting itself requires some delicacy of manipulation, it would be difficult to find three workmen in England, who could at once produce any thing equalling the examples before us. The cost of the iron-work at the New Hall at Lincoln's-Inn was very great; in design and execution it certainly surpasses any thing that has been produced of late. The outside of the lock on the door of the council chamber, not so elaborate as that here represented, is said to have cost ten guineas.

The variety and beauty of the old keys is not less striking than are the locks. The handle was enriched with beautiful tracery, and even the wards were formed into devices, as that of the cross and the sacred monogram. At the same time, the convenient form for holding was seldom interfered with. In this example the tube and the wards are modern. The general arrangement of the circle with the handle, square in section, is frequently met with. The date of the key may be a little later than that of the lock. These examples are at present in the possession of Mr. Rogers, of Great Newport-street, to whom the writer is indebted for permission to draw them.

E. H.

*** Next week we shall be able to lay before our readers an engraving of another lock of different character.

CHEAP PAN FOR WATER-CLOSETS.



CHEAP WATER-CLOSETS.

The annexed engraving represents a water-closet pan, now being made in stone ware by Doulton and Watts, of Lambeth, which is well adapted for third and fourth-rate houses, where expense is an object, as it is both durable and cheap.

It will be observed, that the pan and water-trap (*b*) form one piece, and that it can be fitted with ease to a pipe drain. It is most desirable that no open privies should be constructed; and when it is found that the evils they entail can be avoided by a most trifling expenditure, there would seem to be no excuse for pursuing a contrary course.

SCAMILLI IMPARES.

An interpretation of an obscure passage of Vitruvius having lately appeared in the columns of The Builder (Curved lines of the Parthenon, p. 122), a different interpretation of the same passage may, perhaps, be interesting to some of its readers.

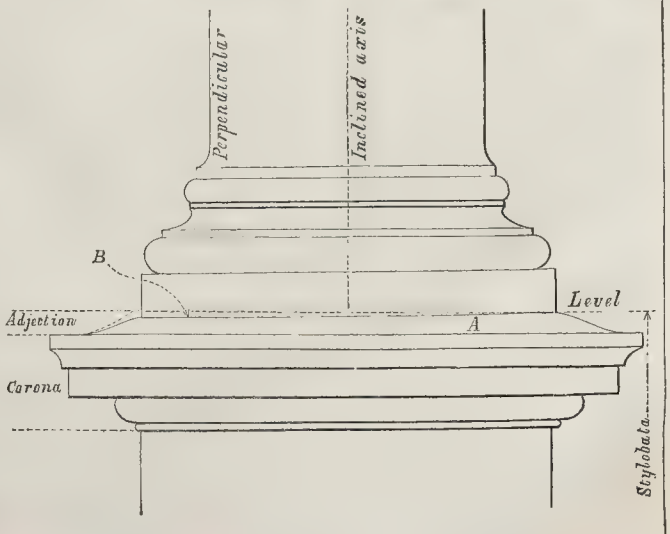
It must be premised, that Vitruvius directs that the axes of the columns at the flanks of temples should not be set perpendicular, but with an inclination inwards. In effecting this, the plinths, bases and capitals would be out of level. His object in the passage alluded to, was to shew a method by which the want of parallelism between the oblique lines of the bases, and the horizontal ones of the stylobatæ might be made least apparent; it is translated by Newton as follows:—"The stylobatæ should be wrought in such a manner as to leave in the middle, the adjection for the unequal scamilli; for if directed level, it will seem to the eye to be channelled. But the manner of properly forming these scamilli, will be shewn by the figure and description at the end of the book. This done, the bases are fixed in their places, and are so proportioned, that, including their plinths, they have in height, &c."

The meaning appears to be this, the stylobatæ, that is the parts above ground immediately under the columns, should be originally so wrought, that sufficient material should be left in the middle of the tops of them, to allow of their being subsequently pared down and shaped into what he calls unequal scamilli, that is footstools with unequal sides. The tops of these stools are not to be level, but are to agree with the oblique direction of the beds of the plinths, for if the tops of the stools were made level, the spaces between the bases and them, usually occupied by plinths, must be filled up with members of unequal sides, instead of plinths, which would appear to the unaccustomed eye like plinths partially sunk in the tops of the stylobatæ, and might themselves, from their position and form, be called with propriety unequal footstools.

The drawing referred to, was to shew how the sides of the scamilli (probably curved surfaces), might be best blended with the upper surfaces of the coronæ of the stylobatæ.

If the above conjecture be correct, the *scamilli impares* were members of the stylobatæ between their coronæ and the undersides of the plinths.

SCAMILLI IMPARES.



In a subsequent sentence, Vitruvius says, that a similar method should be adopted to make the tops of the capitals coincide with the architraves.

Newton's interpretation agrees with the above, so far as it assumes the unequal scamilli to have been stools with unequal sides, immediately below the plinths; but it supposes also an actual channel or groove to have been formed all round the sides, by means of their horizontal dimensions being made rather less than those of the plinths; this, however, does not account for the hypothetical eye-seeming channelling or sinking, in the tops of the stylobatæ of the puzzling passage.

The annexed roughly-sketched diagram will further explain my meaning:—A, unequal scamillus; B, apparent channel, groove, or glyph in the stylobat of the hypothetical case.

I have just heard, what is rather curious, that we are indebted to the word scamillus for one in the English language. It was adopted in the Anglo-Saxon as sceaniel, a stool or bench, whence an etymologist* derives our word shambles (butchers' benches or stalls).

J. P. W.

NOTES IN THE PROVINCES.

Her Majesty's Commissioners of Woods and Forests have determined upon adding considerably to the size of the Home Park, Windsor, by throwing into it the Maestricht Gardens, which run for half a mile parallel with the Thames at the western extremity of the park, and are of great width. The wall which separates the gardens from the park is now in course of being removed.——An official document has lately been gazetted, authorizing the conversion of the Episcopal Palace in the city of Worcester into a residence for the dean of that diocese.——Exertions are being made, and with every prospect of success, to obtain means to erect a church in Tangier, near Taunton.——The church of Blandford St. Mary, Wilts, was nearly destroyed by fire last week. The accident occurred from the pipe of the stove, which was put up through the roof adjoining the rafters, being burnt out. The rafters consequently took fire, and flames issued from the roof. The prompt assistance of the villagers, and a good supply of water, prevented the entire destruction of the edifice. ——*Felix Farley's Bristol Journal* says: "A dissenting sect at Cardiff being about to erect a chapel, have advertised for plans, &c. The advertisement at the end says, that the committee will not 'feel bound to accept the lowest tender (or any).' The honester mode would have been for the committee to at once have stated that they wished all the information they could procure without paying any thing for it.——A contract for building the new sea wall and esplanade on Cromer beach has been accepted in favour of Messrs. Wright and Cattermoul, of Norwich, whose tender for the work is 2,323*l.* The new jetty is to be erected by Messrs. Witting and Smith, of Cromer, for 985*l.* The whole is to be completed within four months.——The fish merchants at Yarmouth are exerting themselves to procure an extension of the jetty, owing to the extraordinary alteration which has taken place in the beach by the accumulation of *manner*. It is feared that unless some steps of this kind be taken, in rough weather vessels will not be able to land their cargoes at the beach, but will be obliged to carry them to Gorlestone, or Lowestoft.——The works in connection with the enlargement of Dover Harbour are in active progress. The site of the Government old store-houses has been totally levelled during the past fortnight, the sea-wall is completed, the ponderous gates at the entrance to the Pent have been hung, and are nearly completed, and it is now confidently anticipated that the whole will be finished in six or eight months.——At a meeting held last week of the Paving Commissioners of Cambridge, a large number of tenders for paving the town for three years were received. The first opened were for the carriage ways and channels, and setting the kirb-stone, at per yard,—the following were the prices:—J. Hurley, for the road 9d. per yard, setting the kirb 6d. per yard; J. Popjoy 8d. and 6d.; J. Coulson, 10d. and 4d.; Pratt and Sewell, London, 8d. and 5d., John Brady, London, 5½d., or 2d. extra if grouted, and 3d. the kirb. For the flag-pavement, John Brady sent in a tender also, which was likewise considerably below his competitors, he proposed to execute it at 9d. per square yard; there were two others at 1s. 4d., one at 1s. 3½d., one at 1s. 3d., one at 1s. 2½d., and two at 1s. 1d. It was of course unanimously agreed to receive Brady's tender. ——The corporation of Cork have applied to Government for a loan of 4,000*l.* to build public markets.——A few days since, in removing the floor of a house in Tavern-street, Ipswich, walls were discovered beneath the ground, which evidently formed some part of an Ecclesiastical building. The walls were constructed of rubble, and were about 2 feet thick, one extending east and west, and the other joining in the middle part on the north side and at right angles to it. There was a plain and narrow doorway in the first, and a larger doorway with mouldings characteristic of the fourteenth century in the other.—— At the Suffolk adjourned sessions, on Monday last, Mr. Borton produced a plan approved of by a select committee, for a new bridge to be erected at Higham. The plan was generally approved of by the bench of magistrates, and is to be carried into effect forthwith.——A gentleman employed by the Government is now in the vicinity of Weymouth making arrangements of a preliminary nature, with a view to commencing the long talked of Portland Breakwater.——The coffer-dam in connection with the harbour improvements at Aberdeen is completed, and has proved perfectly watertight. Immense wooden beams traverse the whole length and breadth of the dam, which are intersected and supported by others in all directions, and in every possible manner; so that the tides, which have occasionally risen to the height of twenty-one feet outside the dam, have made no impression upon the work. ——At a recent meeting of the town council at Coventry, a plan of the proposed cemetery was laid upon the table and approved of. It was determined by lot that the church should have the west and the dissenters the east side of the grounds, which extend over between seventeen and eighteen acres. The *Coventry Herald* says:—"Judging from the plan, the contemplated cemetery will in all respects do honour to the city, which will thus become distinguished by one feature consonant with modern taste, and with the spirit of 'sanatory reform.'"

* W. Barnes' "Poems in the Dorset dialect, Glossary."

THE TIMBER DUTIES.

This important subject has lately occupied much of the attention of the House of Commons, no doubt however exists respecting the issue of the proposed reduction by Government. The Marquis of Worcester headed an opposition, and was desirous of allowing the existing rates of duties to remain as they are. He was supported in a motion to this effect by Mr. H. Hinde, Mr. A. Chapman, Captain Harris, Mr. G. Palmer, and Lord G. Bentinck, whose only arguments rested upon an imaginary evil, which they said would be severely felt by the British shipping interest. The motion was successfully opposed by Mr. Cardwell, Mr. Warburton, Mr. Hume, Sir G. Clerk, and Mr. C. Buller, whose positions were founded upon experience, and the wants of the nation.

Mr. Warburton said the arguments hon. gentlemen opposed to the Government measure, were then endeavouring to impress upon the House, were precisely the same as those resorted to in opposition to the reduction of the timber duties in 1842. The predictions were also quite analogous; but experience had proved them to be founded on fallacious reasoning.

The House divided, and the motion was lost by a majority of 232 to 109.

The *Dundee Warder* says:—"We are informed that the director and comptroller of the customs at Dundee have received directions from the Board of Customs to admit logs of wood, all the sides of which are eight inches and upwards, although *sawn* on all sides, at the rate of duty as levied on timber *hewn*, not sawn. When any side is *under* eight inches, the duty as timber *sawn* is to be charged.

Fine Arts.—Lord Canning has been appointed an additional commissioner for promoting and encouraging the fine arts.

BRICKWORK IN LIVERPOOL.

Sir,—Some time back an article appeared in your journal, which has also gone the round of the newspapers, stating the extraordinary increase of houses in Liverpool in the present, compared with former years. This increase is truly astonishing, but at the same time it is a fact, that the manner in which the houses are put together is deplorable, the brickwork more especially, is of that description called jerrying, of which a similar specimen could scarcely be found in any other place. The method they have of bonding, if bonding it can be called, is with four stretching courses, and then a heading course; but the heading course is not always whole bricks, and often I have seen four half bricks for a two-brick wall, so that there would be a vertical joint in the middle of the wall for ten or twelve courses down, very seldom flushed up with mortar, and leaving a complete cavity in the wall for the mice from bottom to top. The other day I saw a warehouse on fire, and for four stories down from the top, the smoke was issuing from nearly every vertical joint in the front wall. I have also seen several buildings taken down for improvements, and these all display the same system of workmanship in every respect. It appears to have been the system here for ages back,—and it still continues, nor does there seem to be any desire on the part of the workmen to improve themselves, but they are content to plod on in the same slovenly way. This to me appears strange, when they have so many bricklayers from all parts of the country, yet they all get into the same system; and that spirit of emulation which should, and I believe formerly did exist amongst workmen, appears to have now become quite extinct.

I am, Sir, yours, &c., Wm. Hawley.

Liverpool, March 21, 1846.

*** These remarks, we are sorry to say, apply to brickwork in other places than Liverpool.

THE NEW BRITISH MUSEUM.

Sir,—The public press seems almost to have entered into a tacit compact to avoid the British Museum, so very studiously does it preserve silence in regard to the progress of that building. When the façade was first begun, there was a little squeaking, and protesting against the triviality and insipidity of the design adopted for one of the most important, certainly the most public, of all our public buildings;—a design in utter contradiction to the spirit which in the course of the last ten or twelve years has been infused into architecture. A decided movement forwards has been made in regard to the increased attention now bestowed upon architectural design and appearance, and that, not only for edifices of a superior class, but generally; not always, indeed, with the very best taste, but still aiming at taste and consulting appearance. The Museum certainly does not keep pace with, on the contrary, lags far behind such movement. In quality, its façade will be precisely of the same kind as that of the Post Office, as will be the design also: little more than a variation of the other, without a single fresh idea in it. Nay, there will not even be so much as any accompaniment of sculpture, though if any where at all, that would seem to be expressly called for in the façade of a museum, where it would be sufficiently significant and characteristic, and not altogether so decidedly contrary to the genius of Grecian architecture, but that it might for once be admitted into our Anglo-Grecian as a novelty,—an improvement on the Parthenon, which, as all who visit the Museum very well know, had no decoration of that kind whatever!

Pray heaven it be not by and by found out, *après le coup*, that a noble opportunity for securing a fine and finished specimen of Grecian architecture, one exhibiting our prowess in style as satisfactorily as the Houses of Parliament will do in a different one—has not been quite flung away and lost. The chief merit which the unlucky museum façade is likely to be able to claim, will be that of giving the *coup de grace* to Grecian architecture, and rendering us more Gothic in our affections than ever. An engraving in a contemporary journal shews what might yet be done towards redeeming

the design, and infusing into it a little more character and dignity; nor does there seem to be any positive necessity for continuing the roof or loftier portico over the part of the building behind it, the portico itself, according to the altered plan, being of such ample depth, that there would be sufficient extent of ridge of roof over it, to prevent the portico appearing merely stuck on to the edifice,— at least in any view of that side of the building.

BUDOWNIK.

DEVELOPMENT OF STYLES.

AT a meeting of the Decorative Art Society, held on the 11th inst., a paper was read by Mr. Dwyer, setting forth "Ideas on the development of styles." The imitative faculties it was supposed would, in the earliest states of society, be directed to imprinting fanciful and grotesque devices on domestic implements, such being probably suggested by quaint formations of nature first selected and applied to those uses. Credulity in various ways would become attached to these forms; religious and moral precepts would be symbolized, and history, manners, and ceremonies thus registered. The striking similarities discernible in remains of primitive art found in Mexico, Egypt, and India afforded much matter for remark. He doubted the *practical* utility to designers of searching remotely for the origin of styles, beyond an endeavour to obtain a similar inspiration to that which the artist of an admired work had possessed; and which would be best approached by a consideration of the circumstances of the period at which it had been produced. He ascribed the remarkable difference in styles, generally classed as distinct, to the extensive influence of national and religious habits and feelings, and dwelt upon the great difficulties of defining where any style begins or ends. Warfare had conduced greatly to this confusion, while religion was always stimulating conventionalities. To recognize the beautiful is the soul of art, and it was contended that the difference between the works of the ancients and the moderns, arose from a more immediate attention to natural types on their part, while we have been preferring to imitate the examples left to us of their skill. Several portions of Egyptian, Greek, and Roman decorative art, derivable from vegetable and animate forms were enumerated, alluding also to the symbolical meaning with which most ornaments had been invested, and which, it was argued, ought to be more strictly regarded in the adoption for modern purposes. The lecturer exhibited chalk drawings, one of a capital to a column, designed by himself from the water-cress; others illustrated the beautiful forms which the congelation on our windows assume in frosty weather; and one of the common nettle in blossom, in an inverted position, afforded a type for a chandelier. He said that he did not advocate servility in copying natural products, but contended that ideality ought to imbue all designs for embellishments. He would especially desire to see in our schools for artists, copies from ancient works placed beside the natural archetype from which they were designed, so that the *ideal* might be more correctly appreciated; and he concluded his paper with some remarks upon geometry and proportion, as being essential to the best arrangements of the best ideas.

AMIENS CATHEDRAL.—The *Literary Gazette* says:—Thoughts had been entertained some time ago that it would be possible to restore some of the sculptured figures of Amiens Cathedral which had been greatly mutilated, especially on the outside; but the Government commissioners, Messrs. Dusevel and Goze, appointed to examine the cathedral for this purpose, have reported that it would be much better to leave the figures untouched, and only to prevent them from receiving further injury. The general character of the collection of sculptures would then be better preserved than by any modern attempts at imitation. Two icnographical curiosities have been pointed out by these gentlemen as occurring amongst the figures. One is that of the Father holding the world on the end of a finger; the other that of the Holy Ghost represented as a human being seated, and holding the dove on his knee; while the Father and the Son are supporting the symbolical triangle.

OXFORD ARCHITECTURAL SOCIETY.

A MEETING was held in the Society's Room, Holywell, on the 11th inst. The president having announced the presents received, Mr. Millard, hon. sec., proceeded to read the report of the committee, which contained the following:—"The chief matter of interest which the committee has to report is, as usual, the progress of the works at Dorchester. The great south window and the beautiful sedilia, which, together form the portion already contracted for, are now on the verge of completion. The state of the restoration fund is more promising than at the last meeting of the society, for their subscriptions having been received since that time, from the Archbishop of York, the Bishop of the diocese, General Burrows (the patron of the living), and others, these contributions have completed the sum necessary for the second contract, and two members of the society have readily undertaken the responsibility of signing it. No delay will therefore be occasioned by a want of funds for the present; and the committee will immediately put in progress the restoration of the east and Jesse windows, with a portion of the roof of the chancel. In restoring the great east window, an original design will be necessary for the tracery in the rose; and that this somewhat difficult task may be satisfactorily accomplished, the committee believe it will be necessary to call in the assistance of another architect."

Mr. Guy, of Lincoln College, read a paper on the "Architecture of Howden Church, Yorkshire," illustrated by a number of drawings and engravings.

STRIKE IN THE BUILDING TRADES.

THE whole of the building trades of Manchester have turned out, in some instances for an advance in wages, and in others for an abridgment of the hours of labour. The numbers at present out of employ are roughly stated to be as follows:—

Carpenters and Joiners.....	1,700
Bricklayers	300
Bricklayers' labourers	400
Plasterers	200
Slaters	130
Labourers to two last	300
Painters	150
Plumbers and Glaziers	200

The carpenters and joiners of Leeds have given notice of their intention to strike on the 6th of April unless their wages are advanced 2s. per week. At Birkenhead upwards of 1,000 stone masons, carpenters, &c., have struck for an advance from 23s. to 27s. per week. Similar strikes are anticipated at Liverpool, Kendal, Scarborough, and other places. The employers at Manchester have formed themselves into an association for the purpose of protecting themselves from the demands of their workmen. They have caused large posters to be displayed throughout the metropolis, announcing that 4,000 mechanics, belonging to the undermentioned branches in the building trades, were wanted immediately at the following wages, in Manchester and the neighbourhood:—Carpenters and joiners, 28s. per week; bricklayers, 30s. per week; plumbers, 27s. per week; slaters, 26s. per week; plasterers and painters, 26s. per week; and labourers, 18s. per week.

The *Manchester Guardian* states broadly that "a few individuals at the head of the trades' union rule them, and dictate imperiously in all things, when they shall work and when strike, what wages they shall demand, and what offers refuse. Still the best workmen, the most intelligent men, are mainly disposed to accept the offer of the masters, giving them an advance of two shillings, with a return to the old hours. But the union overawes and prevents them from resuming work. It may be asked how men can continue under such thraldom; but the union finds a firm phalanx of supporters in the inferior workmen, many of whom are seldom fully employed, and being a numerous body, they aid the union to overawe and coerce into compliance the superior workmen."

Towards the close of last week upwards of 1,100 railway labourers, employed on the Lancaster and Carlisle line struck work, owing to the contractors having issued a printed notice, intimating that from and after Monday last, the men were to work 10½ hours per day, exclusive of meal times, the time previously being 10 hours a day.

MATHEMATICS FOR ARCHITECTS.

IT cannot be denied, that the kindred professions of architecture and engineering require to be based upon principles in pure mathematics; still less can it be denied that the professors themselves are *in general* but little versed in that essential branch of their respective professions. In fact, we can scarcely take up a professional book, in which there is the slightest approach to mathematics, without feeling convinced that the author is handling unfamiliar tools, and often lacerating his professional character by his clumsy use of them. Often have we felt a suffusion of shame when consulting works of the most eminent men in these professions, and stumbling on their ludicrous attempts to talk mathematically; and we have felt pleased in thinking that such *jejune* productions do not fall under the eyes of mathematicians. They know too well that our professional works contain nothing calculated to repay the trouble of perusal, much less the expense of purchase.

Yet problems of great, very great mathematical difficulty, are daily occurring in both professions. What is the consequence? That our architects and engineers are compelled to trust to unsatisfactory and illusive experiments with models, or to risk at once the consequences of their conjectural designs. They sometimes succeed—*often* when they keep pretty close to older and tried plans; but occasionally the most lamentable failures take place, and sometimes attended with fearful loss of life as well as property. A moderate portion of mathematical skill would have prevented these and other evils.

Again, the unnecessary strength given to parts of a structure, and unnecessary demand of generative power in machines, are so common, that there are perhaps few buildings or machines at present in existence, which form entire exceptions to the charge. Now the strength of a structure is, in reality, the strength of its weakest part, and even the weakest part may be weakened still more by its connection with the other parts; and the power of a machine is only that part of the initial force which is effectively conveyed to the "working points." All else is wasted, whether of strength or power; and, in fact, so much capital might as well be thrown into the ocean at once, as employed in these unprofitable parts of a structure or an engine.

A competent knowledge of mathematical science would enable the professional man, *in a very great degree*, to avoid this profusion of expenditure, and in nearly every case to prevent those frightful catastrophes that are periodically occurring from falling buildings and exploding machinery. Even on the inquests to which these terrible fatalities give rise, the conflicting and often very absurd testimonies and opinions of professional men are most remarkable; and they are gradually convincing the public that the professors themselves are destitute of all accurate knowledge of the *principles* of their own art, and are guided by mere empirical rules, the slightest departure from which becomes professional temerity, and a most wanton sporting with property and life! Is this as it should be?

Were architecture and engineering empirical arts—were it not possible to determine *à priori* the results of all strains and pressures in a building, and the loss of power attendant upon any given train of machinery—were it not possible to compute, by unerring rules, the actual force and its direction at any given point, either of a structure or a machine—then, indeed, this reproach could not lie at the door of either profession or of its Institute. Since, however, *they need not be* empirical professions, and as a comparatively moderate acquaintance with mathematical science would redress the greater part of the wrongs which professional ignorance inflicts on the public, it behoves us to make such corrections ourselves, lest they be forced upon us in a more galling form by the decision of the legislature. In fact, as any person, no matter his ignorance of all that relates to the subject, may at his pleasure dub himself "C. E." or "Architect," and as in the

recent railway mania, so many of the most unprincipled and unpractised persons have thrown themselves into the engineering profession, we need not wonder, nor indeed should we be sorry to see it, if the legislature should find it necessary to exercise a control such as it does in *law* and *medicine*. It certainly does seem necessary to put some restrictions upon the power of incompetent persons to enter these professions; and no mode seems so practicable as a charter of incorporation and a board of examiners to decide upon the qualifications of candidates in each of the professions. We are sure it would be a boon to the public, and not less a boon to the professions themselves. It would secure to the public qualified artists; it would remove from the professions that load of discredit which the present open system inevitably entails upon them, and with increasing accumulation each successive year.

We scarcely, however, hope to see this desired consummation yet; but we do know, from many letters which we have received, that a great number of the younger members of both professions are anxiously desiring to *qualify themselves* for an efficient and honourable execution of their duties. We have often been requested to point out a suitable course of study and reading in mathematics, which shall mainly, if not wholly, have a direct professional bearing — including all the great features of what is essential, and precluding those inquiries which, however interesting to professional mathematicians, are superfluous to professional architects and engineers. Yielding to none in our wishes to be "useful in our day and generation," we shall attempt to point out, not only the subjects, but the manner of study which appear to us to be best adapted to the end in view; and we trust that should the day come—which we yet hope to see—when some test of capability for professional duties shall be rendered legally imperative, the suggestions which we may offer will have proved a beneficial aid to many a one qualifying himself, who would otherwise have been unable to do so, in that most important branch of his acquirements, the *mathematical*.

Although large premiums are paid with articled pupils both to architects and engineers, we believe there is not a single case producible, in which the slightest attention to mathematical studies is included in the course of professional instruction. How, indeed, should there be? The youth may be advised, or he may not be, "to get a few lessons in mathematics from some private teacher;" but in most cases the advice will be looked upon as a bore, and perhaps given with a half sneer; and even if adopted, he is left, like his tutor, in the dark as to the nature and character of the mathematics that he wants. He blunders through a few lessons, gets disgusted, and his mathematical course is finished with the payment of his first guinea!—*Mechanics' Magazine*.

WESTMINSTER COURT OF SEWERS.

On Friday the 20th inst., a court was held. Mr. Leslie in the chair. After the minutes of several preceding courts had been read, in which it appeared the surplus from the rates of 1845, applicable to the year 1846, was 10,243*l*. 18s. 6d., the solicitor to the court made an application for petitions to Parliament against the Windsor Railway, and Surrey Grand Junction Railway Bills, which were in consequence then duly signed by order of court.

The solicitor also presented a report upon the dangers likely to arise to the district, from the weakened state of the banks of the Kensington canal. The court ordered a special court to be held on Friday, the 27th instant, to sign a precept to the sheriff for a jury, to consider by whose default the evils pointed out had arisen, and to amerce the parties for their neglect; notice to be given to all parties interested of the said special court.

The first office clerk, Mr. Hatton's, salary was increased 50*l*. per annum, on account of his general good conduct and attention to his duties. The consideration of Mr. Doull's memorial for a pension, was postponed to the next ordinary meeting of the court, the subject to be then discussed on the motion of Mr. Cumberlege and Mr. Godrich, that he be allowed a year's salary on account of the abolition of his office as accountant-surveyor.

At this court, the new chief surveyor presented five special reports with several drawings, one of which to accompany the general instructions to applicants for building sewers, gullies, side entrances, elicited the approbation of the court, and was ordered to be engraved forthwith.

INSTITUTION OF CIVIL ENGINEERS.

Tuesday, March 24th, 1846. Sir John Rennie, President, in the chair.

The paper read was by Mr. W. Parks, describing the "Estuary of the River Severn." After giving a brief account of the Severn above Gloucester, the paper proceeded to describe the character of the river at Longney Point, about ten miles below Gloucester, where it becomes a tidal estuary, and where the most important circumstance to be taken into consideration as regards navigation, is the rise of the tide. Below Longney, the river becomes broad and shallow, and at low water presents an extensive series of shoals composed of mud and sand. The stream there is rapid, and the general fall of the surface is much increased. This lower portion of the Severn forms a great natural weir, which the shipping avoid by taking the Berkeley Ship Canal.

Viewed in reference to its tides, that portion of the river might be considered as part of the Bristol Channel, for it is from the the funnel-shaped form of that arm of the sea that it derives its facilities for navigation; in consequence of this form, the water running up is, as it were, choked by the downward current and is raised above its sea level, thus the lift of a high tide at Kingroad is 47 feet, at the Old Passage it is 45 feet, at Chepston 37 feet 10 inches, and at Beachley 40 feet 6 inches. At this latter point is situated the Old or Aust passage on the main road from Bristol to Wales. The channel for navigation and the main set of the tide is close to the North or Beachley shore. The flood-tide flows at about 6½ miles an hour, and lasts 4½ hours, the ebb 7½ hours. Small vessels are enabled to pass up at ½ hour after flood-tide commences; larger vessels soon after half flood, and reach Sharpness Point, the entrance of the Gloucester and Berkeley Canal before high water. Above Sharpness Point, the river at low water presents an immense extent of sandy and muddy shoals for five miles. Here is first observed the curious phenomenon called the "Bore." The impetuosity with which the two currents meet, and the shallowness of the low water channel, cause an almost vertical rise of 2 feet or 3 feet and sometimes 5 feet, extending across the river and varying its velocity as it passes over deep or shallow water.

The paper then proceeded to notice the capabilities of the lower part of the Severn for improvements, and stated that one of the improvements of which it was susceptible was cutting a canal across the neck of land from Framilode to Hock Crib, which would much facilitate the downward trade by effecting a saving of two tides to vessels sailing in that direction. Any general scheme of improvements was scarcely practicable, as if the natural impediments in the lower part of the river were removed, the effect might be to nearly drain the upper portion. Still, since local alterations might be advantageously made, and the navigation would be facilitated, the author seized the opportunity of suggesting the advantages of having one standard height as an uniform datum line all round the coasts of Great Britain, to which standard all levels should refer. In the discussion which ensued the importance of the subject appeared to be generally admitted, and the good example given by the author in communicating to the Institution the observations made during the course of his survey of a portion of the river for Mr. Walker, was particulary eulogized.

Interment in Towns.—Mr. Mackinnon gave notice, that on Thursday, the 2nd of April, he would move to renew his bill for the prevention of interments in the neighbourhood of large towns. Mr. Walker has presented a petition.

The Royal Literary Fund. — Mr. J. Newman, F.S.A., is appointed honorary architect, in the room of the late Mr. Rhodes, who held the appointment forty years.

BUILDINGS ACT AMENDMENT BILL.

This bill has received the royal assent, and is now part of the law of the land. The egregious blunder in it, pointed out last week, was *not altered*, but goes to increase the sum of errors and inconsistences which disfigure the Act as a whole.

Miscellanea.

Condition of Labourers' Cottages.—The spread of those evils which the working classes unhappily too much indulge in are, in a great measure, ascribed to their uncomfortable dwelling at home. In Berkshire, Mr. Parker, in Mr. Chadwick's "Sanatory Report," observes that "the floors of the cottages are laid with red tiles called 'flats,' or with bricks of a remarkably porous quality; and as each of these tiles or bricks will absorb half a pint of water, so do they become the means by which vapour is generated. The cleanly housewife, who prides herself upon the neat and fresh appearance of her cottage, pours several pails of water upon the floor, and when she has completed her task with the besom, she proceeds to remove with a mop or flannel so much of the water as the bricks have not absorbed. After having cleansed the cottage, the fire is usually made up to prepare the evening meal, and vapour is created by the action of the heat on the saturated floor. Thus the means adopted to purify the apartment are equally as injurious to the health of the inmates as the filth and dirt, frequently too abundant in the cottages of labouring persons." In the adjoining county, Buckinghamshire, Mr. Parker observes, the construction of the cottages is frequently unwholesome. He says, "the improper materials of which cottages are here built, and their defective construction, are also the frequent cause of the serious indisposition of the inmates. Next to good drainage and thorough ventilation, the foundation of a cottage is the most important consideration."

Sale of Land at Birkenhead.—The immense sale of land at Birkenhead, consisting of nearly 1,000 plots for building purposes, belonging to Mr. William Jackson, took place yesterday afternoon, at the Woodside Hotel. It was most respectably and numerously attended, the large room being crowded throughout to excess. About half-past 1 o'clock the auctioneer, Mr. F. Hodgson, commenced the business by reading the printed conditions, after which lot 1 was put up. It consisted of 16,022 square yards of land, situated in Slatey-road and Euston-grove, divided into twelve lots, the purchaser to have the option of taking two lots on the whole. Mr. Robert Hughes put up the lot at 7*s*., and the bidding was run up to 8*s*., at which price Mr. Hughes became the purchaser of two lots. The sale then went on, and eventually about twenty lots were sold for upwards of 7,000*l*., the prices ranging between 8*s*. 6d. and 26*s*. per yard, most, however, of it being situate in the outskirts of the town.—*Liverpool Courier*.

The Value of Smoke.—A striking instance of economic talent came to our knowledge, in the district of Alston Moor. From the smelting hearths of one "house," an arched tunnel conducts the smoke to an outlet, at a distance from the works, in a waste spot, where no one can complain of it. The gathering matter or "*fume*," resulting from the passage of the smoke, is annually submitted to a process, by which it had at that time yielded lead enough to pay for the construction of a chimney. A similar tunnel chimney, three miles in length, was erecting at Allendale. Its *fume* will yield thousands of pounds sterling per annum! Truly, here it may be said that smoke does not end in smoke.—*British Quarterly Review*.

Parish Churches.* — Under this title, Messrs. Brandon, whose valuable "Analysis of Gothick Architecture" is now nearly completed, have commenced a work which promises to be useful, being perspective views of English ecclesiastical structures in lithography with plans to a uniform scale, and brief description. The first number contains a view and plan of seven churches at an almost nominal price.

* Published by Geo. Bell, Fleet-street, and by the authors, Beaufort-buildings, Strand.

LARGE SALE OF SCOTCH FIR TREES.—A portion of Novar Forest, Ross-shire, consisting of 10,032 Scotch fir trees, was sold on the 24th ult. by Mr. Munro, of Novar. The price realised was 5,704*l.*, or on an average of 10s. 1¾d. per tree. One lot of 1,248 trees brought 1,010*l.*; and some of the trees brought 2*l.* each.

TRANSFER OF LAND.—The *Westminster Review* for March has a valuable article on this important subject, explaining the cause which now impedes the alienation of real property, and giving a detailed plan for its removal. It well deserves attentive consideration.

MEETINGS OF SCIENTIFIC BODIES

During the ensuing week.

MONDAY, March 30. — Chemical (Society of Arts,) Adelphi, 8 P.M.

TUESDAY, 31. — Civil Engineers, 25, Great George-street, 8 P.M.; Syro-Egyptian, 71, Mortimer-street, Cavendish-square, 8 P.M.

WEDNESDAY, April 1.—Society of Arts, Adelphi, 8 P.M.; British Archæological Association (Western Literary Institution), Leicester-square, 8½ P.M.

THURSDAY, 2. — Royal, Somerset House, 8½ P.M.; Antiquaries, Somerset House, 8 P.M.

FRIDAY, 3. — Royal Institution, Albemarle-street, 8½ P.M.; Botanical, 20, Bedford-street, Covent Garden, 8 P.M.

SATURDAY, 4.—Asiatic, 14, Grafton-street, 2 P.M.

Tender.

For the erection of the Paddington parish workhouse.

W. Higgs	£17,500
Jay	16,973
Crooke	15,459
Gerry	15,328
Cooper and Davis	14,947
Hawke	14,931
King	14,654
Barr	14,384
Jas. Davis	14,300
Smith	14,100
Shikins	14,098
H. W. Cooper	14,094
Higgs and Son	13,899
Wilson	13,894
Holman	13,784
Burton	13,771

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For the execution of the several works connected with the re-erection of a timber-bridge, near Colnbrook, Middlesex.

For making and erecting four turn tables of 22 feet diameter each, for the Great Southern and Western Railway (Ireland).

For pulling down and rebuilding the parish church of South Fambridge, near Rochford, Essex.

For executing the repairs of the chancel of Saint Mary's church, Bury St. Edmunds, Suffolk.

For the construction of the various stations and buildings required on the Hull and Bridlington Railway.

For the erection of the South Staffordshire General Hospital.

For the erection of the station-houses and gate-lodges on the Lynn and Dereham Railway.

For the execution of works on the Waterford and Limerick Railway, and for supplying the same with 50,000 sleepers.

For the erection of station-houses and gate-lodges upon contract No. 1, on the Lynn and Ely Railway.

For the maintenance of the permanent way between the Derby, Nottingham, and Rugby Stations, on the Midland Railway.

COMPETITIONS.

The directors of the Church of England cemetery, Birmingham, are ready to receive designs for the laying out and ornamenting their grounds at Warstone, and also for the erection of a chapel, entrance-lodge, &c. Buildings in the Saxon or Gothic styles will be preferred. A premium of twenty guineas will be given for the design most approved of, and one of ten guineas for the second.

The directors of the Gravesend and Milton Water Works Company offer a premium of thirty pounds for the most approved plan for laying out for building purposes about sixteen acres of land, forming the whole of the south side of Windmill-hill, Milton, next Gravesend. A further premium of ten pounds will be awarded to the second best plan.

It is proposed to build a town-hall at Luton, Bedfordshire, with dwelling-houses and shops adjoining. No premiums are offered for the best designs sent in, but "the architect whose plan is adopted will be required to superintend the work if an arrangement can be made to that effect."

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At the White Horse Inn, Romsey, Hants: upwards of 3,000 superior oak timber trees, chiefly from 15 to 60 feet metings.

At the Hunloke Arms Inn, Wingerworth, Derby: about 200 valuable oak, ash, and elm timber trees.

At the Crown Inn, Rayleigh, Essex: 341 oak timber trees now standing.

At the Boot Inn, Aberdare, Glamorgan: 530 maiden oak and ash timber trees of good quality and dimensions.

Upon the estate of Osmond Clarke, Esq., Stuston, Suffolk: about 40 loads of superior seasoned oak timber trees.

Upon the Mayland Hall Estate, Essex, by order of the governors of St. Bartholomew's Hospital: a large fall of elm timber.

At Eling, Wiltshire: about 1,000 oak trees now standing.

At the Anchor tavern, Westorchard, Coventry: 506 superior oak coppice timber trees.

Upon the Alton Hall Estate, Stutton, Ipswich: 216 oak, ash, and elm timber trees, 300 ash and elm stands, &c.

At Aldeby, Norfolk: 120 oak, 80 ash, 130 elm timber trees, now growing.

TO CORRESPONDENTS.

"W. N. R."—*Nothing has transpired this session about Lord Lincoln's Drainage Bill. It is expected that it will be brought forward immediately after the Easter holidays.*

"A Subscriber" (Notting Hill.)—*The names of the engineers and mill-makers of the metropolis will be found in the "Post-office Directory."*

"G. T." *shall not be neglected.*

"Constant Reader."—*Mere inuendo is not sufficient.*

"J. J."—*The note has been forwarded to Mr. P.*

"C. O."—*Candidates for admission as associates of the Institution of Civil Engineers, must be proposed by at least four members and two associates, who must certify to a personal knowledge of the party proposed. Full instructions with form of certificate can be had at the Institution on application.*

"F. B."—*We find it difficult to advise within the limits of a notice. Strain a point, and get a good instructor for a short time.*

"G. W. N."—*200l. would build a small six-roomed house.*

"A Young Beginner" *complains of the publication of tenders shewing great differences. Our sole motive is to induce builders to consider their own interests, and look before they leap. What will our correspondent say to the following tenders for alterations in a public-house, Kensington:—*

Collins, Kensington	£485
Loveland, do.	410
West, Church-street, Chelsea	397
Chippett, Charles-street, Chelsea	263!

"Very Constant Reader."—*The surveyor if employed by the tradesman, should have sent the account when written out, to the latter, so that he might copy before delivering it. If the surveyor omitted to do this, he should supply a copy.*

"Bridge-builder," "Brick-maker," *shall appear.*

Received: "B. B.," "M. B.," "J. L.," "Carbon."

ADVERTISEMENTS.

TO CIVIL ENGINEERS, SURVEYORS, &c.

HENRY POPE, Wholesale Stationer, having had for some time a large stock of Drawing Paper on hand, which, from its age, is so superior for mounting, feels much confidence in recommending his Mounted Papers, lengths of which upon linen and cotton are kept always ready. Maker of the Patent Metallic Levelling and Surveying Field Books, Tracing Papers, and all kinds of Stationery. The Ordnance Maps supplied. 22, Budge-row, Watling-street.

LITHOGRAPHY.

MESSRS. MACLURE, MACDONALD, and MACGREGOR, General Lithographers, beg to call attention to a peculiar feature in their system of conducting business; namely, their having a large and permanent staff of Assistants, in all the varied departments of the Art, on the premises; which arrangement, they submit, gives a force and effect to immediate production unattainable by other means, and which is obviously of great advantage to those who may require their services, independent altogether of the excellency of their work.

London Establishment, Saville House, 6, Leicester-square; Liverpool Establishment, 18, Fenwick-street; Glasgow Establishment, 57, Buchanan-street.

Vacancies for two Pupils; one in the Writing, the other in the Artistical Department.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery.

Best Patent Cut Clasp.

3d.	4d.	6d.	8d.	10d.	20d.
6d.	7½d.	8½d.	1s. 1d.	2s. 6d.	2s. 3d. per 1000.

Best Sheet Floor Brads 10s. 6d. per cwt.

Best Town Glue 44s. per cwt. Do. Scotch 54s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6d., 7d., 8d. per inch. Self-acting Kitchen Ranges with Oven and Back Boiler.

Wrought Bars and Bright Fittings.

3 ft., 3l. 3s. 3 ft. 6 in., 3l. 12s. 6d. 4 ft., 4l.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

IRON-WORK FOR BAKERS' OVENS.

F. A. TIDDEMAN, Purfleet Wharf, Earl-street, Blackfriars, keeps an assortment of Stocks, or Mouth-pieces; Plates, Furnace-bars, Top and Fall Pieces, Stoppers, Chimney-bars, Inside, Outside, and Ashpit, Doors and Frames, Boilers and Frames, Lamps, &c. &c.; all of the best description, at very moderate prices. —CAST-IRON UPSETS.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 108, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

IRON BRIDGES AND PIERS.

THE Economy and Safety of DREDGE'S PATENT PRINCIPLE are explained in the "Mechanic's Magazine" No. 1172, and practically proved in Fifteen Public Bridges in Great Britain alone, four of which are Country Bridges for Common Road Traffic, varying from 50 to 294 feet in length. The continual destruction of Bridges and Viaducts is owing to an error of principle in their construction which is this. The line of equal horizontal thrust or pressure, both in suspension and compression bridges, should be sustained by the roadway, and not by the arch, as it universally is in the old systems; and hence the cost, the undulation and oscillation, and destruction of bridges are enormous.

Bath, Feb. 1846.

TO ARCHITECTS AND BUILDERS.

COLLINGE'S PATENT HINGES.—Sole Manufactory, 64, BRIDGE-ROAD, LAMBETH, where a great variety are always on view, for Church, Park, Coach-house, and all other Doors and Gates, of large or small dimensions, a gate of a ton in weight moving with these hinges as easily as a wicket; they are also admirably adapted for drawing-rooms, being highly ornamental, and folding-doors fitted with them may be removed and replaced in an instant. Rising and spring Hinges, on the most improved principle, and very superior Fastenings for exterior Gates, at moderate prices. To be seen at Charles Collinge and Co's Patent Axletree, Sugar-mill and Spherical-hinge Manufactory, 64, Bridge-road, Lambeth.

HOUSE-PAINTING, Interior Decorations, &c., executed in the best style, and on the lowest terms, by BENHAM and Co. (late Saunders), 170, Regent-street.—Estimates given if required.

PAPER HANGINGS. — A Stock of 50,000 Pieces always ready, in Satins, Flocks, Gold, Damasks, Oaks, Granite, Hand Marbles, &c. &c., at extraordinary prices. Terms, Cash.—Paper Stainers supplied with long Elephant at Mill Prices—Cash.—LESCHALLAS, 32, Budge-row, City, corner of Size-lane.

GRAINING AND WRITING FOR THE TRADE.

MESSRS. WOOD AND COMPANY, Grainers and Writers to the Trade only, by contract, measure, or otherwise.

Offices, 11, St. Benet-place, Gracechurch-street, City, and 62, Waterloo Bridge-road. All letters post paid.

N.B. Workmen sent to any part of the kingdom.

FIRE BRICKS.

W. WARD, Honduras Wharf, Bankside, and St. Michael's-alley, Cornhill, has just landed a large quantity of his very superior manufactured Fire Bricks, of Stourbridge, Welsh, and Newcastle. Prices very low. Shipments made for the East and West Indies, &c., with the greatest promptness. Gas companies, engineers, builders, and all large consumers supplied from ships in the river at a much lower price. A very large stock on hand of Bricks, Lumps, Tiles, and Clays.

River sand and gravel by freight to any wharf and dock.

BRICK MACHINE.

JONES'S PATENT MACHINE is acknowledged by old-experienced workmen to turn out far superior Bricks to what can possibly be done by hand. Expedition and cheapness guaranteed. They are moulded stiffer, put in the walls at once to dry, and will bear two high a day. So that nearly double the quantity is in process of drying, and consequently less covering required. Contracts for brick-making, by machines, entered into, and licenses granted.—Apply to EDW. JONES, Queen's Wharf, King's-road, Camden Town.

STREET PAVING.—TO CONTRACTORS AND OTHERS.

THE ADVERTISER has invented a new PAVING for streets, which will entirely supersede the use of wood. It can be laid down with great rapidity, and will not need the stoppage of the whole street; it is very durable and free from dirt or dust, is never slippy, always presenting to the horse a firm footing, is as easy of draught as wood, and as free from noise; will cause an immense saving, as it can be laid down for a mere trifle. Any one wishing to join in patenting the article, or for purchasing the same, for further particulars apply by letter, post paid, to D. W., 1, Field-terrace, Battle-bridge.

ATKINSON'S CEMENT.—The public is respectfully informed, that the price of this very excellent Cement, which has now been in use for Architectural and Engineering works upwards of thirty years, is reduced to 2s. 3d. per bushel, and may be had in any quantity at Wyatt, Parker, and Co.'s Wharf, Holland-street, Surrey side of Blackfriars-bridge.

N.B.—This Cement being of a light colour, requires no artificial colouring or painting, and may be used for stucco with three parts its own quantity of sand.

PORTLAND CEMENT does not vegetate, requires no colouring, is perfectly hydraulic, and resists the action of Frost. The cost of the material and of working it is about the same as Atkinson's Cement, Manufactured by J. B. WHITE and SONS, Millbank-street, Westminster, and sold at their Warehouses:—

Druce's Wharf, Chelsea,
Bell's Wharf, Paddington,
Earl-street, Blackfriars,
Albion Wharf, Deptford-bridge,
by Salmon and Co., Dublin,
and at 36, Seel-street, Liverpool.

KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Milbank-street, Westminster,

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

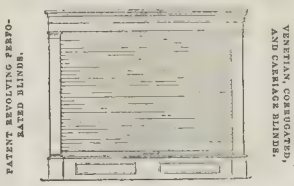
ROMAN CEMENT, &c.
REMOVAL.
THOMAS JOHN CROGGON
Begs to inform the Trade that he has removed to
8, LAWRENCE POUNTNEY-HILL and
THREE CRANES WHARF, 69, Upper Thames-street.
Orders addressed to either place for ROMAN CEMENT of genuine quality will be executed with promptitude and the strictest regard to quality and economy.

BLUNDELL'S STUCCO PAINT.—An article perfectly resembling stone surface, for the purpose of covering the outside of buildings, has long been a desideratum. This STUCCO PAINT possesses the necessary qualities. It adheres firmly to the walls, resists the action of the weather, and is altogether free from the glossy appearance of Oil Paint. It is laid on mixed with rain or pure river water, and can be made to any required shade or stone colour. Further particulars may be obtained on application to the Inventors, BLUNDELL, SPENCE, and Co., Paint and Colour Manufacturers, 69, Upper Thames-street, London; and at their Colour Works, Hull.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,
Manufactory, 95, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.
PATENT SAFETY IRON SLIDING SHUTTERS.





The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 115, Old Street, London; or at the Licensees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

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CAUTION.—The Patentees beg to caution all persons against Making or Using BENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

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THE validity of this Patent being completely established, the Patentees have much pleasure in stating that the very extensive demand, and the employment of improved machinery in the manufacture, have given them an opportunity (of which they gratefully avail themselves) of making a considerable reduction in the price of this well-knownand tried invention, thereby rendering them the cheapest as well as the best iron shutters in use. Every improvement suggested by practical skill and most extensive application has been adopted, and no effective REVOLVING IRON SHUTTER can be constructed without infringing B. and C.'s patent. The worm and wheel, as patented by them, being the only safe, durable, and efficient mode of raising and lowering such shutters, these shutters can be applied horizontally, either above or below the window, or vertically, as introduced by BUNNETT and CORPE, in some of the largest establishments: they are made with bent or corrugated laths, if required.

BUNNETT and CORPE also manufacture REVOLVING WOOD SHUTTERS, with their patent raising machinery, or with counterbalance weights, and with proper metallic hinges, without which no shutters can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop Fronts fitted in a superior manner with Iron Shutters, Patent Brass or Zinc Sashes, Moulded Engraved Stall Board Plates, best Plate Glass, and internal Brass Fittings of all kinds, on the most advantageous terms. Estimates given and contracts taken in Town or Country.—All kinds of metal works executed to any design. Metal Drawing, Rolling, and Stamping for the Trade. OFFICE, 26, LOMBARD-STREET, LONDON, WORKS, at DEPTFORD, KENT.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouses, 9, Albion-place, Surrey side of Blackfriars-bridge.—Wyatt, Parker, and Co., Agents. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

HIP TILES to suit slate roofs in colour; Ridges, with plain or rebated joints, roll tops, and vertical ornaments; drains, many sizes, with plain or socket joints; paving in squares, hexagons, octagons, &c., different colours; roofing, in Grecian or Italian styles, other devices also, or plain; conduits, which do not injure pure water; fire-bricks and tiles; clinkers, and out-door paving; sundry wall-coping, garden-borders, chimney-tops; also tubular and other flues of peculiar material. No agent, but a depôt at 22, WHITEFRIARS-STREET, FLEET-STREET, LONDON, under Mr. PEAKE'S personal care, to supply genuine TERRO-METALLIC goods at fair prices as per quality; also, additional Stock at No. 4 Wharf, Macclesfield-street, South, City Basin.

The TILERIES, TUNSTALL, STAFFORDSHIRE, are near the centre of England, whence boats are sent direct to any inland place; or to the Mersey for the coasts, the colonies, and elsewhere.

PATENT WINDOW BLINDS.

TYLOR and PACE manufacture every description of WINDOW BLINDS entirely upon their own premises, by the aid of steam machinery, insuring the best materials and workmanship, at the lowest cost. Patent metallic gauze and perforated Zinc Blinds, in mahogany frames, at 1s. 8d. per square foot; ditto, in metal frames, 1s. 2d. per square foot. A large and choice assortment of Transparencies, mounted, from 19s.; Holland Blinds, on plain or spring rollers, Outside Shades, Venetian and Sun Blinds of every description.—TYLOR and PACE'S Showrooms, 83, Cornhill, entrance St. Peter's-alley.

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Shop Fronts of every description executed with dispatch, elegance, and economy. Doors, shutters, staircases, and handrails, upon the most reasonable terms. Glass cases and fittings of every kind prepared on the shortest notice.



HERRING'S PATENT WINDOW for hanging the Sashes, whereby they may be instantly disconnected from the Frames, without removing the Beading. It is now being applied in Palaces, Castles, Mansions, first-rate Houses, Villas, &c. It is universally approved and adopted by every Architect that has seen it. Builders in the Country will have a full-sized Window forwarded on receiving an order and reference, and taken back if returned within eight days free. To be seen daily. Licences and other particulars had of the Patentee, 14, Kingsgate-street, London.

This invention is exceedingly simple, increases the cost but slightly, and appears to answer the purpose well.—BUILDER, 28th February.

A Premium of 5l. will be given to the first fitter-up of a first-rate House with this Patent, and in proportion for second, third, and fourth-rate Houses.—March 20, 1846.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 20s. per gallon.

STEPHENS'S LIQUID OAK, MAHOGANY, ROSE, and SATIN WOOD STAINS, for Staining various sorts of Inferior Woods, so as to give them the appearance and character of the more costly and ornamental kinds; also for reviving the natural colour of Wood Carvings and Panellings, and other ornamental Wood Work, when such has become faded from age or other causes.

IN THE BUILDING AND DECORATING NEW CHURCHES, where it is desirable to give to the cheaper kind of Woods the appearance of Antique Oak, or to make Deal assume the character of Oak Panelling, whereby the effect of the more costly may be produced by the use of a cheaper material, these Stains will be found more effective than any means hitherto employed.

IN OLD MANSIONS AND HALLS, where the Wood Carvings and Panellings have faded, the applications of these Stains will be found to revive and bring back the rich natural colour, and which colour may be varied from the lighter to the deeper shades of the natural Oak.

The BIRCH WOOD, which has a fine natural grain, with little colour, is particularly suited to the application of these Stains; and the appearance which it assumes after Staining is so near that of the natural wood, that is is only when the grain and colour of the latter is particularly fine that it is preferred. Beech, Birch, Elm, Ash, and other Woods, English and Foreign, receive the Stains and produce various imitations.

For the exposed Timbers of the inside of the ROOFS of CHURCHES, for which north country Timbers and Deals are generally used, by brushing them over with the Stain, which operation is very rapidly, and of course economically, effected, the appearance of an Oaken Roof will be produced. For colouring the backs of the Seats, Pews, the fronts of Galleries, the Pulpit, &c., it is equally advantageous.

Prepared by HENRY STEPHENS, and may be obtained at 54, Stamford-street; and at the Office of "The Builder," 2, York-street, Covent-garden, at which places specimens of their application may be seen.

The Builder.

No. CLXV.

SATURDAY, APRIL 4, 1846.

WE look on the question as to the continuance or discontinuance of Art-Unions, as one affecting importantly the highest interests, as well as thearts and manufactures, of the kingdom. By spreading abroad a love of art, placing specimens of good art within the reach of all, and making the eye of the multitude familiar with forms of beauty, these associations cannot fail to be of the utmost service in the latter respect. The great end of art, however, is to civilize, refine, and exalt: art-unions enlarge its sphere of operations more than is practicable by any other means; and on this, the highest ground, therefore, should be aided by all who are interested in general education and the elevation of mind.

To talk of the evil of making good art too cheap, — of the danger of sending into the world twenty thousand finely-executed records of a noble action, or a beautiful effect in nature, instead of one, is not merely to talk sheer nonsense, but shortsightedly and unjustly. Our best authors who write, are producing for the thousands, and we venture to think that our best authors who paint, and our best authors who model, are quite willing to do so too.

The report of the Parliamentary Committee on Art-Unions, to which we briefly referred a short time ago, is a very interesting document; clear, eloquent, and convincing. Mr. Wyse, by whom it was drawn up, is entitled to great praise, and cannot be too highly complimented for the zeal, knowledge, and ability it displays. The various parties who considered themselves injured pecuniarily by the operations of the London association, and artists who, needing no aid themselves thought all others were in the same position, were heard, but did not succeed in making even a personal case.

"Your committee have not heard," says the report, "even within the limited period allowed to judge of the operation of these societies, of any injury at all equal to those complained of by other bodies, under the influence of the changes which have been just noticed: on the contrary, the persons said to be most affected by the system have been most temperate in their evidence. The more eminent painters have more occupation, the more eminent engravers are better employed, the more eminent publishers have increased in their business: of the second class of each none have complained, with the exception, in the publishing trade, of the retailers, who, within a certain limit, that of the one-guinea print, appear to have suffered; all others seem to have received an increased impulse, instead of being crushed, as has sometimes been the case with other interests under great combinations. Your committee, therefore, feel themselves justified in concluding that the operation of Art-Unions, so far from suppressing or diminishing, has led to the extension and improvement of private patronage."

As to the great general advantages resulting from Art-Unions, the committee appear to have been unanimous — they could not be otherwise: —

"There seems no question that, even under present circumstances, Art-Unions have largely contributed to interest, at home and in the colonies, a great portion of the educated classes in the nature and advancement of the fine arts. Were there, even for a time, to prevail an inferior description of production, with all the faults, both in subject and execution, ascribed to it, it must be remembered that the main point will still have been attained, the excitement and preparation for a new intellectual enjoyment to which, till lately, the large majority even of the educated public were strangers. In this point of view, the very cheapness which so many fear as tending to lower art generally, must be looked on as not only of good omen, but as the actively operating cause to produce the end of which all seem equally desirous. Were it otherwise, we should in consistency look upon the universality of the Greek and Etruscan vase in antiquity, the diffusion of decorative painting throughout Italy, as a disaster, and instead of regarding it as it was, and is, as a great stimulant, be obliged to consider it a great drawback on the improvement of art. It is the same in literature. There must be a cheap literature to prepare for a dearer. Unless the public at large sympathise in Art, and feel it to be an enjoyment, we shall never attain anything national in art, or have a public to appeal to. This appears to be more requisite in this country than in others. We have no substitute for the temple and bath of the ancients, nor for the palace and church of the Italians. Later, a choicer and more fastidious spirit will arise, and a corresponding effort to meet or guide it. That these societies are now in a state to take such course appears unquestionable to your committee. They can, with the large influence already acquired from numbers and contributions, go far, not merely to stimulate, but henceforth to correct and direct public taste. This is not to be achieved by a mere amount of money taken out of other channels and thrown into what may be too often justly designated the picture market, nor by injudiciously stimulating and then as unwisely rewarding inferior, careless, and ill-regulated talent, nor even by the benevolent rescue from distress of the meritorious and modest, but by a well-directed and well-sustained course of proceedings, carried on through a judicious organization, and under well-secured regulations, having the encouragement of art, in all grades, but especially of the highest in each, for its ultimate end and object."

The objections against Art-Unions, made by such of the witnesses as were opposed to them, are drawn out in the report, and then swept away *seriatim*, and after a number of suggestions for improving and extending Art-Unions (several of which had been made and adopted in the London Art-Union, long previously to the appearance of the report), the committee recommend that a Bill containing certain provisions to render them permanently subservient to the interests of art, should be proposed in the present session.

In accordance with this recommendation, Mr. Wyse has since brought in a short Bill for legalizing Art-Unions, similar for the most part to the Act for one year, under which they are now carried on. It has, however, this clause: — "Provided always, that a royal charter or charters shall have been first obtained for the incorporation of such associations, or, provided that the deed of partnership or other instrument or instruments constituting such associations, and the rules and regulations relating to the proceedings of such associations for such purposes as aforesaid, shall have first been submitted to the consideration, and be approved of, by a committee of her Majesty's most honourable Privy Council, and a copy thereof deposited with such committee; and provided such proceedings for such purposes as aforesaid shall have been conducted in strict conformity with the royal charter or charters which may have been granted, or the deed of partnership, or other instrument or instruments, constituting such association, and the rules and regulations which may have been approved of, as hereinbefore set forth."

The Bill was read a second time on Monday last, and is ordered to be committed next Wednesday. To our great astonishment some little opposition was manifested by one member of the Government, and it was arranged that it should be discussed in committee.

We cannot entertain the idea for one moment, that any serious opposition will be offered to the Bill in question, in the face of common sense, the mass of evidence brought together by the committee, and their unprejudiced and impartial deductions; we trust, however, that members who have not yet given the subject full consideration—if there be any such—will at once examine the report in question, and satisfy themselves of the great importance of placing Art-Unions on a sound and permanent footing without further delay.

In the London Art-Union, the subscription list for the current year was closed on Tuesday last, and the distribution is announced to take place on the 28th inst. The total amount will equal, if not exceed, that of any previous year: during the last three days no less a sum than eighteen hundred pounds was paid in single guineas at the office in Trafalgar-square. Mr. Wyon, R.A, has completed the Chantrey medal, a beautiful work; Mr. Marshall A.R.A., is fast proceeding with the "First Kiss of Love," commissioned in marble by the committee; O'Neill's "Jeptha's Daughter" is being electrotyped; pictures oy Mulready, R.A., Uwins, R.A., and Frost are in the hands of Doo, Rolls, Heath, and Lightfoot; bronzes of Foley's "Youth at a Stream" are ready for the ensuing distribution, as are lithographs of Ward's "La Fleur's Departure." Cameos submitted in competition for the premiums offered for the encouragement of gem engraving, are under consideration, and many sculptors are preparing themselves to submit figures in competition for the five hundred pounds' premium, which the society propose to give next year.

A COMMENTARY UPON THE LECTURES OF PROFESSOR COCKERELL.

The chair of architecture at the Royal Academy is a post of great responsibility, and one extremely difficult to fill. In the small number of six lectures a year, it is expected that a subject should be treated, not less comprehensive in its range than any, that ever occupied the attention of a professor. The very quantity of matter, and its varied nature must alone embarrass the most gifted individual, just as an excess of ideas in conversation may often militate against perspicuity, in their expression. It is, in short, a duty from which much is expected, with the opportunity of doing a limited amount of good. We are disposed to entertain a high opinion of the manner in which Mr. Cockerell pursues his difficult task. His opinions have often run counter to some entertained at the present day; but no one has questioned his ability and learning, or the assiduity with which he advances the welfare of his profession. However we may sometimes differ in opinion, his lectures are not deficient in information, and are certainly eminently suggestive. On this account, we hope that the course just completed may be published verbatim, illustrated with the diagrams, in which the reports in The Builder were necessarily deficient. Having said this much, we feel little doubt that our comments will be properly understood.

Mr. Cockerell's remarks on the importance of dexterity in the "language of the hand," every able architect must agree with. Much more might be said as to the ability, which many scene painters display in architectural design. Indeed, we have long been of opinion, that a higher degree of praise was due to these artists than is generally granted them. Some of them shew an accurate knowledge of the architecture of remote ages, from which the architect may derive advantage. We allude, of course, to those whose talent is undoubted, for we do frequently see glaring instances of an observance of architectural synchronism, quite the reverse. Their designs, particularly in interior decora-

tion, are full of original ideas, and evince a perfect knowledge of the capabilities of form and colour. But we cannot so completely agree with other observations, which tended to an impression, somewhat differing from the first judicious advice. The capability of executing careful drawings ensures accuracy; the professor is himself a striking instance of the union of the skill of the artist with the requirements of the architect, and we cannot think the two abilities incompatible. If the advice was intended to refer *solely* to that very exaggerated style of colouring, which is practised in drawings that have to go before committees, we coincide with the truth of the suggestion, but without very clearly seeing the remedy. As long as people look more at blues and reds than at form and proportion, the present state will continue, and it will be necessary for such students, as have no immediate prospect of success in practice, to spend a portion of their time in qualifying themselves to meet the demand. Unfortunately for art, we are often compelled to make success, in the main aim of life, the most important part of the consideration.

Mr. Cockerell's remarks on the number of theories which lie hid in books, should give the impetus to those, who have the time to examine these and other sources. As our knowledge of such data increases, our presumed discoveries lessen in number, and it would be a labour which would repay the explorer, merely to re-discover and exhibit what has been found.

The most remarkable feature in these lectures was the change in Mr. Cockerell's opinions, on the subject of Gothic architecture. We must say, that the reasons of this change should have had the same force three years ago, which they have now. In 1843, the professor said, that proportions in Gothic architecture were "wholly capricious," and "subject to no order or regularity," nor that "any have been ever attributed" to the style by its greatest admirers; and that the delight, confessedly inspired by the works of the middle ages, is to be referred to a "love of the marvellous," which is "dangerous, exaggeration being the first sign of a mind indifferent to the value and beauty and sufficiency of truth, and the surest sign of deprivation of judgment." "The middle age church was wholly founded on superstitious associations."* These and similar views were subsequently combatted, and we have now the pleasure of finding the professor an advocate on our own side of the case. In the recent lectures the professor states, that there were principles of design, capable of explanation, but not appreciated by "modern Goths," and in another place, that no random or caprice entered into the principles of the style. Indeed, the whole course conveyed an impression, quite opposed to that in previous lectures. It has been urged repeatedly in these pages,† that a better system in the modern adaptation of Gothic architecture was demanded, and we are therefore able to concur in most of the professor's comments on the present state of taste. It was well said, that we must distinguish between design, and mere copying, and that we must avoid becoming partizans of particular styles, as we are apt to do.

We cannot assent to the statement, that the Gothic architects knew nothing of mathematics; we think that evidence will prove the reverse. Their constant love of geometrical forms is shewn in ornaments the most minute, and in the construction of their tracery, and the lectures are not without similar evidence. "The early architects," says Mr. Hawkins, "were certainly not ignorant of Euclid's works, which had been translated from Greek into Latin by Boethius. Cassiodorus had recommended Euclid to Theodoric, king of the Goths." But there can be no question of the unexampled skill, which their works exhibit, and if some of them have failed, there is no reason why we should not avoid such failures, possessing a better knowledge of the cause. The value of the principles is not necessarily lessened to us. In examining the theory of Gothic architecture from the plan, rather than from the ornament, the professor has acted only in accordance with the method he has often ably advocated, and which though at variance with ordinary practice at present, is the only proper method.

* *Vide* reports in the *Athenæum*, 1843.
† *Vide* Vol. III. *passim*.

Though Mr. Cockerell might have been directed to the account in Cæsarianus by Mr. Hawkins's book, published long since, and to which we do not think he has given sufficient credit, we are disposed to allow him the merit, which he claims for the elucidation of the particular method from the work of the commentator. Mr. Hawkins is certainly not clear as to the squares, and it would appear from some parts of the plan, that he intended the diagonal lines for the vaulting. That this *was* the system on which the Gothic architects worked, we do not think has yet been quite proved, neither can we admit that Mr. Cockerell has been the first to suggest a theory. Mr. Billings, Mr. Cresy, and Mr. Griffith have all preceded, and the system of the first, published in his book on the Geometric Tracery of Carlisle Cathedral, which was indeed referred to, is identical in principle with that of Mr. Cockerell. We were not previously aware, that the architects of the middle ages were in possession of the text of Vitruvius, but, at least, we cannot understand the proof that their style originated from that author. Cæsarianus may indeed have taken his illustrations from Gothic buildings, under the idea, that he was expressing the doctrines of Vitruvius, but Cæsarianus was not a Gothic architect, for he was the pupil of Bramante, and was contemporary with "Michael Angelo, the Florentine." This would be about the year 1520.—The explanation of Cæsarianus may belong to Mr. Cockerell, but similar ideas have been suggested by other parties; much credit is, however, due to him for the examples he has adduced. The professor is of opinion that the origin of the Vesica Piscis is greatly misunderstood, and that it was invented solely for the geometrical purpose of erecting a perpendicular upon a straight line. Although this reasoning taken *per se* may appear plausible, it is at variance with a great amount of argument on the other side. The occurrence of the form as a symbol in the earliest ages of the church, its constant recurrence in places, where it had evidently a symbolic meaning, and a want of accordance in the motive and use of the Vesica, inclosing the figure in one of the diagrams, and that which was drawn at the feet lead us to retain the old opinion, viz., that the fish was the ancient symbol of Christ, and that the letters of its Greek name were those which were afterwards abbreviated to I.H.S. The Camden Society have declared war against Mr. Cockerell, and perhaps he reciprocates the enmity. As we have not had an opportunity of referring to the book of Cæsarianus, we assume Mr. Cockerell has stated correctly, that the commentator indisputably refers to the Vesica Piscis, as inclosing the plan of the cathedral, for if there be any question as to the author's meaning, the merit of this discovery must be left with Mr. Kerrich.

As to the system of proportion by triangles, we believe that Mr. Cockerell laid no claim to the discovery of that method, as it was not only shewn in Mr. Hawkins's book, but also in the great work of D'Agincourt, which was reviewed in the last volume of this journal. As regards the proportions of Westminster Abbey, the height of which, compared with the width, is that of a church with double aisles, the question arises, whether at any period there was any intention of erecting additional aisles? Such an opinion, otherwise supported, would gain weight from the fact that, in the present aisle, there is a double row of windows, the upper range serving, in such an event, for the aisle clerestory.

The remarks on symbolism, and on the attachment to particular numbers, conveyed the impression that the professor recommended the like observance in future churches; and in speaking of the four columns and the three divisions in the "temple in antis," he appeared to have caught a notion from the Cambridge Camden Society, the influence of which we are not desirous to see extended. The evidence of the acquaintance of Sir Christopher Wren with the system of the Freemasons, has received confirmation from Mr. Cockerell. Some comments are made in another place on the retention of the spire, the rood-screen, the oblong plan, and other marks of middle age origin, and on the application of proportion by triangles to the west front of St. Paul's Cathedral, as illustrated by the late Mr. Bartholomew. To these marks of coincidence, others are now added, and it can never be forgotten, that in the construction of St. Paul's, Sir Christopher Wren made the greatest use of the knowledge of the Gothic architects. Mr. Bartholomew had also shewn the similarity in plan of Ely and St. Paul's cathedrals, though he was probably not the first, who had noticed it.

In reference to the last lecture, in which the professor gave a project for a cathedral, we need only say, that it was full of valuable suggestions, and matter for deep consideration. There was much, that it would be impossible to controvert. But an individual architect can do little to work a change. Styles of architecture have been the growth of centuries, and the produce of nations, and the influence of a single mind is seldom apparent. Truly, much may be done to improve present taste, and much is in the power of a professor whose talent is seconded by his zeal. * *

AWARDS OF OFFICIAL REFEREES.

The following are the heads of some recent awards which have general interest:—

CHIMNEYS ON CORBELS.

Mr. Hugh Cooper and the district surveyor of St. Giles-in-the-Fields, submitted a joint requisition, relative to a dwelling-house in course of erection on the north side of new Oxford-street, to the following effect:—

"Whereas it is provided in Schedule F of the Metropolitan Buildings Act, under the rule headed 'construction,' with regard to chimneys and chimney stacks, except angle chimneys, that the foundations and footings of every such chimney and chimney stack, must be built similar to those of the wall in or adjoining to which it shall be, and that every such chimney and chimney stack must be built from the foundation to the top thereof without any corbelling over, whereby any upper part of the brickwork of such chimney or chimney stack shall overhang any lower part of the brickwork on the front thereof, and that with regard to buildings of the second and third rates, the jambs, breast and flue in any single chimney may be built upon brick, stone, or iron corbels, above the ceiling of the second story of every such building.

And whereas in the party-walls of the said building (which is of the third rate), the said H. W. Cooper has erected above the ceiling of the second story on brick corbels, a single stack of chimneys projecting in part 4½ inches, and in part 9 inches before the face of the wall, the said stack of chimneys containing three fire places and flues.

And whereas the district surveyor objects to the said stack of chimneys as being contrary to the rules before referred to, inasmuch as the permission to build on corbels is limited to a single chimney, and is not intended to apply to a stack of chimneys."

The referees determined "that the permission in the said Act to build a single chimney, is confined to one fire-place and flue, and that it is not to be deemed to extend to any greater number than one fire-place and flue, but inasmuch as the official referees have reported their opinion to the Commissioners of Works and Buildings, that the rule quoted in the said requisition is inapplicable, and will defeat the objects of the said Act, and that by the adoption of a modification of the said rule such objects will be better attained, and further that the modification recommended, as it regards the point in question, is to the following effect:—'Nevertheless in any story above the first or lowermost story such chimney or chimney stacks may be corbelled out on each or either side of the wall upon brick, stone, or iron corbels to the extent of 4½ inches, if the wall from which such corbelling is made be not less than 13 inches in thickness, and 9 inches if the wall or the immediate substructure of the wall be not less than 17½ inches in thickness, but such chimney or chimney stack must be properly coursed and bonded with the structure of the wall in every course,'—I, the said William Hosking, with the assent of the said Arthur Symonds, defer to make any direction in the matter, until the determination of the Commissioners of Works and Buildings shall be made known on such report."

REINSTATEMENTS AFTER FIRE.

With regard to a dwelling-house in Wellington-street, Woolwich, partially destroyed by fire, a joint requisition was submitted by the district-surveyor, and Mr. Jennings on the part of the Guardian Insurance Office, setting forth as follows:—"Whereas, the whole of the internal constructions have been so far destroyed as to render it necessary to reinstate the same with new, and such, moreover, is the proposal and intention of the said Joseph Jennings, and also to take out the brestsummer under the front wall of the said dwelling-house.

And, whereas, it is the opinion of the said George Aitchison (the district surveyor), that the external and party-walls are not in so ruinous and dangerous a condition, as to warrant the said George Aitchison in requiring that they be pulled down and rebuilt.

And, whereas, it is the opinion of the said George Aitchison that the proposed reinstatements of the chief parts of the said dwelling-house is virtually a rebuilding of the said house, and that under Section 5 of the said Act, the external and party-walls must be rebuilt of the height and thicknesses shewn in Schedule C, part 2, of the said Act, and in conformity in every respect to any other rules therein affecting their constructions.

And, whereas, it is contended by the said Joseph Jennings that the proposed reinstatement is only to be regarded as a repair, and that he is only bound to take care in performing such repairs, that nothing be done which would render the said dwelling-house less comformable to the aforesaid Act than it was heretofore, or admitting, that under Section 5 of the said Act, the building in question must be repaired in accordance with the schedules of the said Act, that he is not bound to remove or alter (by pulling down) existing walls or other constructions, but merely to make such additions as will make the new works conformable to the said Act; as, although in Schedule D, part 2, in the clause relative to the materials to be used in rebuilding, it is enacted, that when one-fourth of the whole surface of an external wall is taken down, every part thereof must be rebuilt according to Act, that as no part of such walls is taken down, the premises cannot be considered to be rebuilt."

The award was, that "inasmuch as the inclosing walls of the building in question remained sound, we, the said official referees, do hereby determine and award, that the works in question may be done in the manner proposed by the said Joseph Jennings in the said requisition, and that it will not be contrary to the said Act to allow the said walls to remain."

The costs to be paid by Mr. Jennings.

FOUNDATIONS—UNDERPINNING.

The surveyor of the western district of the city of London lodged an information against Mr. Southgate, for making sundry alterations in a house, 170, Fleet-street, contrary to the provisions of the Act: that is to say:—"First, in excavating a part of the basement story of the said premises to an additional depth of about three feet, and adding to the foundations of the surrounding walls by underpinning; such additional foundations not being properly constructed in relation to the width of the footings of such walls; and secondly in commencing such work without previous notice to the district surveyor, as required by the said Act."

The referees awarded, "that notice ought to have been given to the surveyor of the district, and that the works in question have not been done in conformity with the said Act, and by this our award we do hereby direct that the building owner do forthwith, at his own expense, shore up the walls in question and underpin the same to their full thicknesses, and to the full depth of the excavations on solid foundations with proper footings, and in all other respects in conformity with the directions of the Metropolitan Buildings Act."

Costs of office and surveyor's costs to be paid by Southgate.

WALLS ABOVE ROOF OF ADJOINING HOUSE.

Mr. Sissons, of Notting Hill, and the surveyor of the Hammersmith district, requested the decision of the referees on the following matter, respecting which a doubt had arisen:—In the case of adjoining houses, some of higher elevation than others, with respect to the walls used or built in order to be used, as a separation of two or more houses, are those portions of the said walls which are above the roofs of the lower buildings, still to be considered 'party-walls,' and, in consequence, required to be finished in conformity with the rules in Schedule D, part 3, 'Height of party-walls above roof.'"

The referees decided, that they must "be considered as party-walls, and as such must be built and finished in every respect in conformity with the rule in Schedule D, part 3, of the Metropolitan Buildings Act, headed, 'height of party-walls above roof,' and all the other rules regulating the construction of party-walls in the said schedule."

A NEW MATERIAL

FOR CONSTRUCTIONAL AND DECORATIVE PURPOSES.

We have recently examined, in the manufactory of Messrs. Keen and Co., York-street, Lambeth, through the kindness of Mr. T. Lahee, one of the firm, a natural resin or mastic, recently imported from the East Indies for the first time, which appears to be applicable, with great advantage, to many uses in the constructive and decorative arts. It is called GUTTA PERCHA, and is somewhat like India-rubber or caoutchouc, but it is advantageously distinguished from it in its freedom from stickiness when dry, in its not being so effected by atmospheric heat, or by unctuous oils, and in its being workable by means of hot water alone.

Some of its properties are stated to be:—That it is soluble in essential oils, but resists to a great extent the action of grease and unctuous oils: it mixes readily with paints, pigments, and most other colouring matters: it is repellent of, and unaffected by cold water or damp: it may be so softened by mere immersion in hot water, or by exposure to steam or hot air, as to be capable without further treatment of being kneaded, or moulded, or rolled out, or pressed into any desired shape, and to any extent of tenuity: it is of a strongly adhesive or agglutinating quality, and when dry is free from stickiness: in the dry or solid state it is flexible, of great tenacity, and to a slight degree elastic: it is impermeable to, and not injuriously affected by atmospheric air: in a pure state is nearly inodorous, and it is little, if at all, injured by use (except as a fuel), and may, after it has been employed in a manufactured state, be recovered or renovated, and manufactured anew.

The patentee gives the following exemplification of the uses to which it is applicable in the plastic state:—

"By itself it may be manufactured by moulding, stamping, embossing, casting, or any other known process or processes for giving figure and form to plastic substances, into various articles of use, as glass and picture-frames, cornices, mouldings, and other architectural ornaments, panelling, mosaics, &c.; buttons, studs, counters, labels, balls, &c.; bracelets, armlets, garters, rings, and other circular articles, reins, bridles, belts, bands, &c. Or it may be used (when sulphurized especially), for any purpose for which an elastic air and waterproof substance, unaffected by ordinary degrees of heat, is suitable, as, for example, as a material in which to produce pictures either in relief or in intaglio; or as a covering for beds, couches, and cushions; or as a material for billiard-table cushions, or as a substitute for metallic springs, or as a bearing for railway-rails and chairs, or parts of machinery, or as a material for atmospheric railway and other valves."

The patentee observes,—"There are other combinations in which the gutta percha is in its plastic state intimately mixed or blended with other materials, as, for example, there may be added to the gutta percha, while in the kneading-machine, paper-pulp, wood-dust, leather-dust, hair, bristles, oakum, &c.; and compound fabrics will be thus produced very suitable for paving, roofing, sheathing, and other purposes."

For example, we saw some planks formed of this curious material and saw-dust, which it was proposed to lay instead of boards, to produce a noiseless floor.

For taking some description of casts it is used in a granular state; the process is thus described in the specification:—"I take the gutta percha, of any of the varieties before described, that is to say, either plain, or sulphurized, or coloured, and rasp it down to a powder; I then apply it in this state to the taking of casts of busts, cornices, and other works of art, in round or curved forms, and to the producing of impressions in relief from surfaces engraved in intaglio; or perforated through and through any given pattern. When casts of busts, &c., are to be taken, the mould is filled with the grains or powder of the gutta percha, and then heated till the gutta percha becomes reduced to a mass sufficiently ductile to be pressed into all parts of the mould. When impressions in relief from flat surfaces, engraved or perforated as above, are to be taken, the surface is laid upon a flat table, and the powder sprinkled rather thickly over it; a straight-edge is then drawn across the surface, which causes all the sunken parts or holes to be filled up, and removes any superfluous powder from the raised parts. The surface is then subjected to a heat sufficient to soften the gutta percha, when the piece of cloth, leather, paper, or any other substance or material which may be desired to take the impression in relief, is laid upon the surface, and pressure applied to it by a roller or otherwise; the gutta percha leaves the broken parts, or holes, and attaches itself to the cloth or other substance, which then exhibits an exact copy, in very bold and durable relief, of the original subject." For one purpose or another, Gutta Percha can hardly fail to be extensively used.

LUTON TOWN HALL COMPETITION.

Sir,—As I consider your journal, from its extensive circulation amongst the members of the profession, eminently calculated to ameliorate the present absurd system of architectural competition, I inclose for insertion in The Builder, copies of two letters that have passed between myself and the secretary of the Luton Town Hall Building Committee, who, you are aware, have lately advertised for designs in the public papers. The subject is one of particular interest just now, as several public architectural competitions are pending in London, Blackburne, and elsewhere, the terms of which, as laid down by their several committees, are most obnoxious to the interests of the profession; and this not from any sinister intentions on the part of these gentlemen, but a very naturally existent ignorance of what is required in such cases,—required as of honourable men, seeking the *implicit confidence* of the competitors, and also required for obtaining the very object they have in view, viz., the adoption of a good design, the employment of a good architect. The use of competition, its advantage to the public and the profession, is beyond question; its abuse most disastrous to each, as every day's experience serves is prove.

Your own columns, Sir, *after* a competition has been decided, teem with the querulous Jeremiads of the disappointed competitors, who, it occurs to me, are after all the main authors of their own mishap; for it rests with the profession themselves, and more especially the Institute of British Architects, to reform a system of public competition, which exacts every thing possible to advertise for, from the competitors, and guarantees *nothing whatever* to the luckless architects on the part of a committee, save sometimes a trifling premium, utterly inadequate to the value of the information sought. Witness the Blackburn competition, wherein, apparently, nothing but the premiums can be looked for; the Fishmongers and Poulterers', of which you will doubtless hear more; a Walworth competition, wherein the munificent sum of 5*l.* is offered; and last (and "least") the Luton Town-hall competition, wherein *nothing whatever* is offered, except a commission that is to grow "small by degrees and beautifully less," in proportion to the cupidity of the scrambling parties.

So much good may be effected by noticing these matters *before-hand*, that I feel no hesitation in handing you the correspondence in question, confident that, if you see the slightest impropriety in circulating it amongst your readers, you will suppress it.

On the appearance of the advertisement of the committee for building the Town-hall at Luton, Beds, I applied to the secretary, Mr. Williamson, for the particulars, as also to know

what was meant by the clause you yourself placed in inverted commas in your last week's notice of competitions: "The architect whose plan is adopted, will be required to superintend the work, if an arrangement can be made to that effect,"—I received the following answer:—

"Sir,—The committee intend to employ the author of the best design to superintend the work, but they have been told that, in such case, if no arrangement is made with him, he would be entitled to charge five per cent., besides extra journeys, &c., and a clerk of the works; this they think is too much. The time cannot be extended, as the season is so far advanced—I am, Sir, yours obediently,

Edward Williamson.

Luton, 28 March, 1846.

To William Young, Esq.

This was a very straightforward answer; but, as respected the probability of a good design succeeding in such a competition, most unsatisfactory—and I replied—

"7, Granby-street, Mornington-crescent, London, March 31, 1846.

LUTON TOWN HALL.

"Sir,—I am obliged to you for your candid exposition of the committee's views; and make no doubt whatever, they are strictly well intentioned; but their result will prove most mischievous to your project and injurious to the competitors. 5 per cent. commission, a clerk of works and travelling expenses, are indeed the terms you would be asked; and these, to do your committee justice, I could most easily shew are reasonable. It is usual to award these terms *and* premiums in cases of public competition, and very properly.

As the case stands, allow me to say, your committee offer nothing whatever for respectable architects to contend for; for it would appear from your note the *cheapest* artist is sought not the *best*, and your competition instituted in the hope that happily your committee may meet with an architect whose terms shall be the lowest, *and* his taste and experience the best.

This, Sir, cannot be; there are quacks in every profession; and I would from long experience of these matters seriously warn your committee against leaving open a door for adventurers, in so important a transaction as the erection of a public building.

I say it in all sincerity, you will ultimately find yourselves to have been better served, your committee's object better attained, if you would at once set aside the present terms, and make your competition a means for ascertaining, not who will superintend your town hall for the lowest commission, but who is *best capable* of erecting you a handsome, convenient, and substantial edifice.

Were you to have offered in your advertisement a *certain* commission (whatever, for instance, your committee might feel disposed to pay; pledging themselves of course not to set aside a successful competitor, because some other offered his services for less), many young architects would doubtless compete, as the honour in such cases is always an object. But, disposed as I otherwise might be to do so myself, I cannot enter the lists against the talent usually to be encountered in such cases, *joined to* the unseemly canvassing and cupidity your present terms are certain to subject you to. I have not the slightest doubt that, so far from 5 per cent., you will have offers to serve you at 4, 3, 2½, and even 2 per cent., and I therefore decline competing.

In apologizing for the trouble I have occasioned, I beg again to assure you these remarks are made with every respect for the motives of your committee, as indeed their fairness is evidenced in your communication to me, and in the hope they may yet prove useful. The officer you require must possess taste and skill enough to design you a handsome and useful building; education, experience, and integrity enough to direct the contractors, measure and value the works, and equitably adjust the estimates and accounts *to at least an amount of* 4,000*l.*, and such a one, I submit, ought not to be chosen by a mere discount per cent. on the usual commission, paid for the discharge of these responsible duties.—I am, Sir, your very obedt. servant,

William Young.

Edwd. Williamson, Esq., Luton.

I think, Mr. Editor, architects have a reasonable right to require, in these cases of open competition, a pledge on the part of the committees that they will employ the author of the premiated, or adopted design, *at the customary commission*; and I am convinced, were competitors (capable, of course, of proving their eligibility to the committees) to insist on this one point, which the Blackburn Exchange Committee actually declined to cede, architectural competition would in great measure cease to be what it is, a pest to both committees and competitors.—I remain, Mr. Editor, your obedt. servant,

William Young.

7, Granby-street, Mornington-crescent,

March 31, 1846.

*** We have received five communications to the above effect: perhaps it may not be too late to induce the committee to revise their conditions. If they do not it is to be hoped, in the words of one of our correspondents:—"That no educated architect will so depreciate the character of his profession as to submit designs, when he will be expected, and may be called upon, to execute his work for less than the customary professional commission of five per cent." The time allowed for the preparation of the drawings is much too short.

THE QUEEN'S PAVILION, BUCKINGHAM PALACE.

In the last volume of our journal (page 349) we described, at some length, the fresco paintings and decorations, executed in the Queen's Pavilion, by many of our most eminent artists, and in so doing, mentioned that her Majesty had ordered they should be engraved and published. The result is an elegant folio volume,* containing sixteen engravings, with an introduction, by Mrs. Jameson, which gives the names of all the artists and manufacturers who were employed, as well in the painting as in the stuccoes, modelling, carving, and pavements.

The engravings include a general view of the pavilion, plan, sections, and parts; the eight lunettes (by Stanfield, Uwins, C. Leslie, Ross, Eastlake, Maclise, E. Landseer, and Dyce) at large; perspective views of the three apartments; bas-reliefs, and the furniture.

The following observation, by Mrs. Jameson, agrees so entirely with our own views, at various times expressed, that we are induced to extract it:—"In the selection of the subjects, the artists were left free, and the result proves the absolute necessity of a presiding mind, where it is intended that diversity of parts shall blend into a well-ordered whole; for here we find that three of the subjects are nearly similar, yet presenting, even in their monotony, a sort of inconsistency, for we have three different ladies on three different chairs; while two subjects are absolutely identical—Comus driven out by the brothers—and this, too, in the illustration of a poem which so abounds in suggestive imagery, that almost every line is a picture! A farther inconvenience, resulting from this deference to the individual taste and arbitrary choice of each painter, is, that the pictures do not form a regular series, and that the same incident is twice repeated. Had the painters worked together, with a mutual understanding of their task as a whole, this would not have occurred; and it is noticed here because every observer, even the most careless, will perceive an error which seems at first view unaccountable, but which may, with some forethought, be avoided in future undertakings of this kind."

The work will interest several classes, those who, away from town, or debarred from the opportunity, are anxious to see, if not the summer-house itself, faithful representations of it, and all those who are engaged in the decorative arts, or concerned in their progress. Mr. Gruner is entitled to praise for the manner in which the book is produced, notwithstanding that some of the lunettes might have been better drawn.

Metropolitan Improvements.—In answer to a question put by Sir Robert Inglis a few evenings since, relative to the bills prepared by the Treasury for the carrying out the recommendations of the fourth and fifth reports of the Metropolis Improvement Commission, Sir Robert Peel stated, that the two bills in question having been framed under the superintendence of the Earl of Lincoln, when that noble lord was connected with the Woods and Forests' department, it was deemed advisable to forward to him in Ireland, drafts of the measures before they were brought before the House. This was the sole cause of the delay.

* "The Decorations of the Garden Pavilion in the Grounds of Buckingham Palace." Engraved under the superintendence of L. Gruner, author of "Fresco Decorations in Italy during the 15th and 16th centuries." London: Murray, 1846.

THE SUFFOLK-STREET EXHIBITION.

The twenty-third exhibition of the Society of British Artists, was opened to the public on Monday last. At the private view on Saturday, there was a greater crowd than we have ever before seen there, including a large number of persons distinguished by their position or their love of art. The exhibition, as a whole, is unquestionably better than it was last year, and although containing few attempts at high art, may be regarded as a very satisfactory and pleasing collection, well deserving examination. In the department of landscapes the society is strongest; many of the specimens now exhibited are admirable, and would justify the highest encomiums. It is too much the habit of some critics to compare in their own minds the annual exhibitions of modern art, with standard collections of older art, and finding as they necessarily must, a striking difference between them, to condemn the artists of the present day, and say there is no progress. They seem to forget that the latter collections are the result of years, the best specimen of this man and the best specimen of that, weeded and improved as opportunities occur, and ultimately representing the artistic result of a considerable period of time; while in the modern exhibition, on the contrary, all have been produced within twelve short months, and are necessarily unequal and various.

Pyne and W. J. Allen exhibit a number of sterling landscapes; "The Menai Straits" (233), by the former, and "The Clwyd Vale, Denbighshire" (125), by the latter, are truly admirable. Hurlstone's "Gulnare and the Pacha" (174) is *very* nearly a first-rate work. Holland as a colourist has rare merit; and Woolmer displays in the present exhibition, if not great genius, something very near akin to it. Montague has some exceedingly clever pictures, as have Clint, Boddington, Clater, Tennant, the younger Wilson, and Hassell; the latter artist has improved considerably.

Baxter's portraits have much sentiment and feeling; and Herring and Josi, in horses and dogs, have but one rival. Anthony's pictures have not a few faults, but exhibit sufficient mind to make us forgive them all.

INSTITUTE OF THE FINE ARTS.

Last Saturday evening a general meeting of the members was held in the room of the Society of Arts, Adelphi; Mr. W. R. Collett, M.P., in the chair. Two papers were read, one on criticism of works of art, the other containing recollections of Harlowe, the painter of the Kemble family. The chairman expressed an anxious desire to aid the advance of art, and, moreover, shewed in the course of some brief observations, that he was not unobservant of its progress. He took occasion to remark on the necessity which existed in this country for a public school of art, irrespective of the Royal Academy or any other institution, where the human figure could be studied from living models, the advantages afforded in that respect on the continent being the secret of the superiority with respect to drawing in foreign compositions.

We take the opportunity to remark, that the mode of balloting for members practised by the Institute, is not a convenient one, as it delays the business of the evening unnecessarily. If, instead of forcing each member to rise from his seat and walk to the table as many times as there are candidates, the box were carried round by the attendant, it would not interfere with the reading of the papers.

The council have recently determined to raise the annual subscription from one guinea to two. The number of members is at present about 400, producing too small a sum, as the subscription now stands, for the purposes of the institution. We hope the alteration will be viewed favourably by the members generally, and be the means of enabling the committee to proceed more vigorously, and with wider views than they have yet manifested.

A new Roman Catholic chapel at Lawrieston, Glasgow, was opened for the first time on Sunday week. It is spoken of as being a large and commodious building, and creditable to the taste of the present time.

THE MASTERS AND THE WORKMEN IN MANCHESTER AND LIVERPOOL.

SIR,—In your publication of the 28th ult., you have a statement under the head of "Strike in the Building Trades," to this effect, "The whole of the building trades of Manchester have turned out, in some instances for an advance of wages, and in others for an abridgment of the hours of labour." It is with a view of correcting this statement, which if left uncontradicted, is calculated through the influence of your widely-circulated journal, to militate against the interest of those workmen who are victims to the conspiracy of the employers, and to prejudice a cause which the public have taken up with so much sympathy, that I am induced to offer you the *truth* of this matter, and to appeal to your sense of justice to give it a place in your next publication.

The *Manchester Guardian*, speaking of the carpenters and joiners, says, "They ceased working on Saturday the 28th ultimo, and on Monday, the 2nd inst., they removed their toolchests, &c., and have since remained out. On the same day the bricklayers also quitted their work, and have continued out; this of itself would soon have rendered it necessary for the employers in the other branches of the building trades, to give notice to their workmen, as if houses and other buildings are not erected, there can be little need of slaters, plumbers, glaziers, plasterers, and painters, with their labourers. But in addition to this it was ascertained, that levies were being made on all these branches of trade for the support of the carpenters and bricklayers on strike. Independently, therefore, of the fact that the workmen in one or two branches of trade having ceased working naturally stopped the other branches, the masters found that the wages they paid in this dearth of occupation, served to aid the turn-outs in maintaining the strike, and they accordingly gave notice to their workmen in the trades we have named, and the men in all these trades ceased to work on Saturday evening last."

Now, Sir, this statement of the *Guardian* of the same date from which you took your extract last week, carries upon its face nothing but self-contradiction, if it be as the *Guardian* states, "that the workmen in one or two branches of trade having ceased working, *naturally stopped the other branches*," wherefore the necessity of the masters resorting to other measures? Because that statement is not true: it is a statement put forth to seduce the public to the belief that 1,500 or 1,600 men had been thrown out of employment as a natural consequence of the carpenter's strike; it is a trick to create disaffection among the working classes—it is a trick to cast odium on the carpenters of Manchester, and to shield themselves from public scorn and abuse. The fact being as the *Guardian* inadvertently admits, viz., "that it was ascertained that levies were being made in all these branches for the support of the carpenters and bricklayers on strike." This, Sir, is the offence which has brought down the resentment of the employers. The bricklayers did not quit their work as implied "either for an advance of wages or for an abridgment in the hours of labour;" they were discharged because "the employers found the wages paid in this dearth of occupation, served to aid the turn-outs in maintaining their strike."

It is not necessary to my present purpose, that I should enter into the particulars relative to the origin of the carpenters and joiners' strike, or to expose the gross ignorance and palpable absurdities of the *Guardian*, in the article which you have been pleased to designate as "broadly stated" which appeared in THE BUILDER of last week, though I would willingly undertake to do so if your columns were open to such subjects; it is enough, that I have proved the masters capable of resorting to the most dishonest practices and deliberate falsehood, to influence public opinion and to induce workmen by their specious advertisements to become instruments for perfecting a tyranny worthy only of a Nicholas. There are no men required in Manchester for the building trades, but those who are willing to become the slaves of their employers body and soul, and as a condition to their being employed, must sign a document to that effect.

If, Sir, you should at any future time revert to the strike at Manchester for the purpose of publication in THE BUILDER, I shall be most happy to supply you with every particular, with the strictest regard to truth. Not courting your advocacy, not fearing your opposition, but relying on your justice, I beg to subscribe myself a subscriber from the first, and obediently yours,

J. C. LOCKETT.

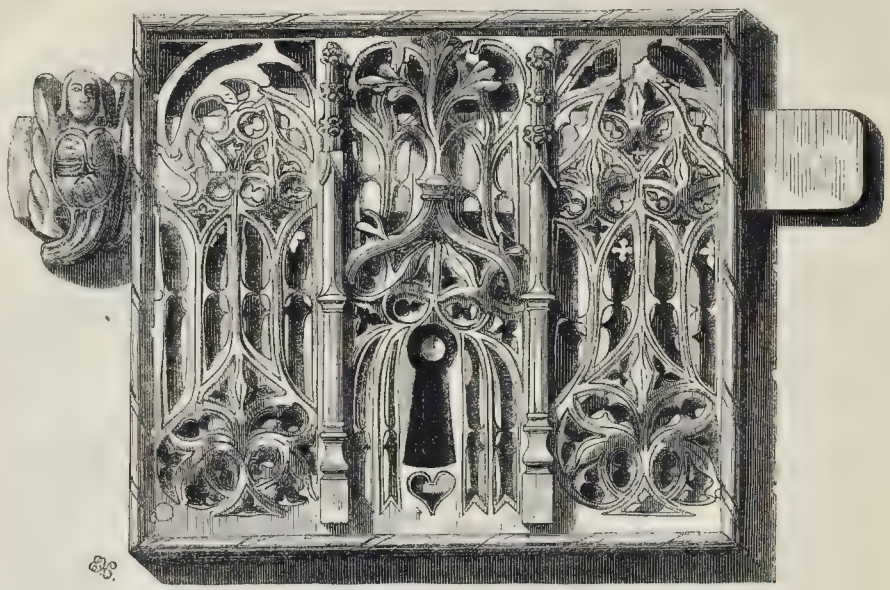
London, April 1st, 1846.

The *Liverpool Times* says:—"We are sorry to state that nearly all the men connected with the building trade in Liverpool turned out yesterday morning, rather than agree to abandon the union which has organized the turn-out at Manchester and at Birkenhead. The number of workmen who turned out yesterday in this town is estimated at about 3,000. They are, with few exceptions, good and skilful workmen, earning and receiving high wages, and their turn-out will deprive them of something between 4,000*l.* and 5,000*l.* a week. This must have a very bad effect on the retail trade of the town, so long as the struggle continues. At present there is every appearance of a very long and obstinate struggle, for the union must be well in funds to support the workmen, after the last three years of prosperity, and the masters all declare that they cannot and will not pay the wages, or agree to the regulations proposed by the men. The following is a copy of the declaration which the masters require the men to sign:—'We, the undersigned, do hereby declare that we are not, or will not remain, members of any trades' unions, or of other societies, under whatever designation they may be known, which have for their objects any interference with the rights of labour, or with the arrangements that may be entered into between employers and workmen. And we further declare, that we will not appropriate, and, as far as we are able, will not permit to be appropriated, for the purpose of supporting a turn-out here or elsewhere, amongst the building branches or otherwise, any sum or sums of money belonging to any sick, burial, or other society which has been established for benevolent purposes alone."

RAILWAY JOTTINGS.

HER Majesty has appointed a royal commission for the purpose of considering the manner in which the various railway projects having termini in the metropolis shall be dealt with. The commission consists of the Right Hon. Charles John Viscount Canning, the Right Hon. James Andrew Earl of Dalhousie, the Right Hon. the Lord Mayor of the city of London, the Right Hon. John Charles Herries, and Sir John Mark Frederic Smith, Lieutenant-Colonel of the Royal Corps of Engineers.——The following *standing order* has during the past week been added to those already in force, on the motion of Mr. Hume:—"That in case of Bills for making, maintaining, varying, extending, or enlarging any aqueduct, archway, bridge, weir, canal, cut, dock, ferry, harbour, navigation, pier, port, railway, reservoir, tunnel, turnpike-road and water-work, and for all other works and inclosures on tidal lands within the ordinary spring tides, a general plan, shewing the situation and approaches to the said aqueduct, archway, harbour, &c., should be denoted upon a sheet or sheets of the Ordnance survey, when published, or else upon maps of an equivalent scale, and extending ten miles on each side; and, together with enlarged plans and sections of such parts of the works as are on the tidal lands within the ordinary spring tides, on a scale of not less than twenty feet to an inch, with the dimensions figured thereon, shall, on or before the 30th day of November, be deposited in the Board of Admiralty, and that the same resolution be made a standing order."——On the motion of Mr. Morrison, a special committee of the House of Commons has been appointed to inquire whether, without discouraging legitimate enterprise, conditions may not be embodied in railway Acts better fitted than those hitherto inserted in them to promote and secure the interests of the public. The hon. gentleman said, "that the leading objects he had in view were to give a power of revision of fares within shorter periods than that of twenty years, the bill of last year being evidently a failure, there being at this moment a difference in some cases to the extent of 250 per cent. in the fares charged by different railways; and also that hereafter railway acts should pass only on the condition of terminable leases; that the acts should be for forty years, or thereabouts, similar to the system existing in France.——It is stated that three members of the House of Commons are candidates for the post of superintendent of the Preston and Wyre line, the annual salary of which is 500*l.*——Sixty new telegraph signal-posts are being erected on the Midland Railway. When the train is to come slowly, an arm painted red is made to project from the upright at an angle of forty-five degrees; and when it is to stop, the signal is placed at right angles.——The *Perthshire Courier* states that the Edinburgh and Glasgow Company have compromised the action for damages, at the instance of the children of the deceased Mr. Coolley, horse-dealer in Glasgow, who was killed in a railway carriage on that line in May last, for the sum of 2,000*l.*, with all expenses.——Among projected railways on the continent, is one on the atmospheric principle, which it is proposed to form from Lyons to Vaise, and which exhibits a new feature in railway arrangements. The road in question will leave Port Saint Clair, and pass under the *Croix-Rousse* by a tunnel; communicating with that commune by means of wells or shafts, through which its passengers are to be discharged into the upper air, seated in elegant boxes or apartments raised by machinery—on a principle, we suppose, like that of the ascending room of the Colosseum.——Captain Lawes, in his evidence before the Gauge Commission, stated that Mr. Brunel's reason for adopting the wide gauge was to overcome the great difficulty anticipated in getting a sufficiently rapid motion in a piston to revolve the wheels quick enough to get a very high speed. Mr. B. said we must obviate that by having large driving wheels; he then proposed to have 10-feet driving wheels. These high wheels have to a certain degree been abandoned, and they find they have no difficulty whatever in getting all the rapidity they want in the piston to work with smaller wheels, and to attain as high a speed as they ever contemplated with a larger wheel.——We lately gave currency to a report that on some of the long lines it is in contemplation to establish locomotive divans. Another proposition, and one of more general utility has been made during the past fortnight, namely the establishment of travelling restaurants. A bill of fare, shewing what the refectory contains, is to be posted in each carriage. Bells are to be at the command of the passengers, to announce their wants to the waiter, who will travel to them along a narrow passage alongside the interior of the carriages constructed for the purpose.——The contract for erecting the 112 arches on the Bury railway, extending from Great Howard-street towards Walton, has been taken by Messrs. S. and J. Holme and Mr. M'Cormack, the former executing the brickwork, and the latter the stonework.——On the Huddersfield and Manchester line, about 80,000 cubic yards of earthwork have been removed, and at the present time there are about 500 men and 50 horses employed. The viaduct at Huddersfield has been commenced, and Mr. Nicholson the contractor for the Standedge tunnel has also began his works.——The inhabitants of coventry are exceedingly indignant at a deception which they say has been practised upon them by the London and Birmingham Railway Company, who having obtained an Act "for enlargement of the Coventry Station" purpose converting the land so obtained into a coal-wharf. A useful hint for other towns similarly situated.—— Some miles of the permanent way on the Great Southern and Western line are laid, and several engines have been delivered. The directors expect to have the entire line from Dublin to Carlow opened for regular traffic in June, and have contracted for the carriage of the mails, to commence early in July.——The engineer of the Wilts, Somerset, and Weymouth line is making arrangements to employ about 2,000 labourers on that part which is to be laid down between Salisbury and Warminster.——Two deaths occurred lately on the Lancaster and Carlisle Line, owing to the parties not having retired sufficiently far during the blasting of a rock. In both cases, a portion of the stone struck the deceased on their heads and caused instant death.

ANCIENT WROUGHT LOCK.



THE IRONWORK OF THE MIDDLE AGES.

The lock, of which we now give a drawing the size of the original, will further illustrate the skill of the medieval artists in ironwork. It probably belonged to the door of an almery, one of those receptacles for sacred utensils or the vestments of the priests, which were to be found as recesses in the wall, or as richly carved cupboards of wainscot, in various parts of an old Gothic church. The design shews great skill, in the union of foliage with the mullions and cusps. Except where it is opposed to the bolt, the ornament has a clear space of a quarter of an inch, or more behind it, and the effect is much superior to that in the example given last week, where there was a third plate unperforated. The ornament is here formed of two perforated plates, the outer one being rounded at the edges of the mullions, and bent to give the undulations of the leaves. The lines of the stems are engraved. The manner in which the cusps and points are introduced amongst the foliage is extremely happy, though by no means peculiar to this instance. Probably a better illustration could not be given, of the variation, which art is able to effect upon the system in Gothic ironwork, so well explained by the first example. The buttresses, and the crocketted ogee and finial are placed in front of the other ornament. The handle of the bolt, and some portions of two of the divisions, it is evident, are not original, and there may be some doubt as to the edges. Indeed the cleverness with which antiquities are "vamped up"—to quote the vernacular of the dealers—is sometimes calculated to deceive the most practised collector; the many who desire merely to possess something that is old, are daily imposed upon, and the few, who really know, cannot look too closely. The key, engraved last week, is at present attached to this lock, but we do not think that it belonged to it originally. It appears, that the bolt was not shot back by turning the key, as in modern locks, but unfastened, and could then be drawn by the handle. Mr. Rogers has two locks in addition to those already given, in which the beauty of the design is equally remarkable; they are worked on the same principle, but treated in a manner entirely distinct. E. H.

CONSTRUCTION OF BRIDGES.

Sir,—In my last letter I spoke of the stability of the arch as depending upon the position and direction of the line of pressure. I will now endeavour as clearly as I can, and as briefly as the subject will permit, to lay before your readers its geometrical principles. For this purpose, assume any point *a* (fig. 1) within the limits of the voussoirs as a point in the line of pressure. The material at this point will have to resist the action of all the forces existing between it and the centre C. These forces may be reduced to two pressures:—1, the constant horizontal force, which is the pressure acting against the key-stone; and, 2, the weight of the structure between the point *a* and the centre of the bridge; that is, the whole of the weight supported by the semi-curve EFDC. From the point C draw HC of any convenient length, to represent the constant horizontal force, and to the same scale erect the vertical line *av*, to exhibit the weight of the semi-arch DCEF. Through the point C draw the vertical line IK, and parallel to the horizon produce the right line G*a*. From the point G, and at any convenient angle, draw the line G*d*= *av*, and upon it set off G*c*=HC; draw the line *ca*, and parallel to it from the point *d* the line *db*, intersecting the line G*a* when extended in the point *b*. Then, from G with a radius G*b*, describe the arc intersecting the line IK in 1; draw the line *a*1, and it will be a tangent to the curve at the point *a*. Again, from any point, *e*, parallel to GF, draw the line *efg*, intersecting the tangent *a*1 in *f*. Let the vertical line *fu* = the weight which the arch has to sustain between the point *f* and centre C. Draw the line *ehi*, and upon it set off *eh* = HC, and *ei* = *fu*; connect *hf*, and parallel to it draw the line *ig*. Then from *e*, with a radius *eg*, describe the arc intersecting IK in 2, draw *f*2, and it will be a tangent to the curve at the point *f*. Proceeding in this manner, we may draw any number of tangents, as *m*3, *n*4, &c., and the line traced out by them between their points of mutual intersection will be the curve required.

Demonstration.—Because *db* is parallel to *ca* the triangles G*db* and G*ca* are similar, and G*c*: G*a*:: G*d*: G*b*. By construction G*c* = HC = *the horizontal force*; and G*d* = *av* = *the weight supported by the same arch* a C, also G*b*=G1. Therefore by substituting these values of the several lines in the similar triangles, *the horizontal force* : G*a* :: *weight supported by* a C : G1 equating this proportion *horizontal force* × G1 = *weight on* a C × a G. And similarly with regard to any other point *f* in the line of pressure it might be shewn that *the horizontal force* × *e*2 = *weight on f*C × *ef*.

From the point *f* which we have assumed at pleasure, draw *fg* at right angles to the tangent *f*2. Then the triangle *feq* and 2*ef* are similar, and 2*e*: *fe*:: *fe*: *eq* consequently *horizontal force* × *ef* = *weight on f*C × *eq* or *horizontal force* × *ordinate of curve* = *weight* × *sub-normal*. Put the ordinate *ef* = *y*; the absisca *e*C=*x*, the weight = U, the horizontal force= P; and since the co-ordinates are expressed by *x* and *y*, the sub-normal=$y\frac{dy}{dx}$ (as is shewn by the elementary works of the calculus); substitute these value in the above equation and

$$Py = Uy\frac{dy}{dx} \text{ or } \frac{dy}{dx} = \frac{P}{U}$$

will be the differential equation to the line of pressure, and this we know from other reasoning.

In my letter the other day I observed "that if the arch be intended to support a heavy weight on the vertex, it should be of the Gothic or pointed form. If it be designed to sustain a load on its haunches the form of the ellipse is best adapted. When the load is equally diffused over the horizontal roadway of the bridge, the form of the arch should be a parabola. And lastly, if the load is diffused equally over the extrados, the curve of the arch should be a catenary."

1st. Let the load be concentrated towards the apex of the arch, and suppose the triangular space *mpq*, fig. 2, to be proportional to the amount of load. On the line IK take any point *e*, draw the horizontal line *ef*. and erect the perpendicular *fr*, then that portion of the load that is supported at *f* will be included within the space *mstq*, and consequently U = space *mstq* × gravity of each unit of such space.

ILLUSTRATION OF THE ARCH.

Fig. 1

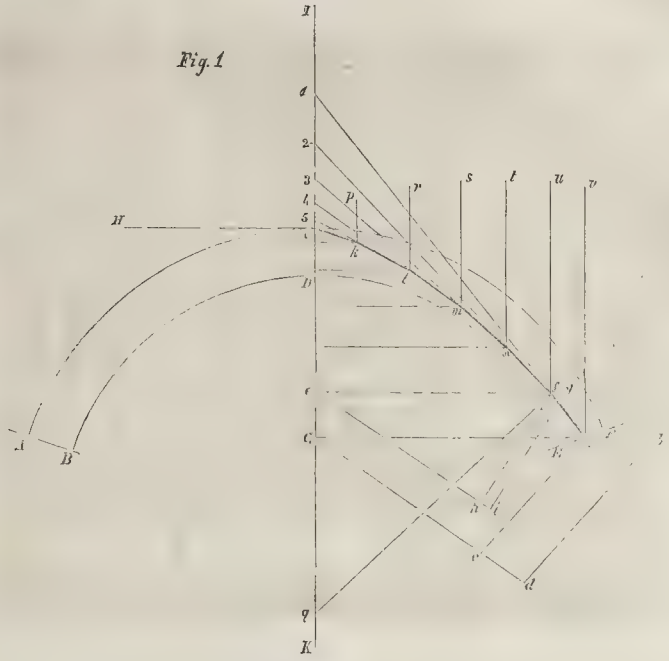


Fig. 2

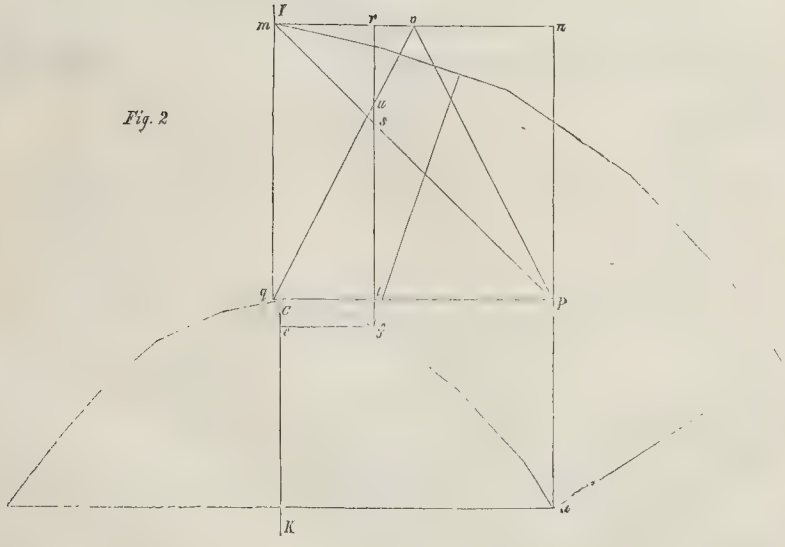
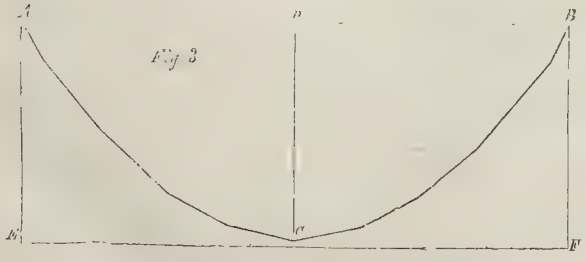


Fig. 3



Put u = the weight of each unit of the load, and $qm = qp = l$, then since $qt = ef = y$

$$U = u\left\{ly - \frac{y^2}{2}\right\} \text{ or}$$

$$\frac{dx}{dy} = \frac{U}{P} = \frac{u}{P}\left\{ly - \frac{y^2}{2}\right\} \text{ whence by integrating}$$

for x between the values of o and y

$$x = \frac{u}{P}\left\{\frac{ly^2}{2} - \frac{y^3}{6}\right\} = \frac{uy^2}{2P}\left\{l - \frac{y}{3}\right\} \ldots . A$$

Which is the equation to the curve of pressure when the arch is loaded as represented by the triangle *mqp*.

2nd. Let the weight be at the haunches, and suppose the space *qop* to represent the disposition of it, then *qut* will be the proportion of the load resting at the point *f*, whence by retaining the same symbolic expressions for the several quantities,

$$U = uy^2 \text{ and } \frac{dx}{dy} = \frac{U}{P} = \frac{uy^2}{P} \text{ or}$$

$$x = \frac{uy^3}{3P} \ldots \ldots \ldots B$$

By comparing these equations together, it will be seen that the former expresses the co-ordinates of a much more acute curve than the latter; in fact, that whilst one approaches towards a Gothic, the other shews that the line of pressure when the arch is loaded at the haunches, becomes flattened at the crown, or assimilates to an ellipse.

3rd. Let the load be equally distributed along the line *qp*. Let the rectangle *qpmn* represent it, and *qmrt* the load at *f*. Then $U = uly$ and

$$\frac{dx}{dy} = \frac{U}{P} = \frac{uly}{P} \text{ or } x = \frac{ul}{2P}y^2 \ldots \ldots (C)$$

Which is the equation to a parabola whose vertex is C.

4th. Let the load be equally distributed along the voussoirs, and put z = the length of the curve C*f*, then $U = luz$, and $\frac{dx}{dy} = \frac{luz}{P}$.

But the differential equation, when the length of the curve is involved, is:

$$\frac{dz}{dx} = \left\{1 + \frac{dy^2}{dx^2}\right\}^{\frac{1}{2}} \quad \text{In this case}$$

$$= \left\{z^2 + \frac{P^2}{l^2u^2}\right\}^{\frac{1}{2}} \quad \text{Or, by inversion of terms,}$$

$$\frac{dx}{dz} = \frac{z}{\left(z^2 + \frac{P^2}{l^2u^2}\right)^{\frac{1}{2}}}$$

Integrating for x between the limits of z and o,

$$x = \frac{1}{lu}\left\{(l^2u^2z^2 + P^2)^{\frac{1}{2}} - P\right\} \ldots . D$$

which is an equation of the catenary.

It must not be supposed, that because I have thus shewn the construction of the line of pressure, that I advocate its principle; that is, the principle of the arch as at present constructed; on the contrary, I consider it erroneous, for I conceive that the constant horizontal force, HC, fig. 1, that is now resisted by the arch, should not be so, but be borne by a resistance in the horizontal line, in which direction it acts. If this were the case, then the line of pressure would not vary from the effects of the passing load; and, in consequence, the cause of the destruction of the greater number of bridges that fall would be removed. However, I think the practical advantage of the present "*principle*" of building compression bridges may be greatly extended, and the structures themselves much improved by it. The theory of the arch as resulting from any tacit reasoning, is usually of too complicated a form to be of much practical service: but a practical solution to the problem may be easily determined. If we construct the arch symetrically with the line of pressure, we obtain the most favourable form the "*principle*" admits, and one which any force, short of crushing the voussoirs, will fail to disturb. To obtain the form of curve required for this purpose, having determined upon the span and versed sine of the intended bridge, take a chain, ACB, fig. 3, of the same size throughout, and hang it to two fixed points, AB, so that AB; span of intended bridge :: DC : to its versed sine. Let the weight of the chain bear some definite proportion to the weight of the voussoir in the arch, and load it similarly and in the same proportion as the arch would actually be, when finished. Then the model, ACBEF, will be similar with the bridge to be constructed, the only difference being, that the one is acting tensionally whilst the other has to resist the action of the weight by compression; but the line, ACB, would be the form of curve in both cases, and should be adopted in compression bridges in preference to any other form of curve. The requisite depth of the voussoirs may be demonstrated by passing a load along the lower line, EF, proportional to the extreme load that it will at any time be exposed to. Then the variation in the curve, ACB, will shew the variation in the line of pressure in the arch; and this should be included within the limits of the voussoirs.—I remain, Sir, yours, &c.,

March 16, 1846. A BRIDGE BUILDER.

FOREIGN ARCHITECTURAL AND COLLATERAL INTELLIGENCE.

Naples, 6th March.—According to an official report of the intendant of the province Messina—there have been discovered near *Patti* very interesting ruins of the ancient city of *Tyndaris*. They consist of an *orchestra* with two smaller and four larger rooms, the whole wall of the proscenium, a colonnade, seven fine marble columns (of two *modules* height—hind part flat), Mosaic floors, &c. That little-known picture of Raffaelle "La Madonna del Trono," in the Royal Palace of Naples, has been just copied by the painter Charles Ritter for the King of Prussia. It took the artist a twelvemonth to complete this masterpiece, which is appreciated here on all hands. The original and copy are both 8 feet by 5. It is believed, that Raffaelle painted it before the famous *Sposalizio*. The Madonna, splendidly attired, sits on a throne, overspread by a baldachin; the infant, also completely dressed, sits on her lap, and turns playfully to little St. John, who stands on one of the steps of the throne, and on whose head the Madonna lays her blessing hand. On the right is Peter and Catherine, on the left Paul and Barbara. Over the picture is a charming *lunette*, which although undoubtedly by Raffaelle, did not belong originally to the picture. It is to be hoped, that this only perfect copy of Ritter, will be instrumental in affording the public some good and sterling engravings of this fine work of the Urbinate.—The railway from Naples to Barletta has been mostly contracted for by an English company. But as Benevento, an *enclave* of the Pope, lies in the direction of this line, the Papal Government is throwing every impediment in the way it can. Even strangers who go to Benevento for viewing the triumphal arch of Trajan, complain of the annoyance they have to endure from the Romish *sbirri*, &c.—*German Paper.*

The Successors of Botta in Chorsabad (Assyria.)—The great fame and success of the French archæologist have stimulated the ambition of other travellers. Mr. Layard, who had lived for some years in Chusistan, and then at Constantinople, went some months ago to Mossul to collect Assyrian antiquities. He went first to the ruins of Nimrud, some leagues south of Mossul, where his excavations soon were rewarded by the discovery of basso-relievos and inscriptions. But the Pacha interrupted his exertions, as another had done with Botta, and instructions from head quarters are to be waited for. The most important late discoveries are, however, those of Botta's successor at Mossul, Mr. *Rouet*. He went into the mountains, and a peasant promised to shew him some wondrous cavern in the tier of Shenduck. After much toil they found no cavern—but a wall of rocks, on which four basso-relievos, each six feet by fifteen, were to be seen. According to the drawings sent by Mr. R., they resemble those found by Mr. *Texier* in Yesslikaya. Each contains nine figures, of which seven stand on different animals, as lions, dogs, horses, and the like. In the middle sits the king on a throne supported by apes. The dress is Assyrian, but as there are no inscriptions, the epoch of these monuments has not been yet ascertained. The rock on which these basso-relievos are engraven, forms an angle, and at the foot of these rocks lies a Chaldean village called *Malthai*. A mass of ruins extends over the adjacent country. Thus a new mine of architectural and archæological remnants has been discovered, likely to vie in richness with Egypt and Persia. Already that which has been found in Niniveh (Chorsabad), surpasses all that has ever been discovered in Persepolis.—*Allgemeine Zeitung.*

Atmospheric Railways in France.—It is most probable, that the French atmospheric lines will be constructed after the system of Mr. Hallette at Arras. According to the report of Mr. Segnier, read at one of the last meetings of the Institute, it is, besides some other advantages, the method of *closing the tube*, proposed by Mr. Hallette, which deserves commendation. The closing, namely, of the tube whence the air has been extracted, is *not* done (as chiefly proposed in England) by greased valves, but by smaller tubes of caoutchouc adequately inflated. These lie on both sides of the fissure of the main tube, and their inner segments close towards each other, which is effected by the air (both the outward, as that contained in them) pressing on the *vacuum* of the main tube. Mr. S. says, that to become convinced of that, he had water thrown on the India-rubber tubes, which, however, remained on them, without, in the least, penetrating into the main tube. As, however, the content of air in the smaller tubes is to be a *constant* one, every guard is to be provided with a small hand-pump, by which he can introduce the necessary quantity of air into the elastic tubes, which is indicated by a *manometer* placed in the inside.

Latest additions to the Louvre Gallery.—The following sculptures from Greece have been placed in the above collection:—A votive basso-relievo, representing Theseus, as protecting hero of Attica;—a fragment of a frieze on which is represented a scene of the war of the Amazons;—a votive basso-relievo from the Island of Creta; Jupiter with Europa, and Cadmus at their sides; a sepulchral *stele*, representing a young girl bidding farewell to her parents.—Of great historical interest are twelve marble fragments, with inscriptions from Mylasa in Caria. They contain some decrees issued by *Mausolus*, King of Caria—and belong, therefore, to the fourth century before the Christian era.

The Working Classes at Paris.—The establishment of *livrets* (small *agreement* books between master and man) has been so unpalatable to the working-men of the French metropolis, that Government have delayed their introduction until next year.

Floating Structures in the United States.—The city of New York possessed, some time since, floating hotels and taverns, and even a floating theatre—but lately even a floating manufactory has been established in the steamer *Ohio*, on the river of the same name. It is a glass-furnace, in which the work is mostly done in the night, while the ship is at anchor—the day being destined for selling the glass on the banks of the river, where passengers are also conveyed.

Canalization and Barrage of the Theiss in Hungary. — *Gaining of new land.* — Count *Secheny*, who had already distinguished himself in the establishing of the steam navigation of the Danube—has been able, at last, to obtain the necessary means for the canalization and barrage of the above river, the second next to the Danube in Hungary. A particular stress in these hydraulic constructions, is laid on the gaining of immense tracts of *new arable land* from the heaths and jungle of the banks of that river.—Lady *Secheny* also planted the first tree, of late, of the public parks and playground at Buda.

Splendid Jewish Temple at Berlin.— The portion of Jewish reformers of Dr. Sack's party, intend to build an edifice at the cost of 100,000 dollars in the Prussian metropolis.

Hierarchy of Railway Engineers in France.—The great works which are to be done on the line from Paris to Lyons have caused the following *systematization* to be resorted to. The *general direction* of the works is entrusted to Mr. Jullien, chief engineer of roads and bridges in the service of Government. Under his immediate orders are four superior engineers, acting in the capacity as *chief engineers*, to each of whom one of the great sections of

the line is given. Each of these chiefs of section has under his orders other engineers and conductors from the Department of Roads and Bridges—all of whom have obtained from the Secretary of State of Public Works especial permission to enter the service of the company. It is by these means that it is hoped that the utmost excellence and solidity will be imparted to this extensive and important line. —*Journal des Débats.* J. L——Y.

NOTES IN THE PROVINCES.

A NEW church is about to be erected at Merthyr, and it is expected that the Marquis of Bute will lay the first stone within a few days.——On the 22nd ult., divine worship was celebrated for the last time in the old parish church of Trevethin, near Pontypool. The venerable edifice is forthwith to be demolished, and on its site a new and extensive church, from a design of Mr. Wyatt, the diocesan architect, will be erected.——Last week the new mill at Cyfarthfa iron-works was opened with considerable *éclat*. The building covers 34,800 superficial feet, has twenty puddling and ten balling furnaces, and is worked by a steam-engine of 240-horse power. The roofing is not less than 312 squares of 100 feet each.——The cemetery in connection with the Dissenters, at Gainsbro', Yorkshire, is nearly completed. The laying of the grounds, &c., has been intrusted to Mr. Stent.——The cemetery at Southampton being completed, the consecration is fixed for the 7th of May, when the bishop of the diocese will officiate.—Mr. Bridges has commenced erecting the additional wing of the Cirencester Royal Agricultural College. It is expected that it will be finished by the autumn.——The parish church of Hinton Saint Mary, near Sturminster Newton, Dorset, is to be taken down and rebuilt in the course of the ensuing summer. ——The foundation-stone of a new church at Widcombe, Bath, will shortly be laid. The site is immediately below Cambridge-place. The style of architecture will be the early English; and a spire of considerable height will render the church a prominent addition to the architectural attractions of the neighbourhood.——The Marquis of Downshire has subscribed the sum of 1,200*l.* to the funds of a new fever hospital, which has been erected at Hillsborough, chiefly at the cost of the Downshire family. The noble marquis has also promised a liberal annual subscription to the corporation, constituted by the Act of George III., for establishing fever hospitals in Ireland. —— The Lichfield Church Building Society has lately voted the following grants:—for a church at Cotmanhay, in the parish of Ilkeston, 570*l.*; for a church at Ideridgehay, in the parish of Wirksworth, 150*l.*; for rebuilding and enlarging the church at Birmington, 200*l.*; for a parsonage-house af Hazleton, 200*l.*; for a parsonage-house at Clifton, 200*l.*; for a parsonage-house at Whitfield, in Glossop, 200*l.* ——Measures are now in active progress for the erection of the first two out of the four sets of public baths contemplated in Birmingham, one near the north, the other near the south side of the town.——Steps have been taken to enlarge, repew, and renovate the parish church of Liddington, near Swindon, Wilts, and which improvements, it is expected, will be made in the course of the ensuing summer.——It is intended to rebuild the parish church of Wambrook, near Chard, at an expense of about 1,000*l.*, rendered necessary in consequence of the dilapidated state of the present edifice, and the insufficiency of the accommodation afforded therein.——The authorities at Hull have lately had their attention drawn to a plan for a new market, designed by Mr. W. H. Burnett, of London, and which, he states, possesses many advantages over those hitherto proposed, such as a central position; a great architectural improvement to the town by making fine outlets on the Beverley and Anlaby Roads; a benefit to property generally; great pecuniary advantages to the corporation. ——The largest and most powerful steam-hammer which Mr. J. Nasmyth has as yet constructed, was by him set to work last Saturday week at Sir John Guest's extensive iron works at Dowlais. The hammer or block of cast-iron, which gives the blow to the iron on the anvil, is upwards of six tons weight, with a clear fall of seven feet perpendicular. The anvil itself is supposed to be the largest casting in the world, being no less than thirty-six tons in one solid mass.—— The late managing director of the Eastern Counties Railway, Richard Hall, Esq., is about to erect a commodious and substantial hotel, having architectural pretensions, on a site contiguous to Bow Creek, and belonging to the Thames Junction Railway Company.——An accident similar to those at Pimlico and the British Museum, to which we referred a few weeks since, occurred lately at Portsmouth Dockyard. A chain guy of one of the derricks, which are used for lowering or raising the stones, broke, and the end striking one of the carpenters named Cooke, dashed in his skull and killed him instantly, precipitating his body at the same time into the bottom of the excavation, about twenty-six feet deep.

THE BRITISH MUSEUM.

A RECENT parliamentary return gives the following particulars:—The receipts in the year ending Christmas, 1845, amounted to 46,968*l.* 8s. 10d., including 41,721*l.* 2s. 6d., on account of the parliamentary grants of the two last years. The estimated expenditure for the year was—for salaries, 18,799*l.*; for house expenses, 1,968*l.*; for purchases and acquisitions, 12,951*l.*; for book-binding, cabinets, &c., 6,259*l.*; for printing catalogues and making casts, &c., 3,766*l.*; for miscellaneous expenses, 146*l.*; and for redemption of land-tax on property recently acquired, 2,777*l.*—total 46,669*l.* The actual expenditure was 43,821*l.*; leaving a balance in hand of 3,147*l.* The estimated expenditure of the current year is 47,850*l.*; and the sum proposed to be voted by parliament, 45,406*l.* The special parliamentary grants made during the year, together with a balance remaining from those of 1844, have been chiefly applied as follows:—1,095*l.* in the purchase of books from the libraries of the Duke of Sussex, Mr. Bright, and Robert Southey, Esq.; 1,387*l.* in conveying the Xanthian marbles to England; 1,000*l.* in the purchase from M. de Falconnet of a collection of fossils from Buenos Ayres; 2,830*l.* paid for a collection of prints of the early German masters; 4,875*l.* for the purchase of a collection of the works of early Italian designers and engravers; and 330*l.* paid on account of classifying and preparing fossils from the Sub-Himalayan Mountains.—Total, 11,518*l.*

Visitors.—The number of persons admitted to view the general collections exhibits a steady increase, having been, during each of the last three years, as under:—

1843	517,440
1844	575,758
1845	685,614

Number of visits made to the reading-rooms, for the purpose of study or research, about 1,950 in 1810; 4,300 in 1815; 8,820 in 1820; 22,800 in 1825; 31,200 in 1830; 63,466 in 1835; 67,542 in 1840; 69,303 in 1841; 71,706 in 1842; 70,931 in 1843; 67,511 in 1844; 64,427 in 1845.

Number of visits, by artists and students, to the galleries of sculpture, for the purpose of study, about 4,938 in 1831; 6,081 in 1835; 6,354 in 1840; 5,655 in 1841; 5,627 in 1842; 4,907 in 1843; 5,436 in 1844; 4,256 in 1845.

Number of visits made to the print room, about 4,400 in 1832; 1,065 in 1835; 6,717 in 1840; 7,744 in 1841; 8,781 in 1842; 8,162 in 1843; 8,998 in 1844; 5,904 in 1845.

COMPETITION: LEED'S INDUSTRIAL SCHOOLS.

THE guardians of the Leeds poor having determined to erect an industrial school, offered two premiums of 30*l.* and 15*l.* for the best and second best plans sent in, and appointed Mr. Waller, of Huddersfield, and Mr. Parker, of Manchester, both architects, to decide on the respective merits of the designs. Those gentlemen have awarded the first prize to Mr. Joseph Thompson, of Leeds, and the second to Mr. C. W. Burleigh. The style of Mr. Thompson's plan is Elizabethan, that of Mr. Burleigh is the English domestic of the fourteenth century. The school is to accommodate 160 boys, 160 girls, and 80 infants. The estimated cost of the successful design is 10,000*l.*

DELAY AT THE NEW HOUSES OF PARLIAMENT.

THE readers of THE BUILDER are aware of the manner in which the works have been delayed at the new Houses, through the differences that exist between Mr. Barry and Dr. Reid. On Tuesday the Marquis of Clanricarde rose to move an address to the Crown on the subject, so far as related to that portion of the new buildings which was exclusively to be devoted to the service of the peers. His lordship said, the state of the case was simply this. For the last nine months the works, so far as regarded their lordships' house, had been at a complete stand-still. Their lordships might be surprised to hear this; but the fact was quite notorious, and the committee had reported upon it. The delay, he understood, had originated out of the differences which had arisen between the persons employed in the execution of the works. The architect entrusted with the plan and the superintendence of the structure, and the scientific gentlemen engaged in the arrangements for the ventilation and warming of the two houses, had differed, and the consequence was, that there had been a total stop in those great works. The committee had not undertaken to settle those differences; they were not even competent to do so. They considered it was the Queen's palace, in the hands of the executive Government, and that they had no right to give any order as to the works connected with it. What they required was an interference, to make both parties do what it was their duty to do, and effect the speedy and immediate completion of the work with which they were entrusted. The works had been all along proceeding under peculiar circumstances; the commission that met at first had nothing more to do after the selection of the plan, and he regretted that no separate commission or body had been afterwards appointed to superintend the construction. The committee that had been appointed to inquire into the progress of the building, had no power to do any thing else, and had hitherto been useless as to the one point their lordships wished to effect,—the expediting the completion of the work. It now became necessary to call on the supreme authority to interpose, for the purpose of accelerating the progress of the building.

Viscount Canning opposed the motion in the absence of the evidence on which the report of the committee was founded. The Duke of Wellington and Lord Lansdowne wished the motion postponed, and it was finally resolved that the address should not be voted immediately, as the evidence of the committee on the subject was not yet printed, and that the discussion should be adjourned till after Easter.

Lord Clanricarde when replying, said what he wanted was, that the Government should direct the Board of Works to see the existing differences as to the building settled, not by arbitration, but by a specific order.

THE LATE MR. LOUDON.

THE pension of 100*l.* per annum recently granted by her Majesty to the widow of the estimable author of the "Cyclopædia of Cottage and Villa Architecture, &c.," is most worthily bestowed. The value of Mr. Loudon's numerous writings and the good effected by them, every one is aware of, but the constant and efficient assistance afforded by Mrs. Loudon during their progress, her unremitting labour, are not so well known. We sincerely trust she may live long to enjoy it, and to receive a proper return from her late husband's works.

DESIGNS FOR THE FISHMONGERS' AND POULTERERS' ASYLUM.—The designs submitted in competition for this building, will be exhibited to the public on Friday 3rd, and (this) Saturday 4th, at the London Coffee House, Ludgate-hill.

THE NEW THEATRE AT MANCHESTER.—This building narrowly escaped entire destruction by fire, on Monday night last during the performances. The building was saved by the supply of water from the extensive reservoirs noticed in our former description.*

* *Vide* Vol. III., p. 492.

LIVERPOOL.

The Liverpool and Harrington Water Works Bill, now before Parliament, has called forth a most determined opposition to its passing. The feeling at Liverpool is, that under the plea of carrying out the views of Government with respect to the sanatory condition of the town, the company are endeavouring to invest themselves with extraordinary powers of taxation for their own benefit. Among other good things, they contemplate a dividend of 10*l.* per cent., and to render their investments safe and their profits certain, a provision is made to the effect, that in supplying the houses of the poor, payments may be required in advance. A requisition has been presented to the mayor, requesting him to call a public meeting on the subject.——It is expected that the town will be honoured by the presence of his royal highness Prince Albert on the event of laying the foundation-stone of "The Sailor's Home." The site selected for the edifice is a vacant piece of ground opposite the post office.——The grand jury last week ignored the Bill against Mr. Joseph Howell, who had been committed for trial under the coroner's inquisition, on a charge of manslaughter, arising out of his alleged negligence in the superintendence of the construction of the tank which burst some weeks since, and to which we adverted at length at the time.——Great preparations are being made at the Zoological Gardens for the approaching season. Among other things a covered saloon is being erected to contain 4,000 persons.

New Books.

Sporting Architecture. By Geo. Tattersall, Surveyor. London: Ackermann, Regent-street.

The work before us contains a large amount of information, on a subject which has received comparatively little attention. The name of Tattersall seems to shew the author's right by descent to approach it, and gives considerable weight to the opinions he expresses. We cannot introduce the book to our readers' notice better, than by quoting Mr. Tattersall's prefatory remarks:—

"The first and best of all architectural beauties is fitness. The true and ready adaptation of the means to the end. The perfection of a purpose.

External decoration, and display in elevation only, are but subordinate departments of the art. The architect's first care should always be, to attain as nearly as may be possible, to the perfection of convenience in the plan.

Of all the various departments of the builders' art, none has so suffered from the carelessness or prejudice of ages, as that which gives the title to this treatise.

The man who would provide himself a house describes his wants, points out his purposes, and makes his meaning plain. But it is only by a close and intimate acquaintance with the nature and the habits of the animal, that the designer of a dwelling for the dumb creation can succeed in rendering it such as may be the most conducive to their *comfort*, which carries with it what is even of more consequence, their *health*. Hitherto, however, this care has been considered as unworthy the attention of the professional artist; and animals of great value have either been kept in places rendered wholly unfit for them, by the carelessness of the architect, or consigned to the tender mercies of some country carpenter.

To rescue, then, if it be possible, this subject from the errors of ignorance, or the omissions of neglect; to raise it in the estimation of my readers to the consideration due to its importance; and to point out the methods whereby an outlay, frequently incurred to little purpose, may be expended to the best advantage, will be the object of the following pages."

The contents include, 1, the stud-farm; 2, the stall; 3, the kennel; and 4, race-stands, and are illustrated by forty-three engravings, such as designs for boxes, hovels, stables, kennels, and "grand stands." Not the least interesting part of the work is an original communication from "Nimrod," on hunting-stables. Many of our readers will find the book useful.

A Concise Glossary of Terms used in Grecian, Roman, and Gothic Architecture, abridged from the fourth edition of the large work. Oxford: J. H. Parker, 1846.

A short time ago we spoke in terms of commendation, of the Oxford Glossary, and described its gradual increase in size as well as value. The cost was necessarily increased too, and we are therefore glad, for the sake of a large body of readers, who might desire to possess an authentic book of reference on the subject, and yet not be sufficiently interested to expend 2*l.* 8s. for it, that the publisher has been led to issue this excellent abridgment at about one seventh of that sum. It is beautifully printed, and is illustrated by 440 woodcuts.

Correspondence.

FORM OF CURB-STONES.—IRON DRAINS.

Sir,—I admire the form of the curb-stone in your last number, but I think if it were made of cast-iron instead of stone, it would be more durable, would not be so liable to be fractured or injured by the traffic, and being perfectly smooth inside, would afford greater facilities for the free passage of the surface water, and the fluid sediment from the street. The upper surface of the curbing might be roughed, so as to prevent its being slippery to foot passengers. If iron culverts were adopted for sewers, they would be capable of discharging a greater quantity of fluid than sewers of a similar capacity of the ordinary construction, in consequence of the friction and resistance fluid bodies experience in their passage over a rough and irregular surface, such as an invert of brickwork or masonry.

Besides, sediment would not be so liable to accumulate in them.

I have made culverts both of cast and wrought-iron, and I consider they can be economically, efficiently, and expeditiously constructed.—I am, Sir, yours, &c., B. B.

Merthyr Tydfil.

DUTY ON BRICKS.

Sir,—I quite coincide with Mr. Nelson, in the view he has taken regarding the duty on bricks, as appeared by his letter in your journal of February 7th, and I have been anticipating some further notice would be taken of it, in accordance with his suggestion, that petitions to the legislature should immediately be prepared for its repeal. The importance of it must be more particularly felt at this time, by those, who from the favourable state of the weather and a prospect of its continuance, had commenced making bricks before the frosts of the past week, the occurrence of which has destroyed thousands, the loss thus occasioned being not only the labour, but the duty, which must be paid on them; nothing can prove more the injustice of the present system, and I do trust the matter will be taken up, and agitated by those most immediately concerned till it is repealed. I shall be happy to give my assistance and co-operation, in any plan for that purpose. I inclose my address with that view,

And remain, Sir, &c.,

A Brickmaker.

Isle of Wight, March 24th, 1846.

VENEERED HANDRAILS.

Sir,—I shall be glad if one of your London correspondents will give me a description of the method of making veneered handrails, which in Laxton's price-book are said to be "a beautiful improvement in modern joinery, and to possess the following advantages:—

"No heading joint appears or is possible to be seen, no matter how long the rail.

"They supersede the necessity of glueing up in thicknesses, and are much stronger."

I am, Sir, &c.

Newcastle-on-Tyne. A Joiner.

Sale of Architectural Books and Prints.—Some of our readers may thank us for directing their attention to the sale of part of Mr. Britton's library advertised in another part of the paper, to take place on Monday and following days, at Mr. Fletcher's room in Piccadilly. It embraces a large number of useful and important books and some excellent drawings.

Miscellanea.

Window Duty.—Capt. Pechell (Brighton) has obtained an account (lately printed) of the amount of the window duty paid in each of the last six years, as also of the twelve towns paying the largest amount of window duty. The following results appear in the first branch of the return, ending on the 5th April in each year:—In 1840, the duty was 1,486,023*l.*; in 1841, 1,774,638*l.*; in 1842, 1,775,151*l.*; in 1843, 1,776,789*l.*; in 1844, 1,786,514*l.*; and in 1845, 1,812,035*l.* The twelve towns mentioned are Bath, Birmingham, Brighton, Bristol, Cheltenham, Clifton, Leeds, Liverpool, Manchester, Newcastle-on-Tyne, Norwich, Plymouth, and York. The following sums appear for the year ending on the 5th April, opposite the towns stated:—21,722*l.*, 10,715*l.*, 16,191*l.*, 14,955*l.*, 7,208*l.*, 8,430*l.*, 7,999*l.*, 29,929*l.*, 20,384*l.*, 5,990*l.*, 6,571*l.*, and 11,484*l.* It will be seen that the largest amount was paid by Liverpool (the eighth town), 29,929*l.*; and the smallest by Newcastle (the tenth), of 5,990*l.*

A Caution to Carpenters, &c.—The origin of a most destructive fire that occurred last week at the University Printing Office, Edinburgh, has been traced to the following fact:—A carpenter, having occasion to bore some joists, for the purpose of putting through an iron bar to enhance the strength of an upper flat, used for so doing a red-hot iron, which ignited some portion of the adjoining wood-work. It appears, that a considerable time elapsed between the operation referred to and the breaking out of the fire, but that during this period the presence of smoke had been observed heedlessly by some persons on the premises.

Railway Towns.—It is proposed, in connection with the Croydon Railway, to provide habitations for the working classes at Croydon, under the following plan:—Ten villages are to be built, containing in each 500 cottage residences, with seven persons to each cottage, so that each village will contain 35,000 inhabitants of workmen, and in the ten villages together, 350,000 people. One village will cover 500 acres. It is said the Croydon Company, represented by Mr. Wilkinson, have entered into an agreement to allow the members of these villages to be carried the whole length of the Croydon Railway, ten miles and a-half, at three half-pence per head.—*Surrey Advertiser.*

Railway Gradients.—On the Hartlepool Railway there is a gradient of 1 in 34 for 1¼ miles in extent. This railway is 12¼ miles long, and rises 450 feet in that distance. The traffic on this line is considerable, consisting of passengers, merchandise, and minerals, and the locomotive engines regularly ascend that severe incline, with from thirty-five to forty tons, at the rate of from twenty-five to thirty miles per hour.

Supply of Water, Bristol.—There are two schemes at present before Parliament for supplying Bristol and its neighbourhood with a plentiful supply of pure water. It will be remembered that the deficiency of water in this city was the subject of much comment by the Government Commissioners for inquiring into the sanatory state of large towns and populous districts.

Strike amongst the Scotch Quarriers.—At the Marylebone vestry, on Saturday, Mr. Freeman, who contracted to supply the parish with 2,000 tons of granite, stated that he could not fulfil the contract under 600*l.* loss. This difficulty was imposed upon Mr. Freeman by a strike amongst the Scotch quarrymen.

Squaring the Circle.—A party is said to have died, leaving the sum of 100,000*l.* in trust, to the then Lord Chancellor, for the benefit of the individual who should clearly demonstrate the square of the circle; the interest, until the condition of the will is complied with, to be paid to one of the colleges at Cambridge.

Wood Pavement.—The City Commissioners of Sewers decided last week, by forty votes to one, that Newgate-street should be paved with granite, and that the street should be closed for that purpose for three weeks.

Works of Living French Artists.—The annual exhibition at the Louvre opened on the 16th ult. 2,500 works are exhibited and 2,300 have been returned. This is the seventy-ninth exhibition.

SOCIETY OF ANTIQUARIES.—On Thursday night last, to ballot for the election of Mr. Vaux, who was blackballed a few weeks ago, there was an unusually strong muster of members, including many who have not shewn themselves for many, many, months. The numbers were ayes 87, noes 33; and the chairman, Mr. Hallam declared him duly elected. There will be no meeting before the anniversary,—the 23rd inst., when, as it much imports the welfare of the society, due consideration should be given to obtain an efficient council.

NEW HISTORY OF ARCHITECTURE.—The March number of Knight's cheap "Pictorial Gallery of Arts," contains the commencement of an illustrated history of architecture. The current number brings it down to the Roman period, and affords a large amount of useful information.

MEETINGS OF SCIENTIFIC BODIES

During the ensuing week.

MONDAY, April 6. — Chemical (Society of Arts,) Adelphi, 8 P.M.

TUESDAY, 7. — Civil Engineers, 25, Great George-street, 8 P.M.; Linnæan, Soho-square, 8 P.M.

WEDNESDAY, 8.—Geological, Somerset House, 8½ P.M.; Graphic, Thatched House Tavern, 8 P.M.; Society of Arts, Adelphi, 8 P.M.; Royal Literary Fund, 3 P.M.

THURSDAY, 9.—R. S. Literature, 4, St. Martin's-place, 4 P.M.

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For the performance of sundry works required in the repairs and alterations of Tavistock Chapel, Broad-court, Drury-lane.

For executing the works of the second division of the Waterford and Kilkenny Railway, being a distance of about 2½ miles.

For building sewers in Falcon-street, and Castle-street, Falcon-square, within the city of London.

For the execution of a station, building, and other works, at Ingatestone; and also for an engine-shed, at Cambridge, for the Eastern Counties' Railway Company.

For the erection of the Blackheath Trinity District Schools.

For the building of a new workhouse at Ashbourne, Derby.

For rebuilding Shalford Church, near Guildford.

For maintenance of the permanent way between the Derby, Nottingham, and Rugby stations of the Midland Railway.

For building a mansion and offices, at Exning Hall, Suffolk.

For the erection of a building for the Sussex and Brighton Eye Infirmary.

For the erection of a concrete wall on Brighton Beach, between the eastern end of the Western Esplanade and West-street.

For pulling down and rebuilding the parish church of South Fambridge, near Rochford, Essex.

For the erection of the station-houses and gate-lodges on the Lynn and Dereham Railway.

For the erection of station-houses and gate-lodges upon contract No. 1, on the Lynn and Ely Railway.

COMPETITION.

The directors of the Church of England cemetery, Birmingham, are ready to receive designs for the laying out and ornamenting their grounds at Warstone, and also for the erection of a chapel, entrance-lodge, &c. Buildings in the Saxon or Gothic styles will be preferred. A premium of twenty guineas will be given for the design most approved of, and one of ten guineas for the second.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At the Spark House, Dean Forest, Gloucestershire: a very large assortment of oak timber trees.

At Sheering Hall Farm, Essex: 150 fine ash and elm timber trees, of excellent quality and large dimensions.

At Bampton Wood, Cambridge: about 400 very good oak timber trees, a few double-tall oaks and poplars.

At Great Hadham, Herts: 110 capital oak timber-trees, 11 fine ash, 15 elm, and upwards of 600 excellent larch fir trees.

At the King's Head Inn, Loughton, Essex: 500 teak, ash, and elm, timber-trees, of extraordinary growth and quality, chiefly from 40 to 70 feet metings.

At the Angel Inn, Tunbridge, Kent: about 270 oak trees.

At the Swan Inn, Olney, Bucks: about 300 straight and clear oak timber trees, of very superior quality, varying from 50 to 250 feet in the trunk.

At Garraway's Coffee House, Cornhill: about 200 loads of Moulmein teak, in log and plank, and 78 loads of Adriatic oak.

At the Anchor Inn, Redbridge, Hants: several lots of splendid oak timber trees, now standing.

At the Fleur-de-Lis Inn, Cranburne, Dorset: 318 oak and ash timber trees, of large dimensions, and very sound.

At Balance Wood, Helions Bumpstead, Essex: 300 capital fir trees, of 40 years' growth, and 100 beech ditto.

TO CORRESPONDENTS.

"Ipswich Station, Competition." — *A correspondent wishes to know why the drawings of the seventeen unsuccessful competitors are retained?*

"W. J. N."—*We will seek an opportunity to inspect the drawings.*

"A Subscriber."—*The joists may not be laid into the party-wall. The Act forbids.*

"A Young Carpenter."—*We do not know of an architectural school in the vicinity of Regent-street.*

"B. B." (Paternoster-row).—*See page 87 of our last volume.*

"A. Z."—*The suggestion shall be attended to.*

"Sigma." — *The subscriber had no right to copy the drawings. We fear there is no legal remedy.*

"R. L."—*The inquiry is too vague for us to reply to.*

"B. B."—*Thanks.*

"M. B."—*Declined with thanks.*

"Delta." — *For particulars respecting the Church of England Cemetery at Birmingham; address C. Couchman, Esq., Surveyor, Waterloo-street, Birmingham.*

"J. L.," "W. G. Lock."—*Next week.*

Received: "T. W.," "Member of the Profession," "Fair Play," "A. Alder," T. W. J.," "Dolman's Magazine," for April; "Old England's Worthies," Part III (Knight); "The Law and Practice of Patents," by S. Billing, Barrister at Law, and Alex. Prince (Benning, Fleet-street); "The Archæological Journal" for March (Longman and Co., London).

ADVERTISEMENTS.

FIRE BRICKS.

W. WARD, Honduras Wharf, Bankside, and St. Michael's-alley, Cornhill, has just landed a large quantity of his very superior manufactured Fire Bricks, of Stourbridge, Welsh, and Newcastle. Prices very low. Shipments made for the East and West Indies, &c., with the greatest promptness. Gas companies, engineers, builders, and all large consumers supplied from ships in the river at a much lower price. A very large stock on hand of Bricks, Lumps, Tiles, and Clays.

River sand and gravel by freight to any wharf and dock.

PETITION OF THE SOCIETY OF MASTER CARPENTERS.

The humble Petition of the Society of Master Carpenters, Sheweth,—That your Petitioners are extensively engaged in buildings of almost every class, rate, and description, principally within the range of the present Buildings Bill, the 7th & 8th of Vic. c. 84.

That during the progress of this Bill through Parliament, your Petitioners from time to time suggested such alterations and improvements in the said Bill as appeared to your Petitioners expedient and useful as to its provisions and enactments; yet they regret to say that their recommendations and suggestions met with but partial success.

Your Petitioners have been informed that a Bill is now before your honourable House to amend that part of the present Act relating to the appointment of referees. Your Petitioners most respectfully represent to your honourable House the inexpediency of patching up this very objectionable part of the Buildings Act; that the regulations as regards office of referees ought to be very materially revised, and that the office of registrar ought to be entirely abolished; this part of the Act tending greatly to promote unnecessary litigation, great inconvenience, much delay and annoyance as to costs and charges.

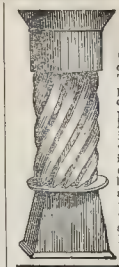
Your Petitioners, since the passing of the Act, have paid great attention to its working; and, from their personal experience, as well as from information derived from every quarter, they beg most respectfully to represent that the Bill, as regards the regulation of buildings, is a most decided failure, being uncertain as to its intentions, useless in many of its provisions, oppressive in its operations, and expensive in its administration. Your Petitioners therefore humbly pray your honourable House will take into its earliest consideration the whole of the present Buildings Bill, the 7th & 8th Vic., c. 84, and that the same may be altered, revised, or repealed, as may seem to your honourable House to be most advisable; and, further, that your Petitioners may, by themselves or their counsel, be heard at the bar of your honourable House.—And your Petitioners will ever pray, &c.

By order and on behalf of the Society of Master Carpenters,

HUGH BIERS, President.

Dated this 12th March, 1846.

Presented to the House of Commons by JOSEPH HUME, Esq., 16th March, 1846.



WILSON'S PATENT VENTILATING SPIRAL CHIMNEY POT, for the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success. This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance. The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory, Southwark-bridge Iron Roofing Works.

PUBLICATIONS.

CHEAP EDITION.

Now ready, in a wrapper, price 2s. 6d.; or 4s. 6d. neatly bound in roan, with tuck, gilt edges, and lettered, a Pocket Edition of

A CYCLOPÆDIA of the NEW METROPOLITAN BUILDINGS ACT, together with the Act itself, a Folio Table of the Metropolitan Districts (old and new), a List of the Surveyors, with their Residences and Offices revised to present time, and a Table of Fees to be paid to the Registrar for services performed.

By the late A. BARTHOLOMEW, Esq., F.S.A., Architect, Surveyor of the Hornsey District.

The favour shewn by the Public to the First Edition of this CYCLOPÆDIA of the METROPOLITAN BUILDINGS ACT has induced the Proprietors to issue a Second, in a much cheaper form. Although a revision of the Act is spoken of as probable, it is quite certain that some time must elapse before any alteration can be made in it. There is no edition of the Act that affords such ready means of reference to all its various clauses as this does; and it is thought, therefore, that accommodation will be afforded to a large class, by publishing it at so small a cost that all may possess it.

Published at the Office of "The Builder," 2, York-street, Covent-garden; and to be had of all Booksellers.

Just Published, in royal 18mo. pp. 36, with Illustrations, price One Shilling.

PRACTICAL OBSERVATIONS on the VENTILATION of GAS-LIGHTS, by J. O. N. RUTTER, F.R.A.S.

The design of this publication is to assist in promoting the use of gas, by explaining the general principles of ventilation, why it is necessary, and the means whereby it can be effected. A single copy will be sent free, on application to the Author, Black Rock, Brighton, in return for sixteen postage stamps. By the same Author, in 32mo. pp. 32, gilt edges, price—2,000 copies, 11*l.*—1,000 ditto, 6*l.*—500 ditto, 3*l.* 5*s.*—any number less than 500, at 15*s.* per 100.

ADVANTAGES of GAS-LIGHT in PRIVATE HOUSES.—JOHN W. PARKER, West Strand, London, and all other Booksellers.

This little book (of which 46,000 copies have been sold), is intended for gratuitous distribution by Gas Companies, and the Manufacturers of Fittings and other GAS Apparatus.

HOLBORN AND FINSBURY SEWERS, MIDDLESEX.

THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persons about to Purchase or Rent Houses or Property, or to Let Land for Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Persons to apply for at the above Office.

By the Court,

STABLE and LUSH, Clerks.

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDDLESEX, No. 1, Greek-street, Soho-square.

TO BUILDERS and Others interested in buildings or in ground for building upon, within the district under the jurisdiction of this Court, drained by watercourses falling into the river Thames, between the city of London and the parish of Fulham.

The Commissioners hereby give notice, that by an Act of the 47th Geo. III. (chap. 7, local) it is required that, previously to the making of any new sewer in any street, lane, or public way, or in any part intended to become a street, lane, or public way, or to carry or drain off water from any house, building, yard, or ground, into any sewer under their management, or within their jurisdiction, a notice in writing shall be given to them, or to their clerk at their office, and that such new sewer or sewers shall be constructed and made in such manner and form as shall be directed by the said Commissioners, and not otherwise.

And, in order to prevent the serious evils and inconveniences that must arise from ground proposed to be built upon being excavated at too great a depth, the Commissioners have directed that, upon application being made at this office previously to the excavation of such ground, information shall be given as to the lowest depth at which the same can be drained.

And the Commissioners do also give notice that, whenever the lower floors or pavements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any sewers, or drains into sewers, to be made for the service of such buildings.

It is recommended to all persons about to purchase or take houses, or other premises, to ascertain whether such premises have separate and distinct drains into common sewers.

All petitions must be delivered at this office at least three clear days before they are presented to the Commissioners; and all such petitions will be called on in the order of their application, and the name of any party not present when called on to support the application will be struck out, and the proceedings must in consequence be commenced de novo.

All communications made with any sewer without leave of the Commissioners will be cut off, and the parties making the same will subject themselves to a fine.

The provisions of the Metropolitan Buildings Act (7 and 8 Victoria, c. 84) do not supersede the authority of the Commissioners of Sewers in the above respects, but their powers are expressly reserved, and their regulations made subservient to the purposes of that Act. The execution of such works, under the superintendence of the district surveyor alone, cannot therefore warrant the making of any sewers or drains within this commission, nor relieve the parties making them from the penalties above mentioned.

By order of the Court,

LEWIS C. HERTSLET, Clerk.

PORTER'S CORRUGATED, and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanising Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway, and other Iron and Smith's work Manufactured of the best quality. Iron Fence and Hurdles as usual —The Trade Supplied.

MOREWOOD AND ROGERS' PATENT GALVANIZED TINNED IRON.

T. W. BEALE begs to acquaint the public that he is prepared to lay roofing, plain or corrugated, fix pipes, gutters, &c. Also chimney-tops and ventilating cowls of every description; also water and oil cisterns, of this incorrodible and fireproof metal. He manufactures all kinds of baths, as hip, shower, Roman, open, slipper, sponging, foot, children's, and self-heating baths; also toilet-cans and pails, slop-pails, coal-scuttles, cash and deed-boxes, and fire-proof safes of every description, 10 per cent. cheaper than any house in London.

The PATENT GALVANIZED TINNED IRON is applicable to the following uses:—The Lining of Ships' Store Rooms, Ships' Water Buckets, Water Jugs and Receivers, and for almost every purpose to which zinc, tin, copper, brass, or any other metal is now applied; is more durable, and manufactured at much less expense. An experienced workman sent to any part of the kingdom. All orders punctually attended to. For particulars, apply to T. W. BEALE, 46, Bridge House-place, Newington Causeway.



PATENT GALVANISED TINNED IRON, (MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and water-closets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 9oz. to any required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quick-set-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

SIR WILLIAM BURNETT'S PATENT for the Preservation of Timber, Canvas, Cordage, Cotton, Woollen, &c., from Decay.

TESTIMONIALS.

From THOMAS GRAHAM, Esq., M.A.,F.R.S., L. and E., Professor of Chemistry, University College, London.

"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.

"The wood appears to be fully and deeply penetrated by the metallic salt, I have found it in the centre of a large prepared paving block.

"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the crystallizable salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.

"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Teplin's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer to its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotised principles it contains, by catering into chemical combination with them.

(Signed) "THOMAS GRAHAM."

"University College, 25th October, 1845.

From Professors BRANDE and COOPER.

"London, 4th November, 1845.

"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.

"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.

"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.

"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound. (Signed) "WILLIAM THOMAS BRANDE,

"JOHN THOMAS COOPER."

"To Sir William Burnett, K.C.H., F.R.S., &c. &c."

Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 53, King William-street, London-bridge.

PREPARED FLOORING BOARDS.

AT REDUCED PRICES.

ALWAYS ON SALE, a LARGE ASSORTMENT of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¼ inch to 1¼ inch thick. Rough Boarding for Flats.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Smith-street, Westminster.

PREPARED FLOORING BOARDS

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, and Old-Barge-Wharf, Upper Ground-street, Blackfriars, a very large stock of well-seasoned Floor Boards of every variety.

A. R., in calling the attention of builders and consumers, confidently presumes on his being able to supply them on such advantageous terms, as will ensure and merit their favours and approbation.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above.

N.B.—A weighbridge on the premises.

MUIR'S PATENT  PLANING MACHINERY.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM, Saw Mills, Gillingham-street, Pimlico.

THE GENERAL WOOD CUTTING COMPANY, TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.—SAWING in all its branches executed with the greatest precision and despatch. PLANING by the most approved Machinery, reducing the Boards to a parallel width and thickness, and grooving or matching with undeviating accuracy. The operation economizes time, money, and material.

SAW MILLS.

Grand Surrey Canal and Commercial Sawing and Planing Mills, near Plough Bridge, Rotherhithe, immediately adjoining the East Country and Commercial Docks, on the banks of the Surrey Canal, communicating with the Thames.

TIMBER MERCHANTS, BUILDERS, PACKING-CASE MAKERS, Consumers of thin Stuff, and the Trade in general, are respectfully informed that these capacious and convenient SAW MILLS will resume work in a few days, having undergone a complete reorganization in its SAWING and PLANING MACHINERY. New boilers of greater power (replacing the old ones), the engines thoroughly put in the best working order, with increased speed, and all done under the direction and inspection of eminent engineers, enabling the Proprietors, by their increased power, to compete with, and complete as large a quantity of work as any SAW MILLS of their size in the metropolis, with the utmost punctuality, and in first-rate style, UPON THE MOST REASONABLE TERMS.

The machinery consists of SIX FRAMES (two of which will saw 30 inches deep), one Planing and Grooving Machine, One Veneer Saw, One Scale-board Machine, and several Circular Saw Benches.

MERCHANTS will find these SAW MILLS admirably situated for shipping goods cut in bond for exportation, being the nearest SAW MILLS to the principal docks.

Spacious water, and high road frontage, with an extensive WHARF and SHEDS for piling deals, &c.

For the convenience of the trade, &c., at the west end of London and its vicinity, all orders sent to

HENRY JACOBS, 35, SURREY-STREET, STRAND,

will be immediately attended to. For cards, and list of prices, inquire at the office of "The Builder," and at the SAW MILLS.

These SAW MILLS are but five minutes' walk from the Commercial Docks Pier. The Woolwich, Diamond-Funnel, and the Old Greenwich Company's Steam-boats, to and from the west end and city, call at the Thames Tunnel and Commercial Docks Pier four times an hour.

Rotherhithe omnibuses from Gracechurch-street, City, take passengers within five minutes' walk of the SAW MILLS, a quarter before, and a quarter after every hour.

WANTED, some first-rate workmen; applications from them, by letter, will be preferred.

TO GRAINERS.

THE Inventor, in introducing this Newly-discovered Liquid to the Trade, begs leave to mention, that for some time past his attention has been drawn to the Manufacturing of an article of this description; and he can now with confidence and satisfaction safely recommend this as being of great importance for Mahogany, Satin, Rosewood, and Maple Graining.—May be had Wholesale and Retail at No. 9, Queen's-court, Holborn, opposite to Day and Martin's.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 20s. per gallon.

STEPHENS'S LIQUID OAK, MAHOGANY, ROSE, and SATIN WOOD STAINS, for Staining various sorts of Inferior Woods, so as to give them the appearance and character of the more costly and ornamental kinds; also for reviving the natural colour of Wood Carvings and Panellings, and other ornamental Wood Work, when such has become faded from age or other causes.

IN THE BUILDING AND DECORATING NEW CHURCHES, where it is desirable to give to the cheaper kind of Woods the appearance of Antique Oak, or to make Deal assume the character of Oak Panelling, whereby the effect of the more costly may be produced by the use of a cheaper material, these Stains will be found more effective than any means hitherto employed.

IN OLD MANSIONS AND HALLS, where the Wood Carvings and Panellings have faded, the applications of these Stains will be found to revive and bring back the rich natural colour, and which colour may be varied from the lighter to the deeper shades of the most Antique Oak.

The BIRCH WOOD, which has a fine natural grain, with little colour, is particularly suited to the application of these Stains; and the appearance which it assumes after Staining is so near that of the natural wood, that is only when the grain and colour of the latter is particularly fine that it is preferred. Beech, Birch, Elm, Ash, and other Woods, English and Foreign, receive the Stains and produce various imitations.

For the exposed Timbers of the inside of the ROOFS of CHURCHES, for which north country Timbers and Deals are generally used, by brushing them over with the Stain, which operation is very rapidly, and of course economically, effected, the appearance of an Oaken Roof will be produced. For colouring the backs of the Seats, Pews, the fronts of Galleries, the Pulpit, &c., it is equally advantageous.

Prepared by HENRY STEPHENS, and may be obtained at 54, Stamford-street; at the Office of "The Builder," 2, York-street, Covent-garden, and in Manchester, at CRAKE'S MARBLE WORKS, Garratt-bridge, Davidstreet, at which places specimens of their application may be seen.

PERMANENT WOOD STAIN.—The extraordinary properties of this composition have led to its extensive adoption by Architects, Builders, and Furniture Manufacturers. It calls forth with magical effect, the hitherto almost unknown veining of English Woods, giving to various kinds, the rich hues of ANTIQUE OAK, ROSEWOOD, and MAHOGANY. Its value for Churches and other Buildings is inestimable, for its application to Deal, or other inexpensive woods, supersedes the use of Oak, which is so costly in itself, and doubly so in the labour required in working it. This Stain has also been used, with the most satisfactory effect, for imparting to New Oak the dark tint acquired by age, and is therefore invaluable in restoring or repairing old oak furniture or carvings. Another important advantage possessed by this composition, is its decidedly anti-septic properties, rendering it a preventive of decay from Dry-Rot, and other causes. Prepared and sold only by the Inventor, W. L. SMITH, Chemist, St. Stephen's Plain, Norwich, who has various Specimens for Inspection.

N. B.—None is genuine without the Inventor's Signature upon each label, and his name and the words "Wood Stain" on the seal over the cork.

London Agents—Messrs. Hopwood and Park, 23 & 24, Fish Street Hill, near London Bridge, London. The Proprietor has received numerous Testimonials from which are selected the following:—

Chapel Field Grove, Norwich, Oct. 31st, 1845.

DEAR SIR,—I have much pleasure in complying with your request for a testimonial to the merits of your "PERMANENT WOOD STAIN." The composition has now been very extensively used under my superintendence, and therefore I can the more confidently recommending it as the most effectual, durable, and economical stain for all kinds of wood that I have ever met with. In addition to its power of embellishing deal, elm, &c., I have recently proved it to have the most satisfactory effect in giving an aged appearance to new oak, when applied very successfully to some new carved work, the tint of which it was desirable should match that of the ancient stalls in Norwich Cathedral.—I am, dear Sir, yours very faithfully,

JOHN BROWN, Architect & Surveyor to the County of Norfolk, and to the Dean and Chapter of Norwich.

To Mr. W. L. Smith, Chemist, Norwich.

Severn Improvement Office, Upton, November 3rd, 1845.

SIR,—In answer to your application to me for a testimony in favour of your Wood Stain, having seen it extensively used by Mr. Brown in his new churches, and also its effect upon different specimens of wood, I have no hesitation in expressing my favourable opinion of its qualities. It brings out the grain of the most common description of wood in an extraordinary and beautiful manner, with so rich a colour that I have seen specimens of elm stained with it scarcely distinguishable from rosewood. Its application appears very simple, and as far as I can judge of its chemical properties, it has decidedly a preservative tendency.—I am, Sir, your obedient servant, GEO. EDWARDS,

Member of the Institute of Civil Engineers.

To Mr. W. L. Smith, Chemist, Norwich.

Ipswich, 8th November, 1845, Major's Corner, St. Margaret's

SIR,—I feel great pleasure in recommending your Wood Stain, which I have used for about two years, and find it to be a very excellent stain for the purposes intended. Being much engaged in restoring old carved work, and renovating the interior of churches, I beg to state that I have used it in the following places:—

Tuddenham church, Suffolk.	Bromeswell church, Suffolk.
Wenesham church, do.	Isfield church, Sussex.
Great Bealing's church, do.	Hambledon church, Hants.
Levington church, do.	

and many gentleman's houses in the vicinity of Ipswich.—

I am, Sir, yours respectfully,

HENRY RINGHAM, Carver, &c.

Chemist, St. Stephen's Plain, Norwich.

NOTICE TO INVENTORS.

OFFICE for PATENTS of INVENTIONS and REGISTRATIONS of DESIGNS, 14, LINCOLN'S-INN-FIELDS.—The printed Instructions gratis, and every information upon the subject of PROTECTION for INVENTIONS, either by Letters Patent or the Designs Act, may be had by applying personally, or by letter (prepaid) to Mr. Alexander Prince, at the office, 14, Lincoln's-inn-fields. Where may be had, price 12s., or, through any bookseller in the United Kingdom, of Wm. BENNING and Co., law booksellers, 43, Fleet-street, the LAW of PATENTS and REGISTRATIONS, with all Forms and Cases up to the present time, by SIDNEY BILLING, Esq., barrister-at-law, and ALEXANDER PRINCE, of the Office for Patents, 14, Lincoln's-inn-fields.

The Builder.

No. CLXVI.

SATURDAY, APRIL 11, 1846.

THE committee for providing an asylum for aged and infirm fishmongers and poulterers, advertised some time since for plans and designs. The building was to consist of apartments for twelve couples, allowing two rooms for each, with the addition of a large room or hall, about 24 by 15; the height to be limited to two stories, the style to be Elizabethan or Gothic, and the cost of the whole not to exceed 3,000*l.* The advertisement said, "The architect whose plans and designs are approved of will, subject to the approbation of the committee, be appointed to superintend the building (unless it is ascertained that he is without practical experience, when a suitable remuneration will be given). The first unsuccessful candidate to receive ten guineas, the second, five guineas."

Last week, as our readers know, the plans received in reply to this invitation were exhibited publicly in the City of London Coffee-house, Ludgate-hill. We went, of course, and were truly distressed to find nearly SEVENTY SETS of drawings laid out for examination. Seventy architects, or men assuming to be such, had so little to do, that they were contented to spend time and money in the production of these designs (with little probability of any return), for the remote chance of—what? Some large bonus or extra remuneration? Nothing of the sort;—simply of being employed at the ordinary rate of charge, to the amount of 150*l.*!!

Mr. Hosking asks, in his "Introductory Lecture delivered at King's College:"—

"What barrister takes a brief, or what physician visits a patient, without an *honorarium*? Who ever saw an advertisement from a town council or a corporation committee addressed, 'To BARRISTERS,' asking an opinion upon a legal case in which they might happen to be interested, intimating that a copy of the case would be supplied to competitors by the town-clerk, on payment of a guinea, and that the party whose opinion the aldermen or the committee-men might think the best should have a premium of ten guineas, and perhaps be employed to conduct the case? Or who ever heard of a sick man sending for half-a-dozen physicians, with an offer of a guinea to that one of them whose advice he (the patient) might think the best? And why should it be otherwise with architects than with barristers and physicians?"

Barristers and physicians? Why, the poulterers and fishmongers themselves, if they were asked to obtain and submit some particular kind of game (never called for by their every-day customers) on the *chance* that it would be bought at the ordinary market price, would laugh outright at the notion, as well they might. But then, say the poulterers, *fowls* cost money, and are really worth something, whereas the *designs* you speak of are merely drawings, which, unless we take them, will not realize the cost of the paper they are made upon; so that the cases are not parallel.

Truly the cases are *not* parallel. An honest, able design represents not merely present time and thought, but a large premium and outlay in other respects, long travel, years of study, and many previous and unsuccessful attempts. But whatever can be had for nothing is literally worth nothing; and thus it is that architects have lowered the character of their profession, and degraded themselves.

Of those cases where committees have, what should be called, the impertinence (if it were not that architects had themselves produced it), to invite competition, and to say they shall nevertheless not employ the *successful* artist unless he is willing to work for less than the customary charge, we cannot speak with calmness, and might use terms which would pain individuals, acting perhaps without thought, or with a conviction, arising from ignorance, that so far from committing a great injustice, and degrading the character of a profession, they were doing favour to architects, and giving them agreeable amusement, by inducing them to make a few pretty drawings. All we will say at the present moment in this respect is, that architects who prepare and submit plans on such terms (leaving out of the question the constitution of the tribunal, and even supposing it for once, quite perfect) deserve to be considered as not possessing a proper sense of the dignity of their profession, and of the character of an artist.

The Luton Town Hall competition, relative to which a correspondence appeared in our last number, is a case in point, and we shall be most anxious to know the result of it. To return, however, to the Poulterers' and Fishmongers' Asylum.

The various drawings, some to one scale, some to another,—in sepia, in bright colours, and in simple lines, were spread on tables around the rooms; the author's name on each was covered with paper, and as they had not mottos, and were only partly numbered (in pencil), we have no means of signalizing them. The majority, it is hardly necessary to say, were very indifferent productions, formed all on one type. The committee have chosen three, from which the final selection is to be made. Let us hope that they will call in advice, and fairly judge every design with especial reference to the instructions given. There was no indication of the favoured plans, and we do not propose to offer any opinion on the subject at present.

The project of most pomp and circumstance was numbered, the attendant said, 51, and was set forth in a perfect series of drawings, including *all the working details*, and two very cleverly drawn designs for the exterior, one Tudor, the other Elizabethan, exceedingly elaborate, and *promising* to cost something more than the sum stipulated. Messrs. A. Mee and W. Webbe were spoken of as the authors of it. No. 55, attributed to one of Mr. Ferrey's pupils, displayed considerable skill, and would execute well; and there were two or three others of which we would speak in favourable terms had we the means of conveniently signalizing them.

Our attention was called to one plan, ingeniously arranged to make the twelve houses appear as one building, with a centre entrance in each of the principal fronts, by a circumstance to which we are compelled to refer in terms of unqualified censure. It is no less than this: that a gentleman, said to be acting on the part of the committee, was engaged *in making a tracing of it*. There were other sheets of tracing paper on the table near him, and, for aught we know, indeed as appearances would lead us to believe, he was in the course of copying all the plans for afteruse: a proceeding not to be justified.

We trust the committee will be able to remove the impression which this circumstance must necessarily give rise to. They may have acted in ignorance,—the fact that the copying was going on in the public room, without concealment, seems to shew that this was the case; and if so, they cannot too soon set themselves right by restoring the ideas which they thought to appropriate, to their proper owners.

Every step of this sort quietly permitted—and certainly thus coolly copying in public, is a step beyond any thing of the sort we have yet heard of—increases the evils of the system, and on the part of the competitors, therefore, we publicly call upon the committee for an explanation.

We give place to the following letter on this competition, as it refers to several important points merely alluded to in the foregoing remarks:—

SIR,—In common with many others, I availed myself of the opportunity afforded by the committee of inspecting the designs submitted in competition for the Fishmongers and Poulterers' Asylum, and on inquiry, I found that the committee had already selected the three designs, in their opinion entitled to the premiums; but the period for finally determining on these three is deferred to the 23rd instant. I very much regret that the choice made by the committee was not made public, although from one or too significant circumstances, which occurred at the exhibition, I believe it would not be difficult to point out two out of the three selected designs, both of which are of a very costly character, and one of them, at least to my mind, is in more than an ordinary degree unsuited for its intended purpose. Without wishing to be understood to say one word in disparagement of finished colouring in designs for competition, I could not help remarking, how readily even a practised eye is seduced by gay colours, and also what an undeserved advantage the larger drawings take over the lesser; and I would here throw out the suggestion, that with a view to securing fair competition, at least so far as the architects themselves are concerned, that it should invariably be arranged at the outset of a competition, as to the scale to which the drawings are to be drawn, their number, and the particular parts to be delineated, and also the mode of finishing the drawings: this latter point, I conceive, should *always* be insisted upon, as it is something less than just, that the genuine science and ability of the really clever architect should, because submitted under less attractive and alluring tints, be passed by and prejudiced by the gaudy colours of an overwrought, unreal or impossible, though effective, landscape, surrounding a meagre or faulty design, perhaps from the hands of an artist in water-colours, not the author of the design itself, who is paid so many guineas for this—the only clever portion of the whole plan.

Reverting to the designs for the Fishmongers' and Poulterers' Asylum, and in the hope thereby of securing to the honest competitor a fair chance of success, I would recommend to the committee, whilst the matter is in their hands, that before making their final election from the three favoured designs, they should call in the respective authors thereof to specify generally the materials in which they purpose to build the works, especially the fronts (whether of stone or of good brickwork, or of bad brickwork concealed by trumpery and perishable plastering), and at the same time to demand of them whether they are disposed to guarantee the erection of the houses for the sum *stipulated in the advertised particulars*, and then, should the parties decline to give the required guarantee, the committee might call in the assistance of some two or more of the head members of the profession, in order to satisfy them whether the same could be erected for the sum stated (3,000*l.*), or for any other sum approximating thereto, and if they decided against any one or more of them, that every such competitor should, as a matter of course, be deemed to have lost his standing in, and be precluded from the competition, as having failed to observe the most important condition, viz., the stipulation as to outlay set forth in the circular of instructions. This ordeal would, I am inclined to think, have been better in the outset before any selection had been made by the committee,

and would, if always adopted, tend in a great degree, in conjunction with uniformity in other particulars, to bring about fair and equal competition, and the *honest design* would then meet with equal consideration with the *picture of the drawing master*.

I am, Sir, yours as heretofore,

April 6th, 1846. Σ.

In another page our readers will find a communication relative to the competition-designs for the Leeds Industrial Schools.

LEAVES FROM AN ARCHITECT'S DIARY.

What a clever writer once called "the barrier, which excludes men of genius from the notice of the public,"—I quote from recollection—does not appear to have been sufficiently considered, as regards the architect. That architecture, as connected with the elucidation of history, and the condition and habits of nations, has become a recognized and popular study, is evident to any one, who can draw a comparison between the present love of art, manifested in the number of illustrated works devoted to the subject, and a period little antecedent. It excites some surprise now, when, as in a late advertisement for a competition, the Saxon style is spoken of, though the Norman is obviously the one meant. The painter feels that synchronism in architecture is as essential in the treatment of a subject, as the correct representation of costume and manners. The accessories of the drama —though here there is still room for improvement—are held to be inadequate, without the architecture of the period is illustrated in the spectacle. Young ladies begin to discover, that the study of architecture is really interesting, and devote somewhat less time to embroidered cushions and Berlin wool. Half the world is busy rubbing brasses, and country churches are delineated by amateurs in tolerable perspective. But of architecture as a profession, undertaken by individuals for an object, which few are able not to consider paramount, little whatever is known. That there are certain impediments to success, which prevent the attainment of the common end, to an extent quite unparalled in any other pursuit, must be evident to every one, who has embarked in the profession of architecture with any dependence upon the result. The small number of opportunities that are afforded to the beginner, and the shameless manner in which these opportunities are made the means of delusion, are obstacles which no one can readily subvert. An attorney, who makes separate and proper charges for letters written and for advice given, is rarely able to see the justice of a similar remuneration for the time of an architect. A friend—it is always a friend who does so — has some thoughts of building a house, knows your talent, has often greatly admired your designs, could you, without much trouble, send your ideas as to style? has thought of the Gothic. He, the friend, would not like to go to much expense, but wishes to have something that would be admired; thinks that stucco would be showy and cheap, — pinnacles, buttresses, and pointed arches, for all of which he may rely upon the abilities of said architect. The dining-room should be at least thirty feet long, and the other apartments, which he explains in voluminous detail, on a similar scale of grandeur. The letter takes you some time to read and digest;—you write in answer:—that you fear he mistakes the cost of such a building, with other advice which you deem necessary. The clock has advanced a good hour, and your plan for the alteration of a shop, which you had been commissioned to prepare, and which is anxiously waited for, is retarded in a like ratio. Few days afterwards, your friend writes again, wishing to know what you think such a building would cost;—you look over your data, and drawings of similar buildings, and send him the result of a calculation, which occupies some hours. This goes on, with further demands upon your time, including the forwarding a sketch and plan, until there is a pause in the correspondence, at length explained by a line in The Builder, that Mr. X. Y. Z. is building a large mansion near the town of *****. You write, saying, that you had expended much time on the expectation of employment, and reminding him of the particulars. You receive a laconic reply by next post, to the effect, that said country "gentleman" had asked your advice in a friendly way, and had no intention of going to the expense of an architect; had thought you would be glad to make any suggestions, when you had nothing better to do, just to fill up your time, and begged to return you your drawing, which he had made no use of. On your next visit to ——shire, you see a house very like a design now hanging in your room in ——street, and hear of the ungentlemanly behaviour of an architect, who had converted a few friendly letters from Mr. X. Y. Z. into a means of gain. Mortified and disgusted, you perhaps devote the remainder of your days to preparing "pretty drawings," and are called by other architects a *draughtsman*, or wear down your energies in the periodic assemblage of gulls, who trust that some one competition or other may turn out successful.

—Such is an instance of what is constantly occurring in the course of practice. What other body of men would not combine for an object so important as the success of all? Let there be an uniform scale of charges, which it shall be an offence against professional etiquette to interfere with; let every means be taken to acquaint the world with the objects of the profession, and the value of the architect's time and labours. Let the profession be united; let the successful architect manifest a concern for the welfare of him who has the world before him, and more, let societies assume their proper station and influence to bring about to all, who devote the necessary labour, the fitting and requisite return which well-directed energies are justified in expecting.

—Without entering into the question of architectural effect, it would, I think, be found, that in nearly every instance in which the services of an architect are dispensed with, the expense attending the building is greatly increased. I knew this to be the case, in a late instance, and who can doubt, what the result will be, where the lowest tender is often so ridiculously inadequate. Nevertheless that tender is always accepted where there is no architect, and yet the builder will make a profit of the work. How? Let the proprietors of suburban villas, and their annual bills for repairs testify. A builder who really *will* do his work well, and feels an honest satisfaction in so doing, should prefer to be under the guidance of an able architect. He may then calculate, that his claims will be properly represented, and any accidental errors viewed with the fair appreciation of extenuating causes. The number of buildings in which the expense of an architect is "saved" is a hundred to one where his services have been called for. They girt "modern Babylon" in all the variety of hue, which rough-cast and compo assume, instead of the really good effect of well-executed brickwork; they delight in verandahs and Grecian-Doric porticoes, and are very funny in smoke pipes, and in vases of artificial stone. If the profession of the architect be really one, which those who build would find the advantage in pocket, and in personal comfort to know more of, it is highly essential to the success of architects, that they should take the opportunity of the present attention to architecture, to diffuse the knowledge of its full scope and value. By valuations, surveys, arbritations, and other kinds of business less connected with the art, "architects" do make a living; but why should not the ostensible profession be the main pursuit? Because, I repeat, people are not aware what the services of an architect are worth, because architects themselves are often ready to render those services for nothing, and because cheap churches hardly pay the expenses of the office and drawing-paper.

Westminster Literary and Scientific Institution.—His Royal Highness Prince Albert has kindly subscribed 25*l.* to this institution, as one of thirty donors to pay off its building debt, among whom are included the Earl of Radnor, Lord R. Grosvenor, the Lord Mayor, and Charles Hindley, Esq., M.P., who originated the subscription.

St. Michael's Church, Chester-square. —This edifice was consecrated last week by the Bishop of London. It is of the decorated period of pointed architecture, and was designed by Mr. Cundy.

SPANISH ARCHITECTURE.

On this subject, of which we have little accurate information in a collected form, the current number of the *Quarterly Review*, just now published, has a long and interesting article, founded on a notice of several Spanish and English works, treating of the monuments of much-abused Spain. The same number contains an article on modern German painting, and a slashing attack on "Reid-Ventilation," to the latter of which we may have occasion to refer at another time, not wholly in commendation. Our readers are aware that we have no great confidence in the proceedings of the learned Doctor, and object *in toto* to his permitted interference with architects' designs, and the unscrupulous use he makes of the power given to him. The article in question, wittily and ably written, seems, however, when abusing the means employed, to scoff at the *necessity* for them, and is likely to do much harm in that respect.

Our present object is to lay before such of our readers as may not see the *Review*, some extracts from it concerning Spanish architecture.

"When Wilkie, after his voyage of art-discovery into the Peninsula, called Spain the Timbuctoo of painting, he might well have added, and of architecture; for while the names of Morales, Velazquez, and Murillo are familiar among us as household gods, those of the Siloes, Berruguete, Hontañon, Valdelvira, Herrera, and others, have scarcely reached our distant hemisphere; nay, is not the reader already exclaiming, Who, forsooth, are these great unknown? What and where are the memorials of their genius?—And yet they were men worthy in every respect to take rank in the glorious company of the Brunneleschis, Bramantes, Buonarrotis, Palladios, and Wrens, whose universal fame posterity will never let die. Such, however, are the 'things of Spain,' whose wants, indeed, are blazoned abroad, but whose talents lie buried in a napkin. The incurious natives, indifferent as the Orientals who slumber under the porticoes of Palmyra, have neither cared to make known themselves their claim to the world's admiration, nor to encourage the stranger who would have done them justice. 'They have rather repelled the barbarian eye; and while Ionian Italy was luring into her embrace all lovers of the beautiful, hard and Spartan Iberia frowned forbiddingly upon the foreigner, and saw in his investigations nought save a prying into the nakedness of her land's defences, or a seeking for her lost and hidden treasures. Thus the stream of intelligent inquiry was turned aside by the Pyrenees—fit barrier of a country long supposed to be as deficient in roads and inns as superabounding in Goths, bandits, and inquisidors. Accordingly, while elsewhere every bone of antiquity has been picked bare, this pays de Cocagne for the architect—this land, overflowing with church and convent, and 'potted' for the ecclesiologist, has long remained unforaged; yet here, however, larderless palace and *venta*, the table groans under an æsthetic banquet, untasted from the want of a bill of fare—and curiosity starves amid the broken meats of departed empires; for the very soil is deeply impressed with the seal of Roman, Moorish, Mediæval, and Cinque Cento magnificence.

The few Spaniards who previously to this century wrote on architectural antiquities, were either overlaid with the rubbish of pedantry and superstition, cowed by the inquisition, or devoid of critical judgment, and deficient in good taste and accuracy of detail. Compared to the researches of Winckleman, Muratori, Piranesi, Wood, and Stuart, the works of Florez, Risco, Masdeu, Ponz, and others, are more voluminous than valuable; and much less so were the notices which filtered into England through stay-at-home critics, who put forth as information their own preconceived prejudices, until—such is the lot of ill-fated Spain—these errors obtained a prescriptive authority, and the correcter statements of real travellers were set at nought because they unsettled settled conventionalities. Thus the other day that bulky and best public instructor, the *Encyclopædia Britannica*, dismissed the architecture of the Peninsula in one fell swoop:—

'The Spaniards, less patriotic (!) than the French, have for their greatest works employed

the architects of France and Italy, so that of *course* that country can boast of no peculiarity of style redounding to its own credit. The palace of the Escurial, being by a French architect(!), and abounding with the deformities of French and Italian schools, cannot be in favour of Spain.'

When Sir Oracle opes his lips let no dog bark; yet never were more incorrect conclusions drawn in bow-wow style from falser premises, since the best periods of Spanish architecture are stamped by an absence of French taint and the presence of distinctive features and racy nationality. Analogy might indeed have led to the expectation of such a *Borracha* in all who are acquainted with the art, literature, and other exponents of a people whose genius, like their blood, is the produce of the Phœnician crossed by the Roman, of the Goth wedded to the Moor. Whenever the real Spanish architect has turned aside, it has been to a Norman, Teutonic, or classical guide rather than to the antipathetic Gaul. The few strictly French buildings at Aranjuez and La Granja, the works of the intrusive Bourbons, are the exceptions which prove the rule."

"The architecture of the Peninsula, like her history, is naturally divided into distinct periods; first, that of the Phœnicians, Romans, and Goths, then that of the Moors and Spaniards. The genuine antiquarians, however, down to this century, following the example of their great historian, Mariana, invariably begin this subject with Tubal and the tower of Babel—nay this is itself a date far too recent for some old Castilians and modern Basques. If, say they, the sun at its creation shone first over Toledo (which is certain), the pre-existence of that city must be still more so, and it may fairly be assumed to have been built by those angels, who, according to Ferreras, were the pre-adamite settlers in Spain, and whose language, free from the corruption of other tongues, is still spoken in antediluvian purity in the Bilboes.* Be that as it may, and by whomsoever these Spanish Welchmen were taught their alphabet and architecture, they have never since produced either a book or a building which has reached mediocrity.

Assuredly the first benefactors of the Peninsula were the Phœnicians, those English of antiquity, who wafted everywhere on the white wings of their merchant fleets the blessings of commerce and civilization. Emphatically, 'workers in timber,' the primitive meaning of an architect, they constructed the ships and ceilings of the wisest of kings, and all Europe to this day cannot compete with the gorgeous wood-carvings of Moro-Hispano art. The Phœnicians were welcomed by the natives of Tarshish—the south of Spain; men of peace not war, they settled on the coasts, and reared quays, factories, and temples. They were, however, ousted by the Carthaginians, who, when deprived of Sicily by the arms of Rome, turned exclusively to the Peninsula, and urged by a fierce spirit of conquest penetrated into the interior, where they erected cities, citadels, arsenals and palaces, on which the simple Romans gazed with awe. All this strength and beauty has passed away like the fabric of a vision, scarcely a wreck has been left behind, save some colossal masonry at Tarragona, which still perplexes antiquarians."

"Almost the only period of rest and settled Government which ill-fated Spain has ever enjoyed was during the succeeding three centuries that the Roman power was undisputed, when the Peninsula is seldom mentioned. And how much happiness is inferred by that silence, when the blood-boltered page of history was chiefly employed to register great calamities, war, battles, and the freaks of men, at which angels weep!

The arts which necessarily flourished during this repose were nipped by the irruption of the hordes of Germany, who warred however more against men than things; neither had they villanous saltpetre, the destroying slave of the real Vandals of our age. Alaric respected the Parthenon of Athens and the Coloseum of Rome, which remained perfect for centuries after the Gothic rule had passed away, and were mutilated by those who were pleased to stigmatise the Goth as a barbarian and destructive. The invaders of Spain were contented, having dispossessed their antagonists, to avail themselves of structures of private and public utility—and this utility tended to preservation more than did solidity of construction or beauty of elevation; their iconoclastic Christianity purified the temple of statues and idols, but did not demolish the ancient shells, which were converted to a new faith—and carefully repaired, as is evidenced by existing inscriptions. About the sixth century, when the theocracy was dominant, new churches were built, doubtlessly after a corrupted classical type, for purity in architecture had long passed away; and the Goths, stationary and without invention in art, neither obliterated nor elevated. Their buildings were rude, and their design bastard and irregular; equally wanting in respect to Roman masonry as grammar, they truncated columns as they did words, until they constructed an architecture and language of their own. Rome again, with whom their prelates, sole depositories of knowledge and power, were in close communication, naturally furnished ecclesiological example; and there too the mere fact of cobbling up the fragments of classical buildings to new purposes, and of thus decorating the birthday banquet of Christianity with the funeral bakemeats of paganism, must have kept these thieves of antiquity, however devoid of correct taste and sound principles of construction, within the pale of ancient architecture. The very ruins which furnished marbles suggested models; and the designs of buildings, mere creatures of occasion, were adapted to materials, not the materials to designs—although their original grace, intention, propriety, and symmetry were thereby sacrificed. But the Gothic impression must be looked for rather in the moral character of the Spaniards, their descendants, than in the husk of their dwellings; nor is the loss of their architecture to be much regretted, for sounder in morals than in science, the rude Goths came between the polished Roman and the Moor, between the superior ancient and Eastern civilizations—and were eclipsed by both;—for some few vestiges of their edifices are still to be traced at the convent of San Roman, built near Toro in 674, and in the walls of Toledo, erected in 674. Toledo indeed is a widowed capital of many dynasties; here the echo of the Goth is repeated amid Roman ruins, and the horse-shoe of the infidel Moor supports the pointed fretwork of the Christian Spaniard."

"The exterior of Moorish edifices in general was plain, prison-like, and forbidding; the object was to keep out heat and enemies foreign and domestic, and to keep in women, and disarm the evil eye, the great bugbear of antiquity, the East, Andalusia, and Naples. The interior, all light, air, colour, and luxury, glittered like a spar inclosed in a rough pebble, and the door once opened, ushered the Moor into a houri-peopled palace, which realised those gorgeous descriptions that seem to our good folks who live in brick and mortar, quiet drab and Baker-street, to be the fictions of Oriental poetry, or the fabric of Aladdin's genii; yet such were the palatial fortresses, the Alcazares, the Alhambras of the Spanish Moors, and such on a minor scale were their private dwellings; many of which still exist at Seville, although dimmed by ages and neglect. The generic features are a court hidden from public gaze, but open to the blue sky, and surrounded with horseshoe-arched corridors, which rest on palm-like pillars of marble, whose squandrils are pierced in gossamer lacework; in the centre plays a fountain gladdening the air with freshness, the ear with music, the eye with dropping diamonds; on the walls around was lavished a surface of mosaic decoration, richer than shawls of Cashmere, wrought in porcelain and delicate plaster, and painted with variegated tints; above hung a roof of Phœnician-like carpentry, gilded and starred as a heaven; while the doors and windows admitted vistas of gardens of myrtles, roses, oranges, and pomegranates, in which fruit mingled with flower and colour vied with fragrance. The drawbacks of this poetry and picturesqueness were miserable bed-rooms, an utter want of judicious kitchens, sculleries, offices, and other necessaries of modern comfort and cleanliness.

The religious architecture of the Moor, of which the mosque of Cordova (still so called) offers an example unique in Europe, differed alike from that of the Pagan, the Christian, and even the Asiatic Mahomedan. It had neither the porticoes, the peristyles, nor the proportions of the first, nor the narrow aisles and aspiring loftiness of the second. It differed from those in Hindostan, Cairo, and Constantinople in the absence of pagodas and domes, and in want of external ornament. The mosque at Cordova was certainly the model of all the others in Spain, from being the metropolitan, and the substitute for holy Mecca. The exterior was simple, the plain walls being supported by square pilaster buttresses; but the mosaics of the interior rivalled those of Byzantium in richness and brilliancy; and there they sparkle unchanged after a lapse of ten centuries; the edifice, wherever the Spaniard has not meddled, being fresh as when first finished—so much more conservative is the dry air of Spain than are those who breathe it. The type was the Roman Basilica,* which probably was itself derived from the East; the shape is a wide quadrangle, whose low roof is supported by a forest of pillars, from whence the indicial horseshoe arches spring. An eye for symmetry and proportion was no quality of their architects. These columns, torn from earlier edifices, differed in diameter no less than material and capitals:—but the classical and Christian orders never entered into Moslem buildings without being shorn of their original meaning, fitness, and beauty; architecture, chaste and pure, seemed to shrink alike from the voluptuous harem as from the sense-subduing temple of the false prophet.

In hydraulic science and construction the Moors never had a rival; these children of the sun exercised a magic influence over water; they knew that this blood of the earth was the element of fertility and wealth, in zones where, under the combined action of heat and moisture, vegetable production is gigantic, where the orb of fire is never weary in creating life, or the impregnated soil of giving birth; they opened a vein-work of circulation with aqueducts, fountains, tanks, and appliances of irrigation, whose utility has partially rescued them from destruction. The *Vega* of Granada, and the *Huertas* of Alicante and Valencia, may be studied with advantage even by the directors of our draining and waterwork companies.

Enduring is the mark which Moorish intellect and science have stamped on the Gotho-Spaniard, whose language, an unwilling witness proves the greatness of obligations which pride would fain deny; his dictionary has scarcely a word that refers to those arts by which man is benefited and civilized, whose origin is not Arabic. As our nervous Anglo-Saxon has been refined by the chivalrous lordly terms of the Norman, so the 'Romance,' or corrupted Roman of the soldier Goth, was enriched by the polished idiom of the Arab; his precious words of science and poetry glitter like fragments of antique marble, imbedded in the coarse rubble of a mediæval wall. The Visi-Goths took lessons from the vanquished Romans, as their descendants did from the subdued Moors, especially in decorative architecture, yet none have ever evinced greater ingratitude in destroying the models of their teachers; witness the degraded Alhambra, to whose fascination the Spaniard alone is blind. Familiarity has bred a contempt for monuments which he has disfigured, and to whose past beauty and present poetry he is utterly insensible; he cannot understand the all-absorbing concentrated devotion of the stranger pilgrim, who has hurried there to worship, from the Don and Niagara; he is dead to the associations of interest and piety that are conjured up by these walls, which the Moor laboured to adorn and the Spaniard to defile; he resents this admiration, which at once infers a superiority over his own works, and condemns him of barbarism in having mutilated what he could not surpass; again a leaven of former hostility ferments deeply with this jealousy, and is soured by the pedantry of academicians who prate about Palladian principles, and see only in the gossamer filigree and horseshoe arch a want of solidity and a departure from strict laws of support. They avoid what others imitate. Thus, while the 'haughty Islanders' at Gibraltar were erecting a Protestant Church in a Moorish style, the Spaniard in Granada was building the civic

* See pp. 11, 44, Perochegui, Origen de la Nacion Bascongada, Madrid, 1760.

* We may refer our reader to a late article in the *Quarterly Review* (No. ci., March, 1846) on the Chevalier Bunsen's admirable book, 'Die Basiliken des Christlichen Roms'—and the splendid architectural works of our accomplished and lamented friend, Mr. Gally Knight.

shambles in choice Ionic. A friend of ours chanced to be present when the plans were discussed, and his suggestion of adopting an elevation in harmony with the tutelar Alhambra, was received with simultaneous shrugs of civil contempt, and a unanimous protest against the *heresy*, which was seasoned with *ajos* and other expletives more energetic than decorous.

The earlier Spaniards, rude soldiers, were compelled to have recourse to Moorish artists and architects, just as the Normans were in Sicily, whose buildings at Palermo, Monreale, Cefalu, &c., were indebted to Saracenic designers. The exterior was frequently European, while the interior was Oriental; and in both the characteristics of the Romanesque-Norman and Arab styles appeared in conjunction. This fusion, which the Italians call the *Arabo-Tedesco*, is often termed by Spaniards the *Mos-arabic*, whereby is implied an admixture of the Christian and Mahomedan; an amalgamation natural enough to Spain itself, the neutral ground and half-way house between Europe and Barbary. This composite, which prevailed down to the sixteenth century, may be traced alike in church and palace; and the blending of the pointed arch, ornate finial, and crocket-work of the Gothic, with the horseshoe scrolls and richly multiplied geometrical patterns of the Moorish ornament, is universal. Gothic belfries are set like crowns on Arab towers; and light Saracenic galleries added as a lace-fringe to the solid curtains of feudal castles: thus the arts were mingled, as blood was by intermarriages, and the produce, stamped with the distictive features of both parents, constitutes one peculiarity in architecture, which is only to be met with in the Peninsula, as all who run may see."

COMPETITION DESIGNS FOR LEEDS INDUSTRIAL SCHOOLS.

Sir,—In your valuable journal of last week, you notice a competition for the Leeds Industrial Schools, and I am so convinced both of the excellent intentions of The Builder and its power in effecting good towards the art of architecture, that I feel assured you will require no apology for my notice of certain errors in your former remarks, and a request to correct them.

It is stated, that the design of Mr. Thompson of Leeds, was selected as the, best by Mr. Wallen and Mr. Parker, both architects;* now this is altogether incorrect.

Mr. Parker is not an architect, but solely the head master or superintendent of the Industrial Schools just completed at Swinton, near Manchester, and moreover had no voice in the matter, as though invited, I am assured he did not vote at all, and the decision was made solely by Mr. Wallen; what that decision was you will see by the inclosed extract from the *Leeds Mercury*, and (without intending any illiberal sneer at a man on account of his origin), I think it would have been only what might be expected *à priori* that the design made by a man brought up as a carpenter and joiner, and who now follows a trade not very congenial to the fine arts,† would have been extremely inappropriate.

I trust, Sir, you will take such notice of this "job" as in your judgment it merits, and will do your best to at any rate render honour to the ability of Mr. Burleigh, who it appears to me has been most scandalously used.

I have reason to know that the affixing mottos to the designs was a perfect farce, as it was perfectly well known to the different guardians, by whom the several designs were made, a friend of mine who saw them before the award was made, having had several of them named to him by one of the guardians as being by such and such architects.

With much respect, I am, Sir, &c.,

A Subscriber to The Builder.

I give my name and address, but request they may not be published. I may also observe that I was not a competitor, having a very poor opinion of the mode in which such matters are managed in Leeds.

The following is the extract referred to:—"We are informed by a correspondent that the report in our last paper, concerning the awarding of premiums for the best designs for the "Leeds Industrial Schools," was calculated to convey an erroneous impression of the merits of the respective designs; and he has sent us the following particulars, the authenticity of which he vouches for:—The Board of Guardians met on Wednesday, the 25th of March, for the purpose of awarding the premiums to the two best designs for the industrial schools about to be erected in this town. Several designs were submitted to the board, principally by Leeds architects. At a previous meeting, held on Wednesday, the 18th ult., some of the guardians, conscious of their own inability to decide on the merits of an architectural work, suggested to the board the propriety of employing an architect of eminence to report on the merits and demerits of the respective designs. The proposal was adopted unanimously, and Mr. Wallen, of Huddersfield, was the gentleman chosen for that purpose. The substance of Mr. Wallen's report may be briefly stated. It must first, however, be mentioned, that the elevations of one design were shaded, contrary to the instructions issued to the competitors (all drawings being required to be executed in outline.) This design was therefore excluded from the competition by the guardians, but Mr. Wallen had previously distinctly stated that he should be *prevented recommending* it for the first premium on architectural grounds. One design was highly recommended by Mr. Wallen, and was reported by that gentleman to be the best exhibited. He deemed it in every way suitable for such a building, both as to the character of its architecture and every other requisite. All the other designs, in Mr. Wallen's estimation, possessed faults to a greater or less extent; *one in particular*, he characterized as being *extremely inappropriate*, and condemned it in a most decided manner. To this design the guardians thought proper to award the *first* premium, and to the one which Mr. Wallen considered most worthy of being placed first (viz., Mr. Burleigh's), those gentlemen awarded the *second* premium."

* The statement was sent us by one of the parties concerned. We may have more to say to him on the subject.

† Mr. J. Thompson "Architect," keeps a public-house in Leeds! I mean actually acts as landlord thereof.

MR. BARRY AND DR. REID.

The select committee appointed on the 16th of February last to consider the present state of Westminster-bridge, and of the new palace at Westminster, have considered the matters referred to them, and have agreed to the following brief report in the shape of a resolution:—

Resolved,—"That it appears expedient to this committee, adverting to the differences which have existed between Mr. Barry and Dr. Reid, to recommend the following arrangements for carrying out Dr. Reid's system of ventilation and warming in the new palace at Westminster; namely, that in the event of any objection being made by Mr. Barry to the plans of ventilation and warming submitted by Dr. Reid,—or, in the event of any difference arising between Mr. Barry and Dr. Reid, either as to the amount of information requisite for the preparation of these plans, or in their execution, or otherwise, such difference shall be referred to a third party; that such third party shall finally decide upon such difference or objection; and that, subject to such decision, Mr. Barry be directed to carry into effect the plans submitted by Dr. Reid; that the third party shall be constituted as follows:—that is, that it shall consist of one person appointed by Mr. Barry and one by Dr. Reid, subject in each case to the approval of the Chief Commissioner of Woods, &c., and that in case it shall be necessary to appoint an umpire, such umpire shall be appointed by the chief Commissioner of Woods, &c.

1st April, 1846.

Royal Asylum for the Clergy.—Dr. Rudge, of Hawkchurch Rectory, Axminster, has proposed to her Majesty to found a royal college or asylum for poor and superannuated clergymen. He proposes that none of the clergy should be eligible for admission into such an hospital but those whose benefices are small, and whose incomes are limited; and that for their support and maintenance a fund should be raised from the first fruits and fee-farm rents, now differently appropriated; or a whole, or a part, of the first year's income of all livings be applied to this useful and merciful object.

METROPOLITAN SEWAGE MANURE COMPANY.

The advantages, sanatory and economical, of the application of the refuse of towns, in the form of manure, to the surrounding agricultural districts are extensively admitted. The Bill of the Metropolitan Sewage Manure Company, formed to carry out Mr. John Martin's plan to this effect, is now passing through the House, and will probably, soon become an Act of Parliament.

The prospectus of the company says:—"The average quantity required for agriculture is estimated at eighty tons per acre, which can be supplied within about twenty miles round the metropolis, at less than a quarter of the cost of stable or farm-yard manure, containing an equal proportion of fertilizing matter; and it will not only prove much more efficient, but can be distributed more conveniently, and at one-tenth of the expense.

The surprising results of sewage-water as a manure have been long since exemplified in the neighbourhood of Edinburgh and other places, as explained in the report of Mr. Smith, of Deanston, to the Health of Towns Commission, shewing in some instances more than a tenfold increase of produce. It should further be observed, that several eminent horticulturists in the neighbourhood of London, have practically demonstrated the value of this manure on their own grounds, and can be referred to for the satisfaction of those who take an interest in the matter. The scope of the company's first operations, upon which the calculations are based, and for accomplishing which the present proposed capital of 300,000*l.* will be sufficient, will be limited to the drainage of the district comprised by the King's Scholars' Pond and Ranelagh sewers, with the concurrence of the commissioners, who have evinced the most cordial disposition to facilitate the objects of the company. The contents of these sewers will be raised by powerful steam engines, and distributed by pipes over an extent of sixty square miles through the gardening and agricultural districts to the westward. Another important feature of this undertaking will be the application of the manure to poor and waste lands, which will be thereby rendered abundantly productive, with great profit to the cultivators."

Dr. Daubeny says, in the "Journal of the Royal Agricultural Society,"—"The most effectual, as well as the most economical method of restoring the balance between the town and country, would be to avail ourselves of that enormous accumulation of animal exuviæ which the existence of a crowded city necessarily occasions, and to convert that which is now a pabulum of disease into a source of life and abundance. As, indeed, the geologists of the present day cite, as a proof of the ignorance or neglect of their predecessors, that the stone required for the fortifications at Gibraltar was brought out from England, when it might have been obtained upon the very spot; so I conceive our descendants will marvel at the inattention to chemical science evinced by the present generation of farmers, in importing from distant regions, such as South America, substitutes, and those perhaps but imperfect ones, for that fertilizing material, of which the greater part is allowed to deposit itself unprofitably in the beds of our rivers."

A correspondent of the *Gardeners' Chronicle* makes some suggestions on this subject which may appropriately be transferred to our columns:—"It is well known that all railways are so laid down as to approach as near as possible to every town of any importance; I therefore believe that in a majority of cases the liquid manure could be had alongside of some part of a railway in or near such towns; here for instance, near Hull, the line of the Hull and Selby Railway actually crosses the outfall, within a few yards of the Humber, of one of the main sewers of the town; a projected line of railway from the one above mentioned, to be carried on to Patrington, through the rich agricultural districts of Holderness, will cross a street at no great distance from the outfall of another main sewer; and from a second position on this line, a third large sewer will be crossed, so that here is an example to shew that the sewerage of two-thirds of a town containing 70,000 inhabitants may be had without any difficulty. The municipal corporations in all towns, being the legitimate proprietors of the sewage, will have a direct interest in pro-

viding the means for delivering it to those who purchase it, and this might be effected by a simple arrangement of reservoirs constructed alongside the railway, and furnished with pumps for lifting the sewerage into wrought iron tanks built upon railway trucks. These tanks would no doubt be provided by railway companies, as the conveyance of the sewer-water would form an important item in their goods traffic; it would be certain, too, and increasing, as the mode of applying it became better understood. According to Mr. Smith's statement, eight tons of sewer-water are sufficient to manure an acre of land; and Mr. Hudson says that the trucks on the narrow gauge lines will weigh (of course he means when laden) from seven to nine tons, so that in all probability about six tons of sewer-water may be conveyed upon one truck, which might be left at the depot on the railway in the same manner as other descriptions of manure, to be carted thence by the farmers in suitable liquid manure carts."

A writer in the *Glasgow National* says:—"Were Glasgow properly washed out, I should judge the washings capable of irrigating at least 15,000 acres—a square of five miles; and this, at 30*l.* per acre, would be worth 450,000*l.*; or, at only 20*l.* per acre, 300,000*l.* yearly. Taking into account the population of Glasgow, these sums are considerably under what Liebig allows. We should have here a stream of dirty water running out from the city, to return again in a stream of milk—a transformation effected by the mysterious metamorphic power of combined vegetable and animal assimilation. No doubt, a large outlay of capital would be necessary, in the first place, to bring in and distribute a sufficiency of water over the city, and to effect a complete drainage; and, in the second place, to raise the collected washings, conduct them by aqueducts to the proper distance, and spread them out in a complete net-work of irrigation; but the exuberant fertility which would thence be extended over a large space of country, would more than doubly compensate the amount of outlay, while the improvement which would be effected in the health and even the morals and character of the population of Glasgow would be inappreciable."

We hear it is intended to form a company, in Newcastle-upon-Tyne, for the purpose of turning this knowledge to profitable account. It is proposed to intercept and convey the contents of the sewers under ground, to a considerable distance from the town, where reservoirs will be formed, and buildings erected. Upon a moderate calculation, not fewer than 10,000 tons of valuable manure are wasted in that town, which, at 3*l.* per ton, amount to an annual loss of 30,000*l.* Some time ago Mr. Herapath suggested, in the Town Council, a similar plan for appropriating the sewerage of Bristol to agricultural purposes.

WESTMINSTER COURT OF SEWERS.

On Friday the 3rd instant a court was held. Mr. Leslie was chosen chairman. The clerk reported the whole amount of uncollected rates to be 1,304*l.*, and the cash balance at the treasurer's 11,954*l.* 16s. 9d.

On the motion of Mr. Cumberlege, seconded by Mr. John White, 300*l.*, a year's salary, was given to Mr. Doull, the late assistant surveyor ("as a mark, upon the abolition of his office, and after ten years' service, of the attention which he had paid to his duties, and as a testimonial of his strict integrity.") Carried by 15 to 1.

The new chief surveyor brought up eight reports on various subjects, pursuant to the orders at the previous court, one on the frightful state of the Nag's Head-court, Drury-lane, the total want of a sewer or underground drainage, and the disgusting condition of the internal parts of the houses. The court approved of the report, and came to the following resolution:—"That this court regrets that the law as it at present stands, does not give power to this commission to remedy the defects mentioned in the report of their surveyor, on the state of a populous portion of their district, and to compel the owners to execute the necessary works; and that the clerk do communicate a copy of their surveyor's report and of this resolution to her Majesty's Secretary of State for the Home Department, and to the Health of Towns Commission, and that the clerk do also inform the Guardians of the Strand Union of the steps which have been taken by this court."

A rate was signed on the eastern division amounting to 9,981*l.* 19s. 5d., and the court then adjourned to Friday, the 17th inst.

THE NEW OFFICIAL REFEREES, AND THE REVISION OF THE BUILDINGS ACT.

We are able to state, almost with certainty, that Mr. Ambrose Poynter, of Dartmouth-street, Westminster, the present hon. sec. of the Institute of Architects, and Mr. John Shaw, of Christ's Hospital, will be the new official referees.

We omitted to mention last week, that a vestry meeting had been held in the parish of Bermondsey, to consider what steps should be taken to obtain a revision of the Buildings Act. A petition to the legislature was agreed on, and the members for the Borough, Lambeth, and East Surrey, were requested to present it.

The petition of the Society of Master Carpenters, which appeared in our advertising columns last week, has excited some attention. The petitioners assert, on the ground of personal experience, that the "bill, as regards the regulation of buildings, is a most decided failure, being uncertain as to its intentions, useless in many of its provisions, oppressive in its operations, and expensive in its administration."

NAPHTHALIZED GAS.

The judicial committee of the Privy Council have extended Mr. Lowe's patent for napthalizing gas for seven years. At the hearing, Mr. Webster appeared in support of the petition, which was for an extension of the term of a patent "for increasing the illuminating power of coal gas," by passing it through naphtha. The mode stated in the specification as the most simple, was charging the gas metre with this spirit in place of water; but the insurance-offices objected to having a large bulk of naphtha in one vessel, and to meet this the patentee introduced the mode of saturating the gas in a separate vessel, with the vapour of naphtha, by causing it to pass through a series of sponges charged with this volatile substance, which was found completely to effect the object, and to be unattended with either trouble or expense to the consumer; but, although the light thus produced, was admitted to be superior to any other, the inventor had been unable to bring it into general use, and hitherto had received no return from it whatever.

Sir J. Clark, physician to the Queen, said, he had used the naphthalized gas in his house for some years. It gives a clearer and more powerful light than coal gas, with less heat. It produces fewer deleterious substances, and is, therefore, less injurious to health; also exhibits colours more clearly.

Mr. B. Hawes, director of the Chartered Gas Company, had used the naphthalized gas in his house, and thought it a great improvement. It gives a stronger and clearer light at less cost; endeavoured to get the company to introduce it into general use; was met by the argument, that the consumption of gas would fall off. His answer was, "Give the public a good article cheap, and consumption will increase, and make up for the diminution of price." Introduced it into the Thames Tunnel, but nothing had been paid for it; the Tunnel is very poor. So far as he knew, the inventor had not received a shilling for the use of the light. He had had great difficulty in introducing it, and had said to every one, "Only make a trial of it, and I will charge you nothing. Dr. Reid said, he considered the naphthalized gas an important invention; it produced from thirty to fifty per cent. more light than common gas, with less heat. The effect is greatly increased by causing the gas to pass over warm naphtha, when it becomes more luminous according to the amount of oil absorbed. Mr. A. Smee, F.R.S., had used the naphthalized gas. With the same quantity of light there is less heat, with a saving of twenty per cent. in gas. It is also more favourable to the human countenance, and to the distinguishing of colours.

GAS.

Sir,—The reduction lately made in the price of gas from 9s. to 7s., is a mere farce, as the daily complaints of numerous respectable tradesmen that their gas expenses per annum (with the same number of lights) are heavier than before, sufficiently attest. The reason is obvious, for supposing the companies now obtain 10,000 cubic feet from a chaldron of coals, and after a time they were to think it prudent to reduce to 5s. they have only to give the coal an extra baking and produce 14,000 or 16,000 cubic feet, and they at once more than counterbalance the reduction. But is the consumer benefitted by this? By no means, as, in proportion as the quality becomes deteriorated, so will the burners require a larger quantity to sustain the same degree of light, and to this cause may be attributed the great heat, and deleterious effects experienced where gas is used. These facts have been proved by engineers and chemists before committees of both Houses of Parliament, and cannot be controverted, and the only matter of suprise is, that the consumers of gas in London have so long suffered such a disgraceful system to exist, as the remedy is with themselves, and they ought by this time to be fully aware that the companies will do nothing except by compulsion. Why not take the matter into their own hands, and form district gas consumers' companies or (what perhaps would be preferable), let the parishes take up the business and manufacture their own gas, as in Manchester, where from the profits of the gas establishment, the watching, lighting, paving, and other rates are paid, and this too when the price of gas was only 5s. per 1,000 cubic feet, and it was from the same source that the funds were provided necessary for building their splendid town hall.

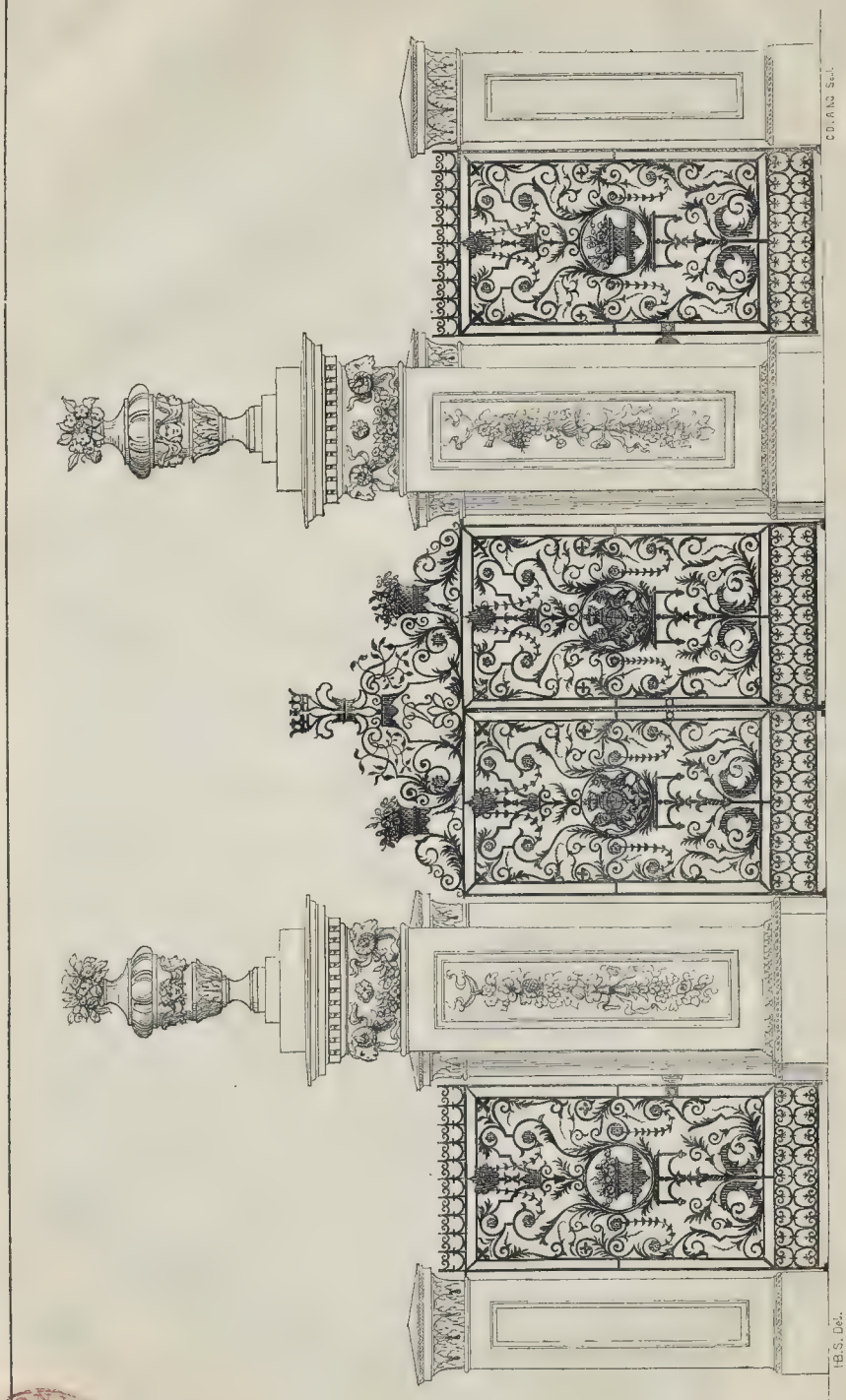
It has been argued, that the existing companies having expended large capitals, ought not to be interferred with, but this is ridiculous in the extreme, as it would be a reward for their mismanagement and consequent excessive expenditure, and as this has been entirely their own act, they alone ought to bear the consequences: if they do not see fit to alter their system, I consider the consumers have a perfect right to assist themselves.

I am, Sir, &c. Carbon.

CHARACTER OF DATES ON BUILDINGS.

Amongst the papers read at the last meeting of the British Archæological Association (Sir William Chatterton in the chair), was a valuable communication by Mr. Wright, on what are called the Arabic numerals, in which Mr. Wright pointed out one important practical application of the historical facts he had previously mentioned. Various instances occurred of inscriptions on buildings in the so-called Arabic numerals, apparently of an early date, which had been severally the subject of much discussion; if he remembered right, one such inscription had been ascribed to the 11th century. It would be clearly seen that this is utterly impossible. Even in the 12th century these characters were no more looked upon as numerals, than our modern algebraical *a*, *b*, *c*, and *x*, *y*, *z*; none but a profound mathematician knew what they meant; and if he had seen a date on a building expressed in such figures, he would naturally have wondered for what magical purpose four characters of the abacus had been stuck up against the wall. Even at the end of the 13th century they are scarcely found in manuscripts; and they would not be used for inscriptions on buildings, &c. till long after they were of common use in books. Mr. Wright doubted if any such inscriptions are likely to occur during the 14th century; and they were rare even during the 15th. Even in the 16th the prejudice was strongly in favour of Roman numerals.

At the same meeting, Mr. Croker read an account by Mr. Charles, illustrated by drawings, of Roman buildings lately discovered near the bank of the river Medway at Maidstone. The lower part of the walls of several adjoining rooms were uncovered. Mr. C. R. Smith made some remarks on this communication, and observed that as no marks of doorways were found in the walls, he was inclined to think it might be the lower part of a guard-house of soldiers.



NEW ENTRANCE TO KEW GARDENS.

MR. DECIMUS BURTON, ARCHITECT.

NEW ENTRANCE TO THE ROYAL BOTANIC GARDENS, KEW.

The very ornamental gates and piers, which are the subject of the annexed engraving, have been lately erected by order of her Majesty's Commissioners of Woods and Forests, and are from the designs of Mr. Decimus Burton, the architect of the gardens.

The piers are of Portland stone, with moulded and sunk pannels on the fronts; those of the large piers contain elaborately carved falls of flowers and fruits; the frieze is also enriched with swags of flowers, &c., festooning on each of the four sides from rams-heads projecting boldly from the angles, and the cornice is surmounted by a richly carved vase containing a bouquet of flowers. The sides of the vases are ornamented with appropriate masks. The shafts of the piers are each in one stone; the piers are 15 feet 10 inches high, to the top of the cornice; and the vases, &c., 7 feet 6 inches high to the top of the bouquet. The gates are 13 feet high, and range with the necking of the piers, and (except the arms) are executed in wrought iron, in the style of the ornamental and foliated ironwork of about the time of James the First; a style abounding in richness of detail, chasteness of outline, and in the better compositions, entirely free from the incongruities which abound in works of an earlier period.

Some fine remains of this date are to be seen in the old railing on the south side of Hampton Court Palace.*

Since the introduction of ornamental castings in iron, this elegant branch of the smith's art has fallen into disuse, while the clumsy, but cheaper casting, has obtained almost universal preference. It is, however, to be hoped, that the present attempt at its restoration will be followed by others, and that ultimately wrought iron work may be restored to its former excellence and importance in the building arts.

The following are the names of the parties employed to execute the works:—Mason, Mr. Trigg, of Kingston; sculptor, Mr. J. Henning, jun.; smith, Mr. Walker, of York.

To such of the readers of The Builder as are not familiar with Kew Gardens, and to whom the beauties of nature are not indifferent, the following particulars respecting them may be of interest, by making known to them an additional and intellectual source of recreation:—

The garden is described in Dr. Lindley's Report of 1838, as being "situated on the south side of Kew Green; bounded partly by walls of the royal kitchen and forcing garden, and partly by what is called the pleasure grounds of Kew palace. It is reported in the official returns to occupy fifteen acres, of which a part is arboretum, and the remainder filled by stoves and greenhouses, borders of herbaceous plants, &c., &c."

Up to the year 1841 the Royal Botanic Garden belonged to the crown, and its expenses as a private garden, were defrayed by the lord steward's department. In that year her present Majesty munificently placed the whole of the garden, plants, and buildings, in the hands of her Commissioners of Woods, giving at the same time an additional piece of land from off the royal pleasure grounds, to the extent of forty-five acres. Her Majesty was also graciously pleased to send to these gardens the entire collection of orchideous plants formed at Woburn Abbey, and presented to her Majesty by the present Duke of Bedford.

During the present year, a further grant has been made of the space hitherto occupied by the kitchen gardens and forcing grounds, before alluded to; thus extending the south-east boundary to the wall in the Richmond-road, and making a total of about seventy acres.

The old buildings which have been erected from time to time are irregularly placed, but a plan has been prepared for bringing the whole into better form, and ensuring greater propriety of position in all future erections. The enlarged and comprehensive views of the learned director, Sir Wm. Hooker, will, when fully carried out, render it a most important national garden.

A wrought iron conservatory, for the reception of the palms, &c., is in course of erection, and consists of a centre, 137 feet long by 100 feet wide and 66 feet high, and two wings, each 100 feet long by 50 feet in width and 30 in height. A gallery is formed at the height of 27 feet, round the whole of the centre part. The heating and ventilating will be rendered as perfect as improved science will admit.

A fuller description of this building may be of interest at some future period.

The collection of plants is rapidly increasing, by additions forwarded by employed collectors in foreign parts, by presents and interchanges from foreign states, and public and private bodies and individuals.

The following extract from a report made to the House of Commons by Sir William Hooker, in 1844, will explain the regulations, &c., of the garden:—"With the fact before me, that the vast stores of the British Museum are fully opened to the public, and visited by thousands of persons in a day with impunity, or comparative impunity, to the collections, I did not hesitate, on my arrival here, to have it announced that the grounds should be thrown open from one o'clock to six (nominally, but in reality to all respectable individuals who ask admittance at the gate, from eight in the morning till dusk), with free admission to the hot-houses and green-houses without the ceremony of conductors; and the public have taken ample advantage of this privilege, and prize it highly: the number of visitors annually increasing, till so many as 15,000 persons have frequented the gardens during the last twelve months. The experiment was considered by many as a dangerous one, but it has been pursued for nearly four years, and, thanks to the diligence of those employed in the garden, with little or no damage to the plants—nothing worth recording. And this being the case, it becomes easy to shew the benefit accruing to the establishment itself and to the public, by such an act of liberality." The institution gains friends and numerous contributors to its already unrivalled stores; and it is impossible to see so many visitors of all classes frequenting this noble garden without a conviction, that while educated and scientific individuals cannot fail to derive instruction from such an assemblage of well-arranged and skilfully-cultivated productions, including the useful and ornamental, the minds of the middling and lower ranks are enlarged and enlightened by a display of all that is most beautiful and lovely in the vegetable creation; and thus a gradual improvement must ensue in the habits and morals of the people.

H. B. S.

* It is much to be regretted that no attempt is made by the proper authorities to preserve this very beautiful work, which is fast falling to decay.

ON THE DELINEATION OF SHADOWS,

OR THE ORTHOGRAPHIC PROJECTION OF ARCHITECTURAL FIGURES.

In Gwilt's "Treatise of Sciography," page 3, third edition, it is stated that "a shadow in any elevation whose boundary in a vertical projection forms an angle of forty-five degrees with the horizon, *is but the representation on that projection of an angle of thirty-five degrees sixteen minutes.*"

To experienced architectural draughtsmen, and others well skilled in the principles of projection, the passage here quoted may perhaps be sufficiently explicit; but to beginners, and those unacquainted with the doctrine of planes, and their intersections, the above enunciation and the form of expression adopted by the author must prove as perplexing as the *Pons Asinorum* of Euclid to the students of elementary geometry, and being, like that celebrated proposition, placed at the very opening of the treatise, it is equally calculated to damp the ardour of pursuit and to disincline the learner from entering on the subsequent portions of the work.

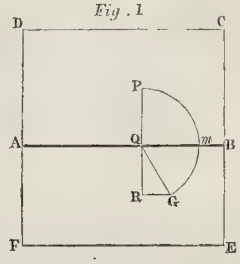
It is not our intention, however, to impugn the correctness of the theory which Mr. Gwilt has advanced, or to quarrel with him as regards the obscurity of this particular passage, for the general merit of his little work precludes criticism, and when considered in reference to its motive, and the manner of its execution, it is indeed a very excellent performance, and, in as far as it goes, it deserves and obtains our unqualified applause. Our object is to clear up the difficulty here referred to, and by tracing the subject from its simplest elementary principles, to establish the truth of the proposition contained in the above citation.

The author illustrates the import of his enunciation by reference to a cube, which he conceives to be divided into two equal triangular prisms, by means of a plane passing along the diagonals of two of its opposite sides, and through two of its edges diametrically opposite also; he then shews that the angle contained between the diagonal of the dividing plane, and the diagonal of the base of one of the triangular prisms, is an angle of thirty-five degrees sixteen minutes; but as no particular detail or demonstration is given, the import of the proposition does not readily appear to a person not previously acquainted with the principles of the *orthographic projection of figures*, and it is for the purpose of inculcating a knowledge of those principles, in so far at least as they are necessary for understanding Mr. Gwilt's fundamental proposition, and the theory which he has built upon it, that we have now undertaken the consideration of the subject.

In the *orthographic projection* the rays of light which issue from the luminous body, and form the contour of the figure on the plane of projection, or the straight lines by which the figure is traced upon that plane, are all parallel to one another; and this principle being recognized and brought into operation, whatever may be the form of the projected body, the process of delineation becomes simple and obvious, and may be rendered intelligible to persons of the meanest capacity, by attentively considering the following cases, in which the simplest principles of the subject are pointed out and explained in such a manner as to lead directly to the method of delineating figures of more intricate and complex forms.

When two planes that intersect each other are inclined at a certain angle, the angle which measures the inclination of the two planes is the same as that contained between the concurrent sides of a third plane, which is at right angles to the line of common intersection of the other two; one side of this plane being in each of the former. Thus, let ABCD and ABEF, fig. 1, be two planes, of which AB is the line of common intersection; and let

Fig. 1



GQR be a third plane at right angles to AB, one side, QG or QP, being in the plane ABCD, and the other side, QR, in the plane ABEF; then is GQR the angle which measures the inclination of the planes ABCD and ABEF.

Suppose, therefore, that the planes ABCD, ABEF, and the angle of their inclination, GQR, are given, together with the position of the point P in the upper plane ABCD, and let it be required to determine the position or projection of that point on the lower plane ABEF.

From the given point P let fall the perpendicular PQ, to meet AB, the line of common intersection in Q, which produce directly forward to any convenient distance at R. Make the angle GQR equal to the given inclination of the two planes, and on Q as a centre, with QP as a radius, describe the circular arc P*m*G, meeting QG in G, and making QG equal to QP. From the point G, thus found, demit the perpendicular GR, meeting PQ produced in R; then is R the projection of the given point P upon the plane ABEF, which is inclined to ABCD in the given angle GQR.

For since PQ and RQ are each of them perpendicular to AB, the line of common intersection of the planes ABCD and ABEF, and because QG is equal to QP, it follows, that if the plane ABCD be turned about AB, and the plane GQR about QR, until the points P and G coincide, then will the plane GQR be perpendicular to both the planes ABCD and ABEF, and the angle GQR will be the measure of their inclination. But the straight line GR is perpendicular to QR, and, con-

sequently, perpendicular to the plane ABEF; therefore, since the points P and G coincide, it is obvious that R is the projection of the point P upon the plane ABEF.

But the position of the point R on the lower plane ABEF can also be readily determined by calculation, and although it is not probable that practical men will often resort to this mode of determination, yet it may be both useful and interesting to have the method of operation pointed out. Now, since the position of the point P in the upper plane ABCD is given, the perpendicular distance PQ from AB, the line of common intersection, is also given; but QG is equal to QP by construction, and the angle GQR is given; consequently, in the right angled triangle GQR, it is

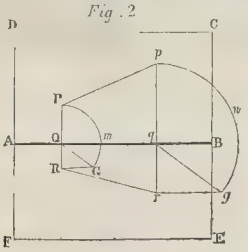
rad. : cos. GQR : : QG : QR = QG × cos. GQR.

This result implies, that if the perpendicular distance of the given point, from the line of common intersection of the planes, be multiplied by, or drawn into the natural cosine of the given inclination, the product will be the perpendicular distance of the projected point from the same line of common intersection; hence the position of that point on the plane of projection is known.

Again, let ABCD and ABEF, fig. 2, be two planes, of which AB is the line of common intersection, and let Pp be the position of a line in the upper plane ABCD, which is supposed to be given as well as the inclination of the planes; and let it be required to determine the orthographic projection or the position and magnitude of the given line Pp, when projected on the lower plane ABEF.

From the extremities P and p of the given line Pp, let fall the perpendiculars PQ and pq, which produce directly forward to any convenient length at pleasure; then at the points

Fig. 2



Q and q, where the perpendiculars meet the line of common intersection AB, make the angles GQR and gqr respectively equal to the inclination of the planes, and about the points Q and q as centres, with QP and qp as radii, describe the circular arcs PmG and png meeting QG and qg in the points G and g, thereby making QG and qg respectively equal to QP and qp. From G and g, as thus determined, let fall the perpendiculars GR and gr, meeting PQ and pq produced in R and r; then are R and r the projected extremities of the given line Pp, and by joining these points, the straight line Rr becomes the projection of the given line on the lower plane ABEF which was required to be found. Since the position of the line Pp is given, the perpendicular distances PQ and pq are also given, and so are their equals QG and qg; but the angle of inclination GQR or gqr is given; therefore by trigonometry, we have

rad. : cos. GQR : : QG : QR = QG × cos. GQR;
and rad. : cos. gqr : : qg : qr = qg × cos. gqr.

Subtracting the lesser of these two magnitudes from the greater, we get qr—QR = (qg — QG) cos. GQR, because the angles GQR and gqr are equal to one another. Let the difference just found be divided by Qq, the distance between the perpendiculars PQ and pq, and we shall have cot. Rrq = (qg—QG) cos. GQR÷Qq; this gives the position of Rr in the plane of projection; and by the property of the right angled triangle, it is

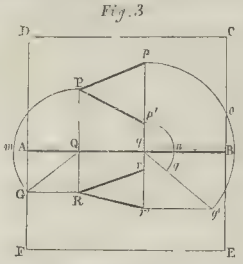
$$Rr = \sqrt{Qq^2 + (qg - QG)^2 \cos.^2 GQR};$$

which expresses the magnitude of the projected line Rr. From these formulæ a direct calculation can easily be instituted, by giving specific values to the line Pp, its inclination to the line of common intersection AB, and the inclination of the planes, or the angle GQR.

In like manner, let ABCD and ABEF, fig. 3, be two planes, of which AB is the line of common intersection, and let pPp' be an angle anyhow situated in the upper plane ABCD; it is required to determine the orthographic projection of this angle, or its position and magnitude on the lower plane ABEF, the inclination of the planes being given.

From the angular point at P, and from p any point whatever assumed in the containing line

Fig. 3

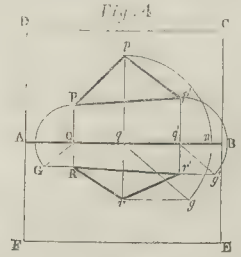


Pp, let fall the perpendiculars PQ and $pp'q$, meeting the other containing side Pp' in the point p'. At the points Q and q, make the angles GQR and $g'qr'$ equal to each other and to the given inclination of the planes; then on the points Q and q, as centres, with the radii QP, qp, and qp', describe the circular arcs PmG; pog' and $p'ng$, meeting QG and qg' in the points G, g, and g'; and from these points let fall the perpendicular GR, gr, and $g'r'$, meeting the straight lines PQ and pq produced in the points R, r, r' respectively. Draw Rr and Rr', then is rRr' the position of the given angle, pPp', when projected on the lower plane ABEF. The method of calculation is similar to that which we have given for the preceding cases, with the exception of the determination of the angle, which requires a separate and a different mode of procedure, but which we decline exemplifying in this place, as it would extend our paper to too great a length. With respect to the demonstrations, they may be conducted in the same manner for the second and third figures as for the first, by turning the several planes about their intersections until a coincidence takes place among the various lines and points concerned in the construction.

The planes ABCD, ABEF remaining as before, let Ppp' fig. 4, be a right-lined triangle anyhow situated on the upper plane ABCD, and let it be required to determine its position and magnitude when projected orthographically upon the lower plane ABEF.

From the angular points P, p and p' let fall the perpendiculars PQ, pq and $p'q'$, meeting AB the line of common intersection of the planes in the points Q, q and q', and produce the perpendiculars PQ, pq and $p'q'$ directly forward to any convenient lengths at pleasure; then at the points Q, q and q', make the angles GQR, gqr and $g'q'r'$ respectively equal to the inclinates of the planes, and on Q, q, q' as centres, with QP, qp, $q'p'$ as radii, describe the circular arcs PmG, png and $p'Bg'$, meeting QG, qg and $q'g'$ in the points G, g and g', and

Fig. 4



making QG, qg and $q'g'$ respectively equal to QP, qp and $q'p'$; then through the points G, g and g' let GR, gr and $g'r'$ be drawn respectively parallel to AB, the line of common intersection of the planes ABCD and ABEF, and meeting the productions of PQ, pq and $p'q'$ in R, r and r', which will be the angular points of the projection; draw Rr, Rr' and rr', and Rrr' will be the projected triangle both in magnitude and position. T.

THE BUILDING TRADES IN MANCHESTER AND LIVERPOOL.

Sir,—As I know something of the building trades in Manchester, and also of the general accuracy of all statements in the *Manchester Guardian*, I must consider that the case has been correctly stated in that paper. I think that the Manchester journal will have no difficulty in substantiating what it has said, but meanwhile it is right, that the readers of The Builder should receive no erroneous impression. With this particular dispute I may not be so well acquainted as your correspondent of last week, but any one who knows the position, which the paper in question holds amongst the journals of the kingdom, must be aware that "gross ignorance and palpable absurdities" cannot readily be proved against it. It is well known to all, who have any connection with the town of Manchester, that there the trades' unions, which exist in every branch, produce all the effects "broadly stated" in this case by the *Guardian*. I well recollect during previous strikes, hearing intelligent workmen condemn the existence of a system, fostered by the inferior workmen, from which they, the former, could not emancipate themselves. Ostensibly associations for mutual benefit, the unions for the most part, serve only to enrich the idle at the expense of the industrious, and really produce greater evils than those they are designed to obviate.

Judging from the printed account, and your correspondent's letter, I cannot see that anything has been said materially to alter the original statement. The works were stopped by the strike of the carpenters and bricklayers; the other workmen were dismissed because they assisted them; two occurrences which seem to be entirely distinct. According to the dates in the *Guardian*, which are not questioned, the carpenters went out on the Saturday, and removed their chests on the Monday, the latter being the day on which the bricklayers became part of the strike. Certainly the time was rather short for the bricklayers to have assisted the rest, and for the masters to *dismiss* them, as stated by your correspondent, who, in one place, speaks of the carpenters and bricklayers as included in the strike, the levies being made for both, and yet, in another instance, that the bricklayers were discharged because they made contributions. Therefore, I am at present unable to see, either that the journal in question is not substantially correct, that "dishonest practices and deliberate falsehood" are fairly to be charged against the masters, or that they, well-knowing the injury to themselves, and to the good workmen, which the trades' unions have occasioned, are not warranted in stipulating for signatures to a document, binding those whom they employ not to belong to these associations. A combination amongst masters is formed only occasionally, and in self-defence, to resist the demands, which are continually being urged, that amongst workmen always exists, and a retrospect of the history of trades' unions would prove, that they have had the most injurious effect upon the workmen themselves.—I am, Sir, yours, &c.,

Edward Hall.

33, Percy-street, Bedford-square, April 6, 1846.

At a meeting of the master builders, held yesterday week at Liverpool, Mr. John Tomkinson in the chair, the following resolution was proposed by Mr. Samuel Holme, seconded by Mr. Edward Williams, and carried unanimously:—"It having come to the knowledge of this meeting, that great numbers of the workmen now standing out are impressed by a notion that their signing a mere declaration, that they are not, and will not continue, a member of a trades' union, will be binding upon them in law; and it having been industriously propagated that it is the intention of the employers to take advantage of the same, this meeting desires, in the strongest manner, to repudiate such an intention, even if it was possible or legal, and declares that the signing of the declaration is only binding in honour upon every man, and was the course adopted in 1833, and to which no objection was then made."

On Tuesday week the turn-outs held a crowded meeting at Commercial-hall, Gloucester-street, Liverpool, when they indulged in a great deal of unqualified censure towards Mr. Samuel Holme, in particular, and the masters in general, for what they called their

late arbitrary and tyrannical proceedings. They declared, that they would continue to resist the demands of the masters at all hazards.

At Runcorn, last week, twenty-nine masons in the employ of Mr. John Tomkinson, were, in pursuance of a resolution entered into by the master tradesmen at Liverpool, called upon to sign a declaration stating that they were not members of any trades' union, nor did they contribute to the funds of any such union. This they one and all refused to do, and a turn-out was the consequence. The men bitterly complain of the harshness of this proceeding, as they were not in any manner connected with the strike at Birkenhead or elsewhere.

At Manchester, in consequence of the offers made by the masters of an advance of 2s. per week not having been accepted, a general meeting of the Master Builders' Association has been held at the Albion Hotel, at which three resolutions were unanimously adopted—the first, withdrawing the proposal, and declaring all communication between the society and the general trades' union at an end; the second, declaring that the masters in the association would in future employ no journeyman unless they would sign a declaration that they do not belong to any general trades' union, and pledging them not to assist or subscribe to any society having for its object interference with the established rules of the trade; and the third, pledging themselves, as an association, to protect and encourage all workmen willing to accept employment on these conditions.

At Birmingham, a partial strike of the carpenters has just taken place, and a general strike of the bricklayers. Some of the masters immediately acceded to the demands of their men, and in these cases work was resumed.

The *Edinburgh Witness* says, that on Thursday week about seventy masons, employed on the Dundee and Perth Railway, near Invergowrie, struck work for an advance of wages. Far from yielding to their demands, the masters have paid them all off, and have given orders to those in immediate charge not to employ a man of them again on any account. The masons on this line have been receiving 20s. weekly for some time past; and their present demand is an addition of 3s. to the sum.

The greater number of the labourers employed on the Lancaster and Carlisle Railway, in the neighbourhood of Penrith, who lately struck work in consequence of the contractors demanding 10½ hours' work per day, exclusive of meal times, instead of 10 hours daily labour, have resumed their work, agreeing to the demand of the contractors, without an advance of wages.

LIVERPOOL BRICKWORK.

Sir,—Your correspondent who signs himself Wm. Hawley, either did not know what he wrote about, or he has most wilfully misrepresented the method of doing brickwork in our "good old town." Mr. Hawley lays it down as a general rule that brickwork is not only done in a deplorable way at the present time, but has been so for "*ages* back," and in fact he states that in no other place is work done in the same disgraceful manner.

I rather fancy that your correspondent has been imposed upon by some malevolent person, who has worked upon his imagination to such an extent as to render a dose of ink and goose quill perfectly necessary, the consequence of which was that beautiful little pouring out of his spirit that appeared in your last publication.

For your correspondent's information, I will say that we have good workmen, honest masters, and competent and conscientious surveyors, and I think I may take upon myself further to say, that the generality of work done in Liverpool is equally as good as in any other part of England, but Mr. Wm. Hawley will not allow it; he makes a general sweep of us all, so much so, indeed, that a person not acquainted with our mode of doing business, would suppose that we have nothing else but bad workmen, poor masters, dishonest surveyors, and fools for our principals. I would recommend your correspondent to ask the opinion of some respectable surveyor previous to again committing himself so far. It is true, Sir, that Liverpool has both good and bad workmen, the same may be said of any other town or city in the world, but when we find that the good preponderates over the bad, is it proper, is it just, that such opprobriousness should be tolerated?—I remain, Sir, &c.,

James Fairclough, Architect.

Liverpool, 2nd April, 1846.

*** Mr. Fairclough having attached his name to this communication, we willingly insert it, but feel bound to remark that we fear Mr. Hawley's statement can be substantiated in the main. As to the inference Mr. Fairclough says might be drawn, in London we *have* some good workmen, the masters are *not* all poor, the surveyors *not* dishonest, and many principals are any thing but fools, yet here unquestionably the greater part of the brickwork executed is not a jot better than that described.

LONDON TIME IN THE COUNTRY.

Sir,—In a late number of the *Popular Record*, there occurs a notice of an "improvement in railway clocks," shewing at once the London or railway time, and the local time. The idea and peculiar manner of accomplishing the desideratum is said to have originated with Mr. J. Pilbrow, C.E., of Bloomsbury-square. I have not seen any more particular account of this "improvement," but the following are two methods which, on reading the above notice, immediately suggested themselves to my mind, neither of them requiring any addition or alteration to the *works* of the clock:—The first method consists in having the minute hand made double, the additional arm being fixed at an angle determined by the longitude of the place. For the sake of distinction, the extra arm, marking London time, should be of a different colour from the other hands. Thus, if the latter be gilded, the former may be silvered.

In my second method, I have only an outer circle of minutes, beyond those usually laid down on the face of the clock; and this outer circle is so divided, that the minute-hand shews upon it the London time at the same instant that it shews local time on the usual minute circle. This latter method is the one I prefer, still there may be some instances (as in adapting existing clocks) when the former would be a little more economical. It should be remarked, that the above methods are not clearly applicable to places whose longitude (east or west) exceeds about five degrees. But as this limit includes the whole of England and Wales, with part of Scotland, this cannot be taken as a practical objection.

Should you consider the above worthy a place in your periodical, I shall feel gratified by your giving it publicity.

I remain, Sir, yours, &c., J. L.

Maidstone, 21st March, 1846.

*** The first-named arrangement is adopted in several of the provincial towns.

THE BOODROOM MARBLES.

At a meeting of the Royal Society of Literature, on the 26th ult., Mr. Hamilton read a paper on these sculptures, which are now anxiously expected in England. Mr. Hamilton differs entirely from the opinions which have been expressed both as to the original purpose of the marbles and their age. We avail ourselves of the *Literary Gazette* for a report of the paper:—"Many statements respecting these remains of antiquity have lately been made public, but none so satisfactory as they might have been. For example, one of the most recent would lead to the supposition that the earliest notice of them was that contained in the second volume of the *Ionian Antiquities*, published by the Dilettanti Society in 1797; whereas the fact is, that at least twelve out of the fourteen fragments which are announced as now on their way to this country were seen by Messrs. Dawkins and Wood, on their way from Palmyra in 1749 or 1750, and were also seen, drawn, and engraved, within a very few years of that time (in 1751 or 1752), by Richard Dalton, one of a party of English travellers who were then engaged with Lord Charlemont in exploring the coasts and islands of the Archipelago.

The engravings executed by Mr. Dalton as the result of that expedition were laid by Mr. Hamilton on the society's table. From the difficult circumstances in which the drawings for these plates were made, as well as from the want of critical taste and accuracy which prevailed at the time, it may be inferred that they are by no means exact copies of the originals; but enough may be made out from them to shew, that the marbles from Halicarnassus are not remains of archaic art, or similar in character to the Egina statues. They will probably be found to partake much more of the florid style, of the affected flow of drapery, and refined minuteness of execution, which characterized Greek art in the age of Alexander, one hundred years of rapid declension later than the era of the sculptures of the Parthenon. Nor (continued Mr. Hamilton) is there any just ground for doubting that these marbles are part of the sculptured decorations of the celebrated tomb of Mausolus, king of Caria, whose death occurred in the fourth year of the 106th Olympiad, two years after the birth of Alexander. Every one knows that, on account of the extraordinary magnificence of this sepulchral monument, it was reckoned among the seven wonders of the world. It is mentioned by many ancient writers, among whom Pliny the elder alone gives a detailed account of it, so as to enable us to form a notion of its extraordinary size, character, and distribution. Of the manner in which this monument was decorated we are only told that four of the most eminent sculptors of the time—Scopas, Leochares, Bruxis, and Timotheus,—were employed for this purpose by Artemesia, the disconsolate wife and sister of the deceased sovereign. Pliny does not acquaint us on what part or parts of the building their works were placed; he only says, that they each took one side. But from all we know of the practice of the ancients in structures of the dimensions of the Mausoleum, we cannot doubt that they were affixed to the frieze of the building, between the architrave and cornice.

We know not whether it will add to or detract from the curiosity with which our readers are expecting the arrival of the Halicarnassian remains to learn that, in the view of so able a connoisseur as Mr. Hamilton, we already possess more of the Mausoleum sculpture than is generally supposed. He entertains a strong conviction that portions of them are amongst the bas-reliefs recently brought from Xanthus, for which we are indebted to the exertions and intelligence of Sir Charles Fellows."

INSTITUTION OF CIVIL ENGINEERS.

March 31st, 1846.—Sir John Rennie, president, in the chair. The discussion upon the papers read at the last meeting was continued, and precluded the reading of any original communications. On Mr. Heppel's paper "On the resistance to bodies moving through fluids," it was observed, that the method of experimenting while dragging the paddles through the water was objectionable, and liable to error from the slight knowledge we yet possessed of the actual resistance of flat bodies in fluids. Mr. Russell gave an account of the experiments tried by him on vessels of large tonnage, dragging them through the water by a steam tug, and recording the resistance by a dynamometer, the peculiarities of which he described, and exhibited the diagrams produced by it both with steam vessels and with locomotive engines. The instrument consisted of two pairs of plate springs of a parabolic form, as designed by M. Morin, and so proportioned, as to have an equal degree of flexure throughout their length. Four self-inking pens, with different ink, recorded upon long strips of paper wound upon barrels, all the effects of resistance, &c., by a series of curves, the areas of which were afterwards measured by a simple self-registering instrument, which he also exhibited.

For measuring the velocity he used the "Pето's" tube, and of its correctness he spoke in the highest terms.

Mr. Rennie's experiments on the subject were also discussed, as were also those of Colonel Beaufoy, of Mr. Palmer, Sir John Macneill, and Mr. Walker, and the various results arrived at were compared. The general result appeared to be that with regard to vessels, no general law could be universal in its practical application, as it must be modified by circumstances due to the forms of the

vessels, the lateral friction and numerous causes, all of which must influence the results.

The application of the dynamometer to testing the resistance of railway trains was then discussed, and the members were generally surprised to find so small an amount of inequality of action at the starting of a train, and how soon the diagram shewed comparative steadiness of traction; still the delicacy of the instrument was such as to indicate distinctly every change of gradient, and even the entering and leaving, a cutting or tunnel, shewing the greater or less influence of the wind. The usual dynamometers, with helical springs and pistons working in oil, were shewn to be for such purposes nearly useless, as they smothered the results. It was stated, that the table of the force of wind at certain velocities, as given in Smeaton's reports, was erroneous by fifty per cent., and that the front and the lateral action of the air upon a train, constituted a large portion of the actual resistance: it was necessary to make these corrections, which, when made, shewed an extraordinary accordance between the calculated resistance, and that absolutely recorded by the instrument. The results given (although as yet not sufficiently positive to be tabulated for general use) shewed that a change must take place in the usual allowance for resistance on railways: these tables were promised to the Institution within a short time. In the renewed discussion upon Mr. Parke's paper, "On the estuary of the river Severn," the extraordinary circumstances attending the tides; the "breaking bore;" the mode of conducting the navigation, and the improvements now executing in the upper part of the river, were fully discussed. It was suggested, that one universal datum line throughout Great Britain, referring to one standard, say Trinity High-water Mark, would be of the greatest utility for tidal observations as for railway purposes; and it was proposed that the Institution should request the co-operation of Government in accomplishing this desirable object.

MR. STEPHENSON'S PROPOSED IRON TUBULAR BRIDGE.

Mr. Fairbairn having been requested to make a series of experiments for ascertaining the strongest form of a sheet-iron tubular bridge, to cross the Menai Straits, called in the aid and assistance of Mr. Hodgkinson. These gentlemen divided their experiments into three classes: 1st, relating to cylindrical tubes; 2nd, elliptical tubes; 3rd, rectangular tubes. The results were as follows: the cylindrical form was the weakest; nearly the whole of the tubes tried, amounting to nine, were ruptured by tearing asunder at the bottom through the line of the rivets. With respect to the elliptical form, great weakness was indicated on the top side of the tube, which in almost every case was distorted by the force of compression acting in that direction. Mr. Fairbairn thinks it probable that those of the cylindrical form would have yielded in like manner, had the riveting at the joints been equally perfect on the lower side of the tube.

The next experiments, and probably the more important, were those of the rectangular kind; they indicated a considerably increased strength when compared with the cylindrical and elliptical forms; and, considering the many advantages which they possess over every other yet experimented upon, Mr. Fairbairn was inclined to think them not only the strongest but the best adapted (as regards either lightness or security) for the proposed bridge.

The report from which we obtain these results gives the particulars of no less than twenty-nine experiments, and concludes by the following general remarks of Mr. Fairbairn upon the practicability of the scheme:—"So far as our knowledge extends, and judging from the experiments already completed, I would venture to state that a tubular bridge can be constructed of such powers and dimensions as will meet, with perfect security, the requirements of railway traffic across the Straits. The utmost care must, however, be observed in the construction, and probably a much greater quantity of material may be required than was originally contemplated before the structure can be considered safe. In this opinion Mr. Hodgkinson and myself seem to agree; and although suspension chains may be useful in the construction in the first instance, they would nevertheless be highly improper to depend upon as the principal support of the bridge. Under every circumstance, I am of opinion that the tubes should be made sufficiently strong to sustain, not only their own weight, but in addition to that load, 2,000 tons equally distributed over the surface of the platform, a load ten times greater than they will ever be called upon to support. In fact, it should be a huge sheet-iron hollow girder, of sufficient strength and stiffness to sustain those weights; and, provided the parts are well proportioned, and the plates properly rivetted, you may strip off the chains, and leave it as a useful monument of the enterprise and energy of the age in which it was constructed."

ART-UNIONS AND THE GOVERNMENT.

The opposition on the part of the Chancellor of the Exchequer, to Mr. Wyse's Art-Union Bill, which we hinted at in our last, was expressed in set terms by the Right Honourable gentleman on Wednesday night, and the Committee was accordingly postponed for a fortnight!

Artists, and all who are interested in extending a love for the arts and advancing them, should immediately take steps to make their opinions known. In the face of the report from the Committee of the House, the conduct of the Chancellor of the Exchequer is quite extraordinary. Truly the arts will find no refuge in Downing-street.

Correspondence.

A BUILDING FOR LITERARY AND SCIENTIFIC SOCIETIES.

Sir,—There are a number of societies in London having a certain relationship to each other, who meet in various parts of the town. It has occurred to me that the truism of "Union is strength," might be better understood, and acted on by these several bodies.

Most persons taking a share in the management of such societies as the Microscopic, Decorative Art, the Graphic, the Carvers, Architectural Draughtsmen, &c., &c., &c., must have experienced the difficulty of providing respectable and efficient accommodation for the periodical meetings, as also for their collection of books, casts, models, natural or other objects, the property of the respective bodies. Upon consideration, I am led to believe that by a mutual arrangement, such societies might jointly occupy a noble suite of rooms, or a portion of a house conveniently situated, and that the cost to each should be even less than they now pay for inferior accommodation. They might (I should imagine) easily arrange among themselves the respective day or evening, for the meeting of each party, and the smaller rooms would afford each exclusively, a place to deposit its models, books, &c., and also an office for receiving subscriptions or any other business. If you should have space to insert these remarks, I think it will be assisting to forward a subject you appear to be much interested in, viz., the progress of knowledge, by affording facilities for the exchange and diffusion of information.

March 31, 1846. W. G. Lock.
Society of Carvers.

*** It appears surprising that an arrangement of this sort, so often mooted as it is, has not been carried out. The Institute of Fine Arts took some steps towards it a short time ago.

Accident to Mr. Baddeley.—We regret to hear that at the recent fire at the Canada Steam Mills, Rotherhithe, Mr. Baddeley, who for many years has been connected with the *Mechanics' Magazine*, and for some time past has turned his attention to the statistics of fires in the metropolis, fell from a ladder and broke his leg while he was rendering assistance in directing the fireman. He was immediately conveyed to Guy's Hospital.

Arts of New Zealand.—A very interesting exhibition of drawings by Mr. Angas, illustrative of the arts, country, and manners of the New Zealanders, is now open at the Egyptian Hall. We will say a little more about it next week.

Miscellanea.

The Law Relating to Highways.—A bill is now before Parliament to amend the laws relating to highways. It is a Government measure bearing the names of Sir James Graham and Mr. Manners Sutton. It contains no fewer than 116 sections, and it is proposed that it shall take effect on the 29th of September next. The preamble states, that it is expedient that the repair and maintenance of the public highways should be made more efficient, uniform, and economical; and in order thereto, that parishes and places now separately maintaining their own highways should be combined into districts, and placed under the management of district boards (subject to certain inspection and control), and that the laws relating to such highways should be in other respects revised and amended. It is intended by this bill to form districts, and to place them under the superintendence and controul of the Enclosure Commissioners. Surveyors are to be appointed to carry the act into force. There is a provision to compel railway proprietors to erect gates, &c., where they cross highways. There is in this bill a somewhat long interpretation clause, and reference is made to a schedule of forms annexed to the bill, but no schedule is given. The bill is to apply to England and to North Wales. It extends to 113 pages.

A Lacker Equal to Gold.—At a soirée held last week at the British and Foreign Institute, some specimens of a new process for imparting the effect of electro-gilding without the use of gold were exhibited by the inventors, Messrs. Sedgwick and Taylor of Piccadilly. By this method the surface of brass can be wrought up to a degree of finish so exactly resembling gold, that it is said the most experienced eye could not detect the difference; and in one of the candelabra shewn, the lower half was coated with real gold in the usual mode, and the upper half finished without a particle of gold or gilding; yet no one could determine the point of union. In addition to the richness of effect, this invention is stated to have the further advantage of much greater freedom from tarnish than ordinary gilding, and can be produced at a saving of 700 per cent.

Patent Galvanised Iron Company.—At the ordinary half-yearly meeting of the shareholders of this company, held last week, a dividend after the rate of eight per cent. per annum was declared; and a sum of ten per cent. was set aside towards a reserve fund. The chairman stated, that within six months the company would have six furnaces at work in Wales, and four in Staffordshire; he also referred to various contracts entered into, among which he cited that of the galvanised iron wire required for the electric telegraph, being forty tons per week, which would pass over sixteen or eighteen weeks, the quantity required covering a space of 4,000 miles. For sheathing and roofing purposes, the demand was daily increasing. After a vote of thanks passed with the utmost cordiality to the chairman and directors, the meeting separated.

St. Mary's, Kidderminster.—The interior of this venerable edifice (the parish church of Kidderminster) is about to undergo considerable improvement and alterations. A new organ is to be placed in a more convenient part of the church, as the old one at present being placed at the west end impedes the view of the fine window at that part, which contains more compartments than the celebrated window at Christ church, Oxford.

Last of the Old Shops.—The old fishmonger's shop on the north side of the Strand, adjoining Temple Bar, which retained the ancient penthouse, and reminded one of the time before plate-glass was, when pain's-taking shop-keepers cried aloud to passers-by "what d'ye lack," has been taken down to give room for a modern erection. We never passed it without thinking of London then and London now.

Architecture in New York.—The new Trinity Church is nearly finished, and is said to be the best example of Gothic in that city. It has a tower and crocketted spire 300 feet high, and the windows are filled with stained glass.

Grimley Church, Worcestershire.—Last week the ceremony of laying the first stone of a new tower to Grimley Church, near Worcester, took place.

ST. JOHN'S GATE.—The owners of this ancient structure have relinquished the idea of compoing the gate, and have determined to re-case it with stone where defective. The ornamental portions, such as embattlements, labels, &c., are to be restored by the public, under the direction of the committee and Mr. W. P. Griffith, architect.

REDUCTION IN PRICE OF GAS.—Mr. Malam has announced to the private consumers of gas in Lincoln, that for the next five years commencing with the 1st inst. the price for 1,000 cubic feet by approved metres will be reduced from 8s. 4d. to 6s. 8d.

DEATH OF MR. LE KEUX.—Mr. Le Keux, Senr., the well-known excellent architectural engraver, died last week. We propose to lay before our readers some particulars of his life and progress in our next number.

SOCIETY OF ANTIQUARIES.—It is believed that Lord Mahon will be the new president of the society.

MEETINGS OF SCIENTIFIC BODIES

During the ensuing week.

TUESDAY, 14.—Freemasons of the Church, 3, Great Newport-street, Leicester-square, 8 P.M.; Syro-Egyptian, 71, Mortimer-street, Cavendish-square, 8 P.M.

WEDNESDAY, 15.—British Archæological Association (Western Literary Institution), Leicester-square, 8½ P.M.; Microscopical, 21, Regent-street, 8 P.M.; London Institution, Finsbury Circus, 7 P.M.

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For the execution of works on the Oxford, Worcester, and Wolverhampton Railway, including two tunnels.

For alterations and repairs in the Free Grammar School, Unity-street, Bristol.

For constructing a pier in the harbour of Harwich (time extended).

For executing various works on the Dublin and Belfast Junction Railway.

For the performance of sundry works required in the repairs and alterations of Tawistock Chapel, Broad-court, Drury-lane (time extended).

For executing various works required in the erection of a granary in Canal-street, Perth.

For alterations, repairs, &c., in the Episcopal Chapel, Billericay, Essex.

For the erection of a new Town Hall, Council Rooms, Market House, &c., at Dorchester.

For executing the requisite works in the erection of a building for the Public Rooms Association, Bridlington-quay.

For the re-building the parish church of North Ferriby, near Hull.

For the performance of such of the under-mentioned services as may be required by the Board of Ordnance, at Hull, for three years; viz., painters' and glaziers', masons' and paviors', bricklayers', carpenters', plasterers', slaters', plumbers', smiths'.

For the execution of works on the Waterford and Limerick Railway; also for supplying 50,000 sleepers, 1st, 2nd, and 3rd class carriages, waggons, trucks, boxes, carts, pens, &c.

For lighting the precincts of the Savoy with gas for three or seven years.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At Paddington, near Chester: above 400 oak, and 300 ash timber trees, now growing. They are of large dimensions, and excellent quality.

At Little Bentley, Essex: 1,500 very capital larch fir trees, and 300 ash ditto.

At the Anchor Tavern, West Orchard, Coventry: 506 superior oak, coppice, timber trees, &c.

Upon the Hale Estate, Mayland, Essex: 320 elm timber trees and pollards.

At the Saracen's Head Inn, Chelmsford: 107 superior oak timber trees, now standing.

TO CORRESPONDENTS.

"Llandilo Church Competition."—*Two correspondents are anxious to know if this competition is decided.*

"W. N." (Reading).—*Remove the infected parts, and admit a free current of air. A strong wash of copperas and hot lime, applied with a brush, is recommended.*

"Q. E. D." *we cannot decipher.*

"A Carpenter."—*The Price-book mentioned is a good one. Get Nicholson's Carpentry.*

"Z. Z." *asks if it is customary for committees to keep plans that have been submitted to them, and that have obtained one of the lower premiums, in a public competition?—No: unless so stipulated.*

"C. G."—*Write to Mr. Webbe, at the Institute of Architects, Lower Grosvenor-street, and he will return you the particulars.*

"Budownik."—*The report of the Fine Arts Commissioners contains no such plan. The editor of the journal named being out of England, we cannot obtain an explanation of the statement.*

"G. H. S."—*The part required is unfortunately out of print, and the publisher has no means of obtaining a copy.*

"Original Subscriber."—*We fear it will be some time before an act to compel owners of steam-engines to consume their own smoke is passed.*

"Devonshire Marble Works."—*A correspondent says:—"Some time ago there were established, at a place, near the mouth of the Severn, Marble Works, for working Devonshire and North Wales Marbles. Can you tell me whether this establishment is still in existence, and, if it is, the name of the proprietor by whom it is conducted?"*

"Sepulchral Memorials."—*Next week.*

Received: "J. K.," "Cloacina," "Archie," "A Surveyor," "Y. Z.," "W. R.," "The Rationale of Railway Administration, with a view to the greatest possible amount of accommodation, chespness, and safety;" by Thornton Hunt. (Smith and Elder); "Architectural Notices of the Churches of Northampton," No. I. (Parker, Oxford); "Burial-ground Incendiarism;" by George Alfred Walker, surgeon (Longman and Co.).

ADVERTISEMENTS.

FIRE BRICKS.

WARD, Honduras Wharf, Bankside, and St. Michael's-alley, Cornhill, has just landed a large quantity of his very superior manufactured Fire Bricks, of Stourbridge, Welsh, and Newcastle. Prices very low. Shipments made for the East and West Indies, &c., with the greatest promptness. Gas companies, engineers, builders, and all large consumers supplied from ships in the river at a much lower price. A very large stock on hand of Bricks, Lumps, Tiles, and Clays.

River sand and gravel by freight to any wharf and dock.

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For the convenience of the trade every facility is studied. LEADEN COFFINS may be obtained full trimmed in an hour, and every other article on the shortest notice. Cambric and Satin Shrouds, Winding Sheets, &c. Horses, Coaches, Feathers, Velvets, Heraldry, &c. Country orders punctually attended. No extra charge for delivering large coffins within ten miles.

THE ROCK BUILDING AND INVESTMENT SOCIETY. (Enrolled pursuant to Act of Parliament.) Commenced March, 1845.

CHIEF OFFICE.—26, New Broad-street, London.

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James Hunter, Esq., Compton-terrace, Islington.
Colpitts Harrison, Esq., Dalston Rise, Dalston.
John Vanner, Esq., Spital-square, Bishopsgate.

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This Society is formed for raising funds from which from time to time advances will be made, enabling such subscribers as may be desirous of buying property to make the purchase with little or no outlay of their own capital. 2ndly, to provide for other subscribers a greater interest than can be allowed by a Savings' Bank; and 3rdly, to enable persons who have mortgaged their property to pay off the incumbrances by means of the amount advanced by the Society, and repay that amount by easy monthly instalments.

The Directors of the Rock Building Society have in its formation endeavoured to adopt all that appeared beneficial, and to dispense with every thing really objectionable, in the plans of prior established Building Societies. They have therefore determined to have NO ENTRANCE FEES, NO REDEMPTION FEES, NO FINES ON WITHDRAWALS, AND NO BIDDINGS FOR SHARES.

The Tables, prepared for the Society by Mr. Theodore Jones, are so framed as to afford equal advantages to all the subscribers, whether borrowers or investors, and these and the rules have not only been certified by Mr. Tidd Pratt, but have elicited his special approval.

The Tables have been submitted to Arthur Morgan, Esq., F.R.S., the Actuary of the Equitable Assurance Office, in whose opinion "they will impart such a degree of accuracy, fairness, and precision to the proceedings of the Society, as must render it, if properly conducted in other respects, superior to any society of the same kind that has yet been established in this kingdom."

Subscriptions may be paid at the Office in New Broad-street, and the Prospectus, Rules, and Tables, obtained there, at either of the Branch Offices, of the directors, surveyor, or secretary, and will be forwarded by post on receipt of 3*s.* 4*d.*

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TO CIVIL ENGINEERS, SURVEYORS, &c.

HENRY POPE, Wholesale Stationer, having had for some time a large stock of Drawing Paper on hand, which, from its age, is so superior for mounting, feels much confidence in recommending his Mounted Papers, lengths of which upon linen and cotton are kept always ready. Maker of the Patent Metallic Levelling and Surveying Field Books, Tracing Papers, and all kinds of Stationery. The Ordnance Maps supplied. 22, Budge-row, Watling-street.

FINE ARTS.

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Price 18*s.* and 25*s.* Apply for Agents to BENJAMIN WEST, 8, St. James's-walk, Clerkenwell.—Sold by BARRITT and Co., 173, Fleet-street, London; GRIFFIN and Co., Glasgow, and by all Fancy Stationers, &c.

SEWERS, MIDDLESEX, HOLBORN AND FINSBURY DIVISIONS.

NOTICE IS HEREBY GIVEN, that a Court of Sewers for Holborn and Finsbury Divisions in the County of Middlesex, will be holden at the Sewers office, No. 7, Hatton-garden, on Friday, the 24th day of April, 1846, at 2 o'clock in the afternoon precisely.

JOSEPH UNWIN, Summoner and Cryer.

Sewers' office, for Holborn and Finsbury Divisions, &c., No. 7, Hatton-garden.

TO BUILDERS AND OTHERS.

Interested in Buildings, or in Ground for Building upon, within the District of Holborn and Finsbury Divisions, the Parish of St. Leonard, Shoreditch, and the Liberty of Norton Folgate, in the County of Middlesex, and the Borders and Confines of the same.

THE COMMISSIONERS of SEWERS for the above limits, do hereby give notice, that previous to making any new sewer in any street, lane, or public way, or in any part intended to become a street, lane, or public way, or to carry or drain off water from any house, building, yard, or ground, into any sewer under their management, or within their jurisdiction, application must be made by petition, the form of which may be had at their office; to which must be attached, a plan of the intended line of sewer; and which must be constructed conformably with their regulations.

And, in order to prevent the serious evils and inconveniences that must arise from ground proposed to be built upon being excavated to too great a depth, the commissioners have directed that upon application being made at their office, previous to the excavation of such ground, information shall be given as to the lowest depth at which the same can be drained.

And the commissioners do also give notice, that whenever the lowest floors or pavements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any sewers, or drains into sewers, to be made for the service of such buildings; and, further, that no buildings or erections of any kind will be permitted to be made upon or over any sewer.

All communications made with any public sewer, without previous application, as aforesaid, will be stopped out; and all parties making the same will subject themselves to a fine.—By the Court, STABLE and LUSH, Clerks.

*** The public is also informed, that all rates imposed by the said commissioners are to be paid by the tenant, and allowed by the landlord out of the rent, except where the tenant, by special covenant or agreement, is bound to defray the same.

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDDLESEX, No. 1, Greek-street, Soho-square.

TO BUILDERS and Others interested in buildings or in ground for building upon, within the district under the jurisdiction of this Court, drained by watercourses falling into the river Thames, between the city of London and the parish of Fulham.

The Commissioners hereby give notice, that by an Act of the 47th Geo. III. (chap. 7, local) it is required that, previously to the making of any new sewer in any street, lane, or public way, or in any part intended to become a street, lane, or public way, or to carry or drain off water from any house, building, yard, or ground, into any sewer under their management, or within their jurisdiction, a notice in writing shall be given to them, or to their clerk at their office, and that such new sewer or sewers shall be constructed and made in such manner and form as shall be directed by the said Commissioners, and not otherwise.

And, in order to prevent the serious evils and inconveniences that must arise from ground proposed to be built upon being excavated at too great a depth, the Commissioners have directed that, upon application being made at this office previously to the excavation of such ground, information shall be given as to the lowest depth at which the same can be drained.

And the Commissioners do also give notice that, whenever the lower floors or pavements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any sewers, or drains into sewers, to be made for the service of such buildings.

It is recommended to all persons about to purchase or take houses, or other premises, to ascertain whether such premises have separate and distinct drains into common sewers.

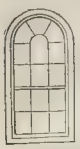
All petitions must be delivered at this office at least three clear days before they are presented to the Commissioners; and all such petitions will be called on in the order of their application, and the name of any party not present when called on to support the application will be struck out, and the proceedings must in consequence be commenced de novo.

All communications made with any sewer without leave of the Commissioners will be cut off, and the parties making the same will subject themselves to a fine.

The provisions of the Metropolitan Buildings Act (7 and 8 Victoria, c. 84) do not supersede the authority of the Commissioners of Sewers in the above respects, but their powers are expressly reserved, and their regulations made subservient to the purposes of that Act. The execution of such works, under the superintendence of the district surveyor alone, cannot therefore warrant the making of any sewers or drains within this commission, nor relieve the parties making them from the penalties above mentioned.

By order of the Court,
LEWIS C. HERTSLET, Clerk.

SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.



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Beg to state that they continue to make Sashes, glazed complete, at 10½d. per foot; also, Shop Fronts to any design, and with the best British plate-glass. Every description of joinery on the lowest terms, and of the best materials and workmanship.

A full list of prices forwarded by return of post to any part of the country.

TO THE BUILDING PUBLIC, &c.

ONE WORD with you, and Take Notice, should you want SASHES and FRAMES, go to that Noted Cheap Sash and Frame Manufacturer to the Trade,



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Where you can have Sashes and Frames made and glazed at 1s. 3d. per foot supr.; Shop-fronts of every description; greenhouses, doors, and shop-fittings manufactured equally cheap.—For further particulars apply as above (prepaid), inclosing a postage-stamp. Country orders punctually attended to. Terms for Cash only.

N.B. The Cheapest House in London for all kinds of fittings.

HERRING'S PATENT WINDOW for hanging the Sashes, whereby they may be instantly disconnected from the Frames, without removing the Beading. It is now being applied in Palaces, Castles, Mansions, first-rate Houses, Villas, &c. It is universally approved and adopted by every Architect that has seen it. Builders in the Country will have a full-sized Window forwarded on receiving an order and reference, and taken back if returned within eight days free. To be seen daily. Licences and other particulars had of the Patentee, 14, Kingsgate-street, London.

This invention is exceedingly simple, increases the cost but slightly, and appears to answer the purpose well.—Builder, 28th February.

A Premium of 5*l.* will be given to the first fitter-up of a first-rate House with this Patent, and in proportion for second, third, and fourth-rate Houses.—March 20, 1846.

PATENT WINDOW BLINDS.

TYLOR and PACE manufacture every description of WINDOW BLINDS entirely upon their own premises, by the aid of steam machinery, insuring the best materials and workmanship, at the lowest cost. Patent metallic gauze and perforated Zinc Blinds, in mahogany frames, at 1s. 8d. per square foot; ditto, in metal frames, 1s. 2d. per square foot. A large and choice assortment of Transparencies, mounted, from 19s.; Holland Blinds, on plain or spring rollers, Outside Shades, Venetian and Sun Blinds of every description.

TYLOR and PACE'S Show-rooms, 53, Cornhill, entrance St. Peter's-alley.

WILSON'S PATENT VENTILATING SPIRAL CHIMNEY POT, for the cure of smoky chimneys (manufactured by J. POTTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success. This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance. The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory, Southwark-bridge Iron Roofing Works.



PAVING, 2s. 9d. PER SQUARE YARD Basements, Foot walks, Malt-houses, Corn Stores, Floors of War chouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27s. 6d. per ton.

TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the Seyssel Asphalte had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorized CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced. I. FARRELL, Secretary.

Stangate, near Westminster Bridge, Jan., 1845. Seyssel Asphalte Company.

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specification, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

FOREIGN SHEET GLASS, TILES, &c.—The cheapest, stoutest, and best quality imported, and sold at C. JARVIS'S old-established WINDOW GLASS WAREHOUSE, 38, Great Castle-street, a few doors from Regent-street. Crown Glass from 50s. per crate. Squares cut to size equally low in price. Sashes glazed on the lowest terms. Country orders forwarded with reference will meet with prompt attention. The largest discount allowed off all descriptions of glass for ready money only.

SASHES primed, glazed, and sent to any part of London at 6d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.

FOREIGN SHEET 5d. per foot.
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Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Show-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.

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VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.

For complete lists priced.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

TO THE PLATE GLASS TRADE.

THE BIRMINGHAM PLATE AND CROWN GLASS COMPANY, "Registered," beg to inform the Trade and Public, that the extension of their Works at Smethwick, near Birmingham, being now completed, their Warehouse 141, Fleet-street, is now open for the Sale of their Crystal Plate Glass, which will be found to stand unrivalled by that of any other manufactory. They are also in a position to supply Rough Plate of any substance for Skylights or Floorings on the shortest notice.—Orders addressed to B. MOSS, 141, Fleet-street, will be promptly attended to.

FOREIGN SHEET GLASS, in Cases as imported.

		Common.	Second.	Best.
Under 1 ft. 0 in. superficial	}	3½	4	5
1 ft. 0 in. „ 3 ft. 0 in. „	}	4	4½	5½
3 ft. 0 in. „ 4 ft. 6 in. „			5	6
4 ft. 6 in. „ 6 ft. 0 in. „		4½	5½	7
6 ft. 0 in. „ 9 ft. 0 in. „		4½	6	8

THOS. MILLINGTON has always a large stock in hand, and receives weekly large supplies: T. M. is nearly the only real importer.—Address, Thos. Millington, 87, Bishopsgate-street Without, London. Dealer in all kinds of Plate, Sheet, and coloured Window Glass. Manufacturers of Paints, Varnishes, and Colours.

An immense stock of Varnish, very old, &c.
Fine Oak Varnish, 10s. per imp. gal.
Fine Carriage..... 12s.
Fine Copal ..... 18s.
Fine Body ..... 24s.
No charge for cans if taken in quantities of 6 gallons.

CAEN STONE.

LUARD and BEEDHAM have a quantity of the above stone, of the best quality, direct from their Quarries at Allemange, which may be inspected at the Norway Sufferance Wharf, Greenwich.—Further particulars at Mr. G. GATES', 18, SOUTHWARK-SQUARE, SOUTHWARK.

THE PARK—EALING, MIDDLESEX.

THERE is no spot in the vicinity of London where the peculiar aspect of an English country village has remained so entirely unimpared as the quiet and picturesque village of Ealing: and, with its gravelly soil and fine climate; with its abundant facilities of communication with the metropolis, both by coaches and by railway; with all these advantages, it is only the want of suitable residences that has prevented this spot from being far more frequented than it is by Londoners in search of health and retirement.

The chief cause of this want is the remarkable extent of common land in and around the village, which, whilst it prevents the growth of buildings, secures to the inhabitants the free and uninterrupted enjoyment of their healthful breezes and picturesque scenery.

The portion of land, however, known as the Park, lying between the Green and the Common, is now proposed to be appropriated to building purposes. It will be found to be in every way advantageously circumstanced for the erection of detached residences of moderate size. No buildings of an inferior character will be permitted to disfigure the estate, and the present ornamental timber will not be disturbed farther than may be absolutely necessary. Every possible care will be taken to preserve the retired and respectable character of the spot.

Persons desirous of information at Ealing may apply to Mr. NYE, Carpenter, on the Green; and offers for any portions of the land are to be addressed to Mr. SIDNEY SMIRKE, 24, Berkeley-square.

FEATHERS.

MIXED, 1s. per lb.
Grey Goose, 1s. 4d. per lb.
Foreign, ditto, ditto, 1s. 8d. per lb,

Best Foreign Grey Goose, 2s. per lb.
Best Irish White, ditto, 2s. 6d. per lb.
Best Dantzic, ditto, ditto, 3s. per lb.
Warranted sweet and free from dust.

A List of every description of Bedding, containing weights, sizes, and prices, sent free by post, on application to HEAL and SON, Feather-dressers and Bedding manufacturers, 196, opposite the Chapel, Tottenham Court-road.

SMOKY CHIMNEYS CURED
BY COOPER'S PATENT DEFLECTING VENTILATOR.



THE cheapest, most ornamental, and most effective article of the kind yet presented to the public. It has a larger egress for the smoke than any similar invention, and no accumulation of soot can check its action; there being no machinery, it is free from noise, and cannot go out of repair; it offers no obstruction to sweeping-machines, and is warranted to cure all down-draft and smoky chimneys, of whatever nature, caused by wind; to draw off all obnoxious vapour from public buildings, churches, schools, club-houses, hospitals, sick chambers, ships, &c. Manufactured in iron, zinc, galvanized iron, and copper.

Wholesale Agents for London and its vicinity,
GEORGE and JOHN DEANE,
(Opening to the Monument),
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REMOVED TO LAWRENCE POUNTNEY HILL, CANNON STREET.

By Her Majesty's Royal Letters Patent.

CROGGON'S PATENT ASPHALTE ROOFING FELT,
With which the Committee Rooms of the Houses of Parliament are entirely Covered.

THE above Material has been used and highly approved by the Nobility, Gentry, and Agriculturists generally, and Patronized by many Members of the Royal Agricultural Societies of England, Scotland and Ireland. It has been used for several Years at the Royal Horticultural Society's Gardens, Chiswick; the Swiss Gardens, Shoreham, Sussex; on the Duke of Buccleuch's, and the Marquis of Anglesea's Property, &c., &c., and (under slate) at the Royal Agricultural Society's House, Hanover-square; its advantages are—CHEAPNESS, LIGHTNESS, DURABILITY, and ECONOMY. Being a Non-Conductor, it has been proved an efficient "Protective Material" to Plants.

PRICE ONE PENNY PER SQUARE FOOT.



WILLIAM BUCKWELL,
IMPORTER, TIMBER AND DEAL MERCHANT,
BOROUGH ROAD, SOUTHWARK, AND COMMERCIAL WHARF, OLD KENT ROAD.

TIMBER and DEALS cut to any Scantling or thickness at a few hours' notice. A LARGE STOCK of uncut, cut, and wrought stuff, kept at Saw Mills ready for delivery or sawing.

OAK, ASH, ELM and BEECH, PLANK and QUARTERING, in great variety.
VENETIAN BLIND STUFF, PLASTERERS', WINE, PANTILE, and other LATHS.
MOULDINGS, in large quantities, wrought to pattern by Steam Power.
N.B. Dry Seasoned prepared Flooring, Matched Boarding, and Grooved Linings, with every thickness and scantling of Sawn Goods always on sale, or cut to order, and delivered with dispatch.

The Builder.

No. CLXVII.

SATURDAY, APRIL 18, 1846.

IS there any substantial reason, good-natured reader, why we, THE BUILDER, should always wear a brow of care, and never laugh? We don't think there can be. Our special province, it is true, is to instruct rather than to amuse,—we deal in heavy, hard, truths not to be laughed at,—bricks and mortar, as many people know to their cost, are no joke, and some who begin to meddle with them without proper advice, see "no fun in it," and are glad to leave off. The "Orders" we deal in are not such as would attract the playgoers: houses for the poor afford no room for puns; pointed architecture does not necessarily call for pointed remarks; and lead and iron are not good subjects for light reading, whatever the repeal of the window-tax may be. Still there is no reason, as we said before, even though it compel us to depart from our square and level way, and we have no "parallel rule" to authorize it, why we should not for once unbend, especially if, while giving way to the feeling which Horace expresses in the worn-out line,

"Dulce est desipere in loco,"

we can aid in exposing a fallacy or extinguishing an error.

The ventilator-general, a man of more airs than graces, and who is just now literally a Reid shaken by the wind, has given subject for some hearty laughter lately. The ubiquitous *Times* and the ponderous *Quarterly* raised it, and to their gentle mercies therefore, we leave him for a time; with an earnest hope, nevertheless, and for an instant, joking apart, that the disease be not confounded with the operator.

For our present purpose we go to burlesque of another description, the burlesque at the little theatre in the Haymarket,—"The Birds of Aristophanes," by his London rival, Mr. Planché, who is evidently a reader of THE BUILDER, and has been benefitted thereby. It is but fair, therefore, he should be made in his own right pleasant fashion, to contribute to our pages. In truth, he ought to have been an architect, he draws such good houses; moreover, he would then have known that architects are quite willing their works should stand, whatever may be their ability to make them so.

A discontented wight flying from the world, and admitted to communion with the birds, persuades them to build a city out of the reach of fowling-pieces, midway between heaven and earth, shewing them it is not more chimerical than the submarine railway from Dover to Calais, once set forth in our journal. Only put up a board, he says, "This sky to be let on building leases," and it will soon be taken; the *sort* of builders is quite immaterial:—

"Soon covered 'twill be with streets, crescents, and squares,
Though the houses, a breath down could shake 'em.
Just see how the builders on earth run up theirs,
And yet gulls they find plenty to take them."

The want of a fitting edifice in London for the ruler of such a country as England, does not escape him, nor the complaints of the poor burnt-out Peers about their much-longed-for new house:—

"A palace, of course, you must have for your king,
Nothing easier is 'neath the sun done;
Only if you would build the right sort of a thing,
Don't look for the model in London.
Of Parliament Houses you'll want a fine pair,
Though your funds by them may be diminish'd;
But if run in debt for, you needn't much care,
For you never will see them both finished!"

He will not, however, have it inferred that he thinks ill of the architect to whom the erection of them is intrusted, and accordingly, when the city is determined on, makes the birds sing:—

"Go to work—rival Smirke—
Make a dash, *à la* Nash—
Something try at, worthy Wyatt—
Plans out carry, great as Barry."

The city being finished, he is appointed archon, and various persons from Athens apply to him to be employed. To one who enters with a roll of plans, *Jackanoxides* (such is the classical name he bears), says: "What are you?" The reply is, "an architect."

Jack. And what come here to do?
Arch. Offer my service to erect your city
On a new plan, approved by the Committee
For the Embellishment of the Metropolis.
I've measured *every inch of the Acropolis*,
Been up the Pyramids—and what is more,
Reach'd actually in one day the fifth floor
Of a new mansion near the Albert Gate.
Jack. Impossible!
Arch. Sir! Had it not been so late
I should have mounted to the attic story!
Jack. That story would have covered you with glory!
You would have gain'd by every one's concession,
The very greatest height in your profession!
Arch. Sir, I have always had a wish to rise,
And therefore seek employment in the skies.
Jack. But surely such a rising man as you,
Might find on earth enough of work to do.
Arch. I could, of course; but to reveal a fact,
My quarrel is with the new Building Act.
I feel my genius cramp'd, sir, upon land:
They stipulate that houses now should *stand*,—
A fallacy exploded long ago,
As ruinous to architects, you know;
For if your dwellings are to last for ages
The half of us will not get workmen's wages.
Jack. Sir, to be frank with you, I think a swallow
Would beat the best half of your builders hollow.
To talk of architecture is a joke,
Till you can build a chimney *that won't smoke*.
Arch. Then you won't call me in at any price?
Jack. No; but I'll give you this piece of advice:
To take so high a flight as you expect
Don't build your own wings, Mr. Architect,
Or, take my word for't, the first windy weather,
You and your wings will all come down together.

And then, when the architect goes out, *Jackanoxides* sings:—

"Of building they'll never tire,
Each end of the town's run wild;
And the rents, like the houses, grow higher,
Which are mortgaged before they are tiled!
But though tenants they get for all,
The knowing ones wink their eye;
For they fancy the rents must fall,
With the houses themselves bye-and-bye."

Now, overlooking the abuse with which, using a dramatist's license, it is spiced, there is much here that is suggestive, and an industrious and imaginative commentator would produce you from it, without difficulty, an octavo volume, to be called, "Planché on the State of Architectural Knowledge." The substance of it may be expressed briefly thus: a visit to Greece, and the careful delineation of every building on the Acropolis, important as this is, will not of itself make an architect suited to present time and present wants. Something more is needed: a knowledge of construction, that what you propose you may be able to carry out, and an attention to those sciences which relate to heat, sound, optics, air, water,—so that you may build theatres where the people *can* see the stage, music-halls where notes will *not* be mixed, drains that will fulfil their office, and, above all things, chimneys that *won't smoke*. Give ear to these lines, then, O! student reader, though they be written in rhyme and found in a burlesque, and reject not a hint, though it come from the "Birds."

And having thus shewn our aptitude for things dramatical, we cannot close our remarks better, so far as ourselves are concerned, than by expressing to managers a confident hope, that when the existing theatres are one by one burnt down, and they all seem constructed with an especial view to that brilliant consummation, they will not fail to apply to us for assistance in rebuilding them.

Once more Mr. Mackinnon has obtained leave to bring in a Bill prohibiting interment in towns, and once more, if we may judge from the tone of the honourable member's speech on the occasion, the Bill will be withdrawn on account of the difficulties which surround it in the shape of vested interests. Difficulties indeed,—why if there were no difficulties in the way, no credit would be gained by carrying it. Strengthened by the resolution passed by the House last session,—"that the practice of interments within the precincts of the metropolis and large towns, is injurious to the health of the population, and demands the serious attention of Parliament," Mr. Mackinnon may carry an effectual Bill if he will but resolve to do it. He must shut his ears, like the princess in the fairy tale, to all that is called out by this interest or that, whether threats or abuse. Let him deal with the great and general evil first, and then try to ameliorate any personal hardship, the result of the remedy, afterwards. We were glad to learn from Sir James Graham, that the Bishop of London is strongly disposed to prevent the continuance of the present fatal practices. We seriously wish the right reverend prelate would take up the subject in earnest, as we might then look for a speedy settlement of it. His lordship is not quite so fearful of difficulties as Mr. Mackinnon.

Mr. Walker has recently published another of his plain blunt statements of facts bearing on the subject; such a statement as fastens on to the neck of an evil, and, sooner or later, inevitably pulls it down. It relates to the abominable proceedings in the Spa-Fields burying-ground, in the exposure of which our readers will remember we took active part. Mr. Walker's motive for interference in the matter, as stated in the preface, gives a reason why all should exert themselves to abate a practice which is injurious in the highest degree. He says such grounds are centres whence poison radiates in every direction.

"Having traced, to their origin from such places, forms of disease, of varied, but sometimes most malignant character, I thought that to remain quiescent would be criminal. I have seen individuals droop, die — from causes that never should have existed, and the further progress of which at least, ought to be put an end to, at once and for ever. I devoted time and means, nay, partially sacrificed health, to a revolting and searching investigation, and collected together a mass of evidence that ultimately led to an inquiry before a committee of the House of Commons. The resolution of the committee proves that all the allegations contained in my petition were substantiated; whilst the testimony accorded in the report, was to me an acknowledgment of the services I had rendered."

Some of the details contained in the pamphlet are horrifying, and must have a powerful effect.

MODIFICATION OF BUILDINGS ACT.

CORBELLING CHIMNEYS—CUTTING AWAY SUPPORTS.

We direct our readers' attention to a modification of the Act just now announced in the following terms:—Whereas the official referees have, by their report in writing, bearing date the twenty-third day of December, 1845, with respect to the rules in Schedule F of the said Act, under the head "Construction" videlicet, "with regard to chimneys and to chimney-stacks except angle chimneys in reference to the construction thereof,"—

"The foundations and footings of every such chimney and chimney-stack must be built similar to those of the wall in or adjoining to which it shall be.

"And every such chimney and chimney-stack must be built from the foundation to the top thereof without any corbelling over, whereby any upper part of the brickwork of such chimney or chimney-stack shall overhang any lower part of the brickwork on the front thereof.

"Nevertheless, with regard to buildings of the first rate and extra first rate, the jambs, breast, and flue of any single chimney may be built upon brick, stone, or iron corbels above the ceiling of the third story of every such building; and with regard to buildings of the second and third rates, the jambs, breast, and flue in any single chimney may be built upon brick, stone, or iron corbels above the ceiling of the second story of every such building; but the projection both of such jambs and breasts must not in any case exceed 9 inches before the face of the wall or stack to which the same shall adjoin,"—

Certified to us that it is their opinion that the said rules are inapplicable, and will defeat the objects of the said Act; and that by the adoption of a modification of the said rules as hereinafter directed, such objects will be better attained. And whereas the official referees have also stated in such report, the grounds of such their opinion; and on the investigation thereof, it appears to us, the said commissioners, that such opinion is well founded. Now we, the undersigned, two of the Commissioners of Works and Buildings, pursuant to and in exercise of the power in that behalf given to us by the said Act, do direct that the modification so recommended may be made in the rules prescribed by the said Act, by inserting after the rules hereinbefore quoted, the following words, videlicet—

Provided always, that from each or either side of any wall not less than 13 inches in thickness, the jambs, breast, or back of any chimney or chimney-stack, may be corbelled out on sufficient brick, stone, or iron corbels, to a projection not exceeding 4½ inches beyond the face of the wall, from and over which such corbelling is made, except for the space of 18 inches around any chimney opening, to which extent and no further, the same may be corbelled out to a projection not exceeding 9 inches, so as to allow of the formation of recesses for fire-places 13½ inches deep, and the statutable thickness for chimney backs; but all such corbelled work must be properly bonded and tied to the structure of the wall.

But if after any such wall is built, any such chimney or chimney stack be made in or be added to such wall, then the whole of the new brickwork inserted must be built in cement, and be in every course properly bonded and connected with the old brickwork, and if in making such chimney or chimney stack so corbelled out on one side of such wall, the inside of any chimney or flue is in any part to be at a distance less than 8½ inches from the other side of the same wall, then the brickwork of such wall must be removed throughout the whole thickness of such walls in such part thereof, and the new brickwork inserted as aforesaid.

And unless upon special application in each case the consent of the official referees have been previously obtained, the supports or substructure of any existing chimney or chimney stack must not be cut away so as to make such chimney or chimney stack not conformable to the foregoing rules, and then only according to the terms and conditions of such consent.

Which modification being made in such rules will, in our opinion, give effect to the purposes of the said Act, as witness our hands this seventh day of April, one thousand eight hundred and forty-six.—(Signed)

Canning, } Commissioners of Works
Charles Gore, } and Buildings.

GLASGOW SCHOOL OF DESIGN.

From the report which was read at the annual general meeting of the subscribers to the Government School of Design at Glasgow, on the 7th inst., it would appear that considerable success has attended the establishment of this school, the first of its kind in Scotland. The school was opened on the 6th of January, 1845, in confined premises, and it was soon found necessary to purchase the adjoining property, and enlarge the building. In the first seven months and a half, previous to the enlargement, 549 male, and 27 female students were admitted. The total income for the year 1844-5 was 1,314*l.* 6s. 11d., and there was a balance in hand of 336*l.* 13s. 7d. Stress was laid on the efficient manner in which Mr. Macmanus, the head-master, had discharged the duties of his office.

Sir James Campbell said it was very gratifying to himself and the gentlemen of the committee to have so very favourable a report to present, and he was sure it must be equally gratifying to every one present, to hear so remarkably favourable an account of the first year of this institution—an institution which had been so much desiderated, and felt to be so much called for, as a necessary appendage to a manufacturing community like that of Glasgow. Perhaps there was no city in Europe in which the manufactures carried on were more varied or fanciful in design. This city embraced a school of industrial pursuit in the various departments, comprising the bulk of our manufactures, such as was not equalled any where; and it was highly important that every effort should be made to give effect to the more skilful pursuit of these branches.

Mr. H. G. Bell, Sheriff-substitute, said that this school, if conducted upon enlightened principles, and with due ability, was calculated to do good to almost every individual interested in the prosperity of Glasgow. He knew that by the Government authorities in London, the progress made by this school was looked upon as exceedingly encouraging, and as placing it upon a rank at least equal to that of any other school of design in the country. There was also one part of the report which he thought deserved particular attention. A few gentlemen had come forward in aid of the library and of that collection of works of art by which the school would be greatly benefitted. He thought this was an example which ought by all means to be followed as widely as possible. It might be done by many gentlemen without inconvenience to themselves, and the placing of valuable books or of valuable and useful works of art in the hands of the committee, to be ranged in the school gallery, would be the means of effecting more good by such an instrumentality than could be reaped by retaining them in any other situation. He might refer to the example of the Highland and Agricultural Society, in forming by this means an extensive and valuable museum, and he hoped the friends of the Glasgow School of Design would follow in the same path. They had already a good library; Mr. Macmanus had a small sum at his disposal for this purpose, which he had expended very usefully, and the Government School of London had sent them down some works of great utility. But he looked upon it as only in its infancy as a library of art and useful design—as a gallery where all might resort, with the certainty of increasing their knowledge of those branches to which it related, and which were of the greatest advantage to every class of the community. There was another point of much importance to which he would refer. It must never be overlooked by those desiring to profit by the instruction afforded at the school, that little good could be derived by their attendance for only one, two, or three years. The ultimate objects of this school could not be attained by an attendance of even three years; it was only by a course of years that this could be done. He would wish this to be particularly impressed on the pupils, some of whom seemed to fancy that one or two sessions might make them proficient. This was a mistake. The pupils who intended to make any branch of industry or art the business of their lives, should attend a course of sessions—five or six years—and by their acting upon this principle, the school would be enabled to send out designers whose abilities would be creditable to the institution, and highly advantageous to themselves.

Mr. W. Crum proposed the thanks of the meeting to Mr. Macmanus, the head-master of the school. Many of the directors were aware that when the promoters of the institution first began their exertions, little hope was held out that they should find a properly qualified master. Glasgow was looked to by the Government authorities as, perhaps, the most important locality that could be found for forwarding the object which was kept in view in originating such institutions; and this fact, together with the distance of the locality from head quarters, rendered it necessary that a man of the highest qualifications should be sent down, and one in whom the committee could have confidence. Such a man had fortunately been sent. He had then been known for some time for his productions in the higher departments of art. His great cartoon, exhibited in Westminster Hall, showed such variety of talent, and such fitness for the particular object the Government had in view, that he was engaged by the Government for the Somerset House school during Mr. Wilson's absence in Paris; and on that gentleman's return, he resolved, from his experience of Mr. Macmanus, that he was the best qualified of any he knew for conducting the business of the Glasgow school. In proof of the opinion entertained of him by the directors, he would mention, that it was intended to institute a school in Paisley, which Government was expected to encourage, and Mr. Wilson, who had charge of the arrangements in all such cases, had named Mr. Macmanus as the fittest person to carry his views into effect.

The motion was carried by acclamation.

In connection with Mr. Macmanus, and the cartoon which was instrumental in obtaining for him the responsible and gratifying post this gentleman now holds, we cannot omit saying, what we have heard from Mr. Macmanus's lips half a dozen times, that but for the purchase of one or two of his paintings by the Art-Union of London, small as the amount was, he could not have ventured to apply himself to the production of the work in question. This is but one of a hundred such instances, well worth pondering at this moment.

ILLUSTRATIONS OF NEW ZEALAND.

Mr. French Angas's exhibition at the Egyptian Hall, of drawings illustrative of the natives and scenery of New Zealand and South Australia, to which we referred last week, should be visited, not only by those who desire to obtain clear ideas of the people and the country, but by all who are willing to reward energy, perseverance, and ability. There are above 200 drawings, the result of a residence of nearly three years, and a journey of 40,000 miles. We may note, that the exterior woodwork of some of the houses is seen to be elaborately carved.

New Paddington Hospital.—A correspondent asks why the New Paddington Hospital, to which the public were called upon to contribute, under the plea of its *urgent necessity* (caused by accidents occurring to the many workmen employed in the new buildings in the vicinity), is left in the unsatisfactory stand-still state, in which it is and has been for the last six months and upwards? The required subscriptions, he says, have been raised long ago. It is more than nine months since Prince Albert laid the first stone. The whole of the work since done, consists in getting in the footings of the walls, which are covered over with asphalte, as if to allow of their remaining in their present state for any indefinite period.

Llandilo Church Competition.—In reply to the inquiry made in our last, we are informed that a printed circular, signed by the chairman of the committee, has been forwarded to the competitors, stating that the designs will be submitted to competent judges in England, and that information has since been received, that their decision cannot be expected before the end of the present month.

ARCHITECTURAL SPIRIT OF THE JOURNALS.

We resume our summary of architectural matter in the journals. The *Gentleman's Magazine* for the present month is illustrated with a view of East Brent Church, Somersetshire, and has an account of the manor. The church has a western tower, and a lofty spire. A notice is given of the Almonry at Westminster, the place where Caxton erected his first printing-press. The common notion that Abbot Islip's chapel was the scene of his labours is disproved. Within the Almonry was a chapel dedicated to St. Anne, opposite to which an almshouse was erected, shortly before the Reformation. The gatehouse, used as a prison, which stood between the sanctuary and Dean's-yard, was illustrated in the number of the magazine for March, 1836. The notice is headed with a sketch of the house, lately demolished, called "Caxton's House," but which was not older than the reign of Charles the First. The almshouses erected by Cornelius Vandun, about the time of Henry the Eighth, and the Cock public-house, in Tothill-street, are of greater interest.—In a review of a late work on St. Dunstan's Church, the truth of the common story, ascribing the plan to Sir Christopher Wren's daughter, is considered as probable. The account, which is by the Rev. T. Murray, appears to contain much interesting matter.

The Ecclesiologist for this month, besides an article on funerals, which, though not strictly calculated for notice in The Builder, is deserving of very attentive consideration, has a paper on the distinction of chancel and "sacrarium." As shewn in the paper on "Piscinæ," in our last volume, the word "sacrarium" has been variously employed. It is here defined, as that part of the church which in a late edifice would be inclosed by the altar rails. Its distinction from the chancel is said to be marked by *construction* or by *arrangement;* in the first case, by a difference in form, height, width, or by an arch; in the other, by a screen, a flight of steps, or by character of detail. In English churches, it is generally marked by arrangement only; a constructive difference is found oftener in the minster than in the parish church. Instances of this difference are given. "The sacrarium, thus distinguished, is the place set apart for the ministers of the Eucharist, as the choir is that set apart for those of the ordinary daily prayers. As the latter have their official seats in the choir, so the former have theirs in the sacrarium; namely, the stone stalls known κατ' ἐξοχήν, as sedilia, which are evidently the successors of the seats formerly occupied by the clergy within the apse. This position, possibly from humility, they have now for many ages forsaken, and occupy stalls in the choir; the seats within the sacrarium being consigned to those of their number who are actually engaged in the Eucharistic service, and these being placed at the side, instead of behind the altar."—The probable appearance of a new edition of "Dugdale's Monasticon," has suggested a companion work, comprising notices of every cathedral church and chapel, ancient and modern, and every religious ruin in England. It is considered that such a work would be of great value, and would be accomplished without difficulty by the aid of the different architectural societies. Connected with this proposition is that for a map of England, in which should be marked the sites of all religious buildings, either at present or formerly existing.—In the notice of St. Mary's Church, Bishop's Cannings, Wilts, the curious chair, which has been called a "confessional," is described. It is here considered as an example of the ancient "carrel." These "pewes or carrells" were stalls, usually fixed in the cloisters of monastic buildings, for the monks, who, "when they had dyned, did resorte to that place of cloister, and there studyed upon their books." The back of this seat has a painting of a large hand, called the *Manus Meditationis*, every joint being marked with a distinct motto.—It appears that Pembrokeshire is remarkable for a peculiar kind of church, of solid construction, and somewhat castellated in its character. The towers taper, and often occupy the position of a transept.—Amongst the new churches, are that of the Holy Trinity, at Manchester, described in the last volume of The Builder, and St. Paul's, at Brighton. The latter is designed by Mr. Carpenter, and is shewn in an engraving. The difficulty so often met with, in a church on the west side of a street, is here ably encountered. We have only left ourselves room to say, that the restorations at Chester Cathedral—not altogether satisfactory, we regret to find—are described at length; that those at Reigate Church, St. Michael's, Coventry, the Charter-house Chapel, Crawley Church, Sussex, remarkable for its roof with a double ridge, are amongst those noticed, and that lychnoscopes are considered to be symbolic of the wound in the Saviour's side. The advertisement of a door from York Minster for sale, certainly requires explanation, and shews the necessity for a depository of such relics,—a subject repeatedly urged by ourselves. No pains should be spared to obtain this door for the proposed department in the Museum.

The *Athenæum* (March 7th) reviews a work by J. S. Burn on "The History of the French, Walloon, Dutch, and other foreign Protestant refugees," which might be referred to in a history of art in England, as well as for some account of the different places of worship, which they erected. It is shewn, that these fugitives introduced the knowledge of many new arts and manufactures, in the practice of which they met with some opposition from native industry. Disturbances took place, much fomented by the city apprentices, and for which the plasterers got sent to Newgate. This was towards the middle of the sixteenth century. Mr. Burn enumerates about forty French and Walloon churches and chapels in London and its neighbourhood, of which the mother churches may be considered to be those in Threadneedle-street, now pulled down and rebuilt in St. Martin's-le-Grand, and that in Edward-street, Soho, the representative of the old Savoy, rebuilt in Bloomsbury-street.* It seems that the skill of the Dutch in dyking and draining was called into exercise in England. This determined the sites of many of their churches. Thus Sir Nicholas (or Cornelius?) Vermuyden undertook the draining of Whittlesey Meer, and of the marsh at Thorney Abbey, in the Isle of Ely, as well as of 70,000 acres of land covered with water at Hatfield Chase, in the county of York. Canvey Island, at the mouth of the Thames, near South Bemfleet, in Essex, was in 1622 the subject of a contract for the dyking against the sea. Joas Croppenburgh, a Dutchman, undertook the work, his payment being a fee-simple in one third of the lands; and a similar quantity is now set apart for the repairs of the sea walls. During the work a timber chapel arose for the use of the Dutchmen employed.

The new part of the *Instrumenta Ecclesiastia*, contains drawings of altar candlesticks and coverings, a funeral pall, chairs for churches, and a stone lichgate. In reference to this series, we could wish that the examples were in all cases distinctly specified, and their *locale* given; this hint might also be followed in the *Ecclesiologist*. We are sometimes puzzled to know where a particular church is situated, as even in the same county we find several places bearing the same name.

The *Art-Union Journal* has an account of the collection of H. T. Hope, Esq., with a list of the pictures, and a review of the glass manufacture at Stourbridge. The journal is, as usual, copiously illustrated; our limits will admit of little that is not strictly architectural. Heideloff's work on Gothic decoration is proceeding with increased value. The erection of the new National Gallery at Dresden has been decided upon. The sale of a picture by James Barry for *eleven guineas and a half*, with a probability of its being cut to pieces, we take to be a national disgrace. We thought, that the appreciation of the highest works of art was on the increase.

From the matter in the *Archæological Journal*, we select an account of the cromlechs in the Island of Anglesey. It is now admitted, that these remains were sepulchres. The ecclesiastical antiquities of the Isle of Man have been illustrated in an account of the Cathedral of St. German, at Peel Castle. This edifice is in ruins, and was of very rude construction; it corresponded with the first pointed style of architecture, and it would be interesting to compare it with the cathedrals at Iona and Kirkwall, but especially with that at Drontheim, as the Bishops of Mona received their consecration from the Norwegian archbishop. There is a round tower, also within the precincts of the castle, and a building perhaps corresponding with the ancient oratories of Cornwall. Mr. Blore notices some remains of William of Wykham's work in the cloisters at St. George's Chapel, but the drawing, mentioned in the table of contents, is unaccountably wanting. In the report of the proceedings at the Institute, are drawings of Runic crosses, and of the curious monuments lately discovered in St. Stephen's Church, Bristol. Dr. Bromet exhibited a rubbing of a credence-table on the *south* side of the chancel in Brabourne Church, Kent, and two curious crypts at Guildford were mentioned. The discovery of two windows, and the remains of a lateral chapel at St. Alban's Abbey is notic d. It appears, that the Irish had great skill in the art of casting and working bronze, at a very early period, of which illustrations are given. There is also a view of the chancel of Higham Ferrers Church and other illustrations from the "Churches of the Archdeaconry of Northampton." The church has some good screen-work and brasses. The spire is an example of the entasis, lately noticed at the Institute of British Architects, a feature found in Lincolnshire in several examples. There is a curious pavement, and some ogee-headed window of reticulated tracery. The Bede House and Vicarage adjoin the church, and the churchyard cross is of beautiful character.

Chambers's Journal gives a good notice of ancient baths, extracted from M. Corbel Lagneau's "Traité Complet des Bains," and some notes on the town of Seville. In the *Mechanic's Magazine* a discussion is now going forward, as to the merits of Mr. Jopling's "Septenary System of Generating Curves."

We also note in the contents of a French journal, "La Revue Nouvelle," the first of a series of papers on the antiquities of Paris, by the Count de Laborde. The subject in the March number is "Civil Monuments: the Hotels."—The "Annales Archéologiques" for January and February, 1845, contains illustrations of the church of Notre Dame de Chalons-sur-Marne, with a description by M. Didron. The edifice was once crowned by five spires.—The *English Review* announces an article on "The Pyramids and their Builders," and the *Classical Museum* a second paper on the Roman forum.—The *Philosophical Magazine* has an article on "The Derivation of the Word *Theodolite*." A second number of the new journal, the "Archæologia Cambrensis," is amongst the announcements.

* In passing this new building a few weeks since, we noticed that some rascal had broken off the nose of one of the corbels to the north door. Until the public are sufficiently alive to the value of works of art to act as their preservers, and punish an offender, we can never hope to see such vagabonds treated as they deserve.

BEARD'S PHOTOGRAPHIC PORTRAITS.

The power obtained over the sun, and announced almost simultaneously in France and England some time since, by M. Daguerre and Mr. Fox Talbot, startled the world. That a man's image, reflected momentarily on a polished surface, could be captured and detained there permanently for the gratification of his friends, appeared impossible. Thousands speedily flocked to see the operation, availed themselves of it, and continue to do so: (there are no pictures for which men are so willing to pay as for pictures of themselves), and such is the effect of repetition, we shall soon be led to forget entirely the wonderful nature of the discovery.

Considerable improvements have been made in the process since it was first practised, one of the most important of which was the introduction of colour. For a time, as was to be expected, this could not be satisfactorily effected; we have recently, however, inspected a number of portraits finished in this way by Mr. Beard, at his establishment in King William-street, City, which are quite beautiful. The colour is uniform, and so transparent as not to affect the likeness in any degree. We are disposed to think, that as these become known they will lead to a fresh influx of visitors. Mr. Beard has succeeded in making an arrangement, by which a daguerreotype may be re-produced either of increased or of less size,—until this time a difficulty.

FOREIGN ARCHITECTURAL AND COLLATERAL INTELLIGENCE.

General Introduction of Gas in the Cities of Germany.—The municipality of Augsburg have concluded an agreement with Messrs. Eichthal and Dollfuss, the contractors of the Stuttgard Company — for lighting that ancient city of Bavaria with gas, which will be the first of that kingdom thus benefitted. Nürnburg also will shortly receive the same boon.

Art-Exhibition of Paris.—In the same proportion as the number of articles exhibited increase, the interest of the Parisian public seems to decrease! The gallery of the Louvre, which in former years could hardly contain the number of visitors, has been but half filled, since it opened this time. Few are the pictures, which, attract attention from afar, as it were—and it is surprising to see how many subjects have been taken from scenes of horror, murder, and other crimes, which, but rarely, and for historical purposes, ought to occupy the talent of the artist. The whole air of our age is impregnated with great, and beauteous, and philanthropic ideas—and the only thing in the art-world required, is to give them external shape and form. We may confess, however, that it is much easier to jog on in the beaten track of the middle ages, than to find new roads across the expanse of a new age.—The only real popular painter of modern France is Horace Vernet, and his picture of the "Battle of Isly" is actually *besieged* by a crowd of lookers-on. In many pictures, on the other hand, *Goethian* subjects are easily discernible, and A. Scheffer has exhibited some more Faust scenes, not to be compared, however, with his former ones. A real picture, full of a speaking, melancholy poetry, is "*The poor Wife*" of G. Bohn, of Stuttgard.

Munich.—The anniversary of the Royal Society was celebrated by a speech of Prof. Lassaulx on the study of Greek and Roman antiquities.—Lieutenant Gillis, U. S. Navy, has been here for some time, and has largely circulated a report on the building and arrangements of the Navigation Observatory at Washington. He is superintending here the construction of a refractor of 9″ light for that national establishment.

Hamburg in 1497.—Dr. Lappenberg, the well-known Hamburg antiquary, has just published some miniatures of the above date, which throw much light on the manners and buildings of that city in the middle ages. It appears from the small extent of the buildings of the law courts of those times, that they were only built for an occasional shelter against bad weather, while the proceedings were mainly carried on in the open air. In the same way was built the old Hamburg Exchange, being merely a roof-work for protection, when occasion required.

Humboldt and Liebig.—It has been ascertained of late, that it was the former gentleman who first took Liebig by the hand at Paris, when Liebig — whose merits extend over all branches of technical science—was a very little man indeed. This confirms the old saying, "diamond cuts diamond." It is in fact, the bane of *mediocrity*, that it can never see beyond itself.

The Railway from Lyons to Geneva—creates the most lively interest on account of its commercial importance, and as an object of construction. There was, for some short time, an apprehension lest the central station of this line should be established at Ferney, but this has been now changed more reasonably for Geneva, where the goods from the south of France will arrive by the Lyons Railway, and thence be conveyed by steamers over the lake, and *vice versâ*. The best plan seems to be, that the road, after having passed the Fort de l'Ecluse, will cross the Rhone near Chanay, and follow its left bank up to the walls of Geneva. It is to be regretted that the great political fuss and confusion reigning in Switzerland has hitherto interfered with the proposals of an English company, who intended to overspread the whole extent of the Confederation with a net of grand and useful lines of steam communication.

Super-revision of French Railways.—The late accident on the Havre-Rouen Line, will, no doubt, impress the company with great caution in future. Not only has the best medical aid to be had at Rouen been afforded to the injured, but physicians from *Paris* have been despatched, who visit them twice a day. A commission has been elected by the Lower House, to visit Havre, and examine and report on the accident.

Ancient Structures in Peru. From Mr. De Tschudi's unpublished work.—I found in the Purna many ruins of the mighty roads of the ancient *Incas*, reaching from Cuzco to Quito —probably the most stupendous work of American aboriginal civilization. However ignorant we may yet be of the laws, &c., of these ancient monarchs, grand roads bespeak always a grand country! The chief ruins are to be seen between Jauja and Tarma. According to these, the road was 25 to 30 yards broad, and covered with polished broad flags. Every 10 or 12 yards, a row of smaller stones somewhat raised, was laid across, so that the road assumed the shape of a rising terrace; the brim also was supplied with a narrow wall of smaller stones. On many hills of the *plateau*, ruins of station-houses are to be met with, which served as a shelter for the messengers of state. These were built in places which commanded a large horizon—and as soon as one messenger had started from a station, a signal was hoisted, at the seeing of which, that of the next station started to meet the former half way, &c. How quick these messengers performed their way, may be gathered from the well averred fact, that at the Royal Palace of Cuzco, fresh fish was served on the table, which had been caught in the sea, near the *Temple of the Sun*, at Lurin, a distance of 200 leagues. These station-houses are not to be confounded with the ancient forts, which were erected along the old Inca road for protecting the corn-magazines (!), which the Incas had established in these high mountain-*plateaux*, where sustenance is scarce. These ruins are yet in a good state of preservation throughout the *Altos* of South and Middle Peru. They are, generally, large, round towers, erected on the slopes of rocks, with numerous irregular, long but narrow openings. The entrance was also very narrow, in many subterraneous, and a good distance from the tower. It is also said, that these high lands contain a vast amount of gold, wrought in various ornamental shapes, buried here at the arrival of the Spaniards.

Museum at Constantinople.—The sultan has just ordered the establishment of museums of arts and sciences to be open to the public gratuitously. The library of the seraglio also, which has been hitherto jealously guarded against all intrusion, is now open for public use. These measures are owing to the activity of H. E. secretary Rashid Pasha.

Architecture in Constantinople. — There scarcely passes a week, where, if not entire streets, at least more or less houses are not here consumed by fire. The late fire in the district of Psamatia consumed, in one night, a couple of hundred of tenements. All these severe lessons, however, have no effect upon the Turks; the débris are cleared away, and new buildings erected—as bad as the former. A plan or section are here unheard of things, except with public buildings, barracks, and such like, of which some are showy enough. With other minor buildings, the procedure is the following. On the badly-constructed foundation of the house, a few posts are placed horizontally, upon which a few others are placed perpendicularly, which are fastened with nails to the former. On the top of these, horizontal poles are placed, all which is followed up by others placed either perpendicular or oblique, until the skeleton of the house is completed. Then they look out, where door and window-places might be formed most conveniently. For dividing the stories of the house, a number of thin transversal battens are placed on the posts, on which above and underneath some, boards are nailed down, and thus floor and ceiling of the rooms are completed. Then the external posts, forming the skeleton, are equally covered with boards, which boarded surface is then covered with a mortar, made of a little lime and greater part of building rubbish. Thus walls and partitions are done. The front of the house is furnished with a little projection, the favourite resort of the idle females, who repose there the whole day on their cushions. This, however, is not elevated more than five or six feet above ground, so little, indeed, that the passers-by have to take care not to run their heads counter. The roof is covered with bad wooden tiles, on which a boarded top (called *shantak*) is constructed, which is used for drying the clothes, &c. Finally, some cobbled doors and windows are placed, and the inside walls are whitewashed—and with *luxurious* people, the ceiling of the rooms and the outer walls are painted with some oil-colour. If, after all, some chests have been placed in the rooms, where the cushions are kept during daytime, to be used as a bed—the house of a Turk at Constantinople is ready, when with the owner, mice and rats may get in at the same time, without much trouble. This is the general architectural type, on which after hundreds and hundreds of conflagrations, this metropolis rises from its ashes in a very short time. This apathy is even shared by the European inhabitants, and even at Pera but a very few had their former houses replaced by stone buildings, after the fire of last year.—*Drey Jahre in Constantin.*

J. L——y.

STATE OF RAILWAY BRIDGES.

Mr. Blair, writing to the *Manchester Guardian*, says:—"Having recently had occasion to inspect the viaduct at Stockport, I was greatly surprised to find that the means of drainage for the surface-water of the roadway (railway), is totally inadequate for its intended purpose; the consequence is that the water is *constantly percolating through* the arches, and thereby materially endangering the safety of the fabric. It is well known that water has the effect of disentegrating the particles which compose any mortar or cement. Now it must be manifest that as soon as this is effectually accomplished, the brickwork of the arch will have nothing to bind it together; consequently, if there be any great weight passing over the arch, is it not more than likely to cause a failure? The extent of the evil to which I allude is greater in some parts of the viaduct than at others, and appears to deserve especial attention, when we consider that the water is silently but *surely* doing so much mischief, and the awful sacrifice of life that might take place, in case of a downfall. It is not my wish to create unnecessary alarm; but a sense of duty induces me to record the above facts, in the hope that the railway company will investigate the subject.

Since writing the above, I have examined the viaduct over the river Tame, at Guide Bridge, on the Sheffield (main) line, and find that several of the arches have become *deformed;* as a remedy for this evil, large balks of timber have been introduced between the piers! I have no hesitation in adding that the above failure arises from a similar cause to that of the Stockport viaduct.

DESTRUCTION OF NATIONAL ANTIQUITIES.

Sir,—I last week paid a visit to Lewes, for the purpose of inspecting the interesting remains of antiquity which have recently been brought to light, and to the notice of the public, by that active body, the "British Archæological Association."

The chief objects of interest include the remains of Gundreda, the supposed daughter of the Conqueror, and that of her husband, William the Earl de Warrene. These were consigned to the care of the authorities of the church of Southover, previous to their meeting with a suitable resting place.

Imagine my disgust and indignation on discovering that the leaden coffin lid of Gundreda had been removed—it was believed by the sexton—to London, to exhibit at the meeting of some learned institute, while the lid of the Earl had undergone some vile process of rubbing, so *entirely effacing* the inscription, that, with the exception of the letter W, the rest of the name is positively rubbed into a hole, large enough to admit two fingers.

As a humble admirer of our national antiquities, I beg to protest against these indecent proceedings, and suggest that a demand be made for the immediate restitution of the missing lid, and a recommendation to the authorities of the church, to endeavour to prevent a recurrence of these acts of desecration and destruction.—I am, Sir, yours, &c.,

H. B. B.

Brighton, April 8th, 1846.

RAILWAY JOTTINGS.

On the 27th ult., the foundation-stone of the Wharfdale Viaduct on the Leeds and Thirsk Line, was laid by the chairman of the company, Mr. H. C. Marshall; when completed, this viaduct will embrace 25,000 cubic yards of masonry. In length, it will be about 470 yards, and will stand on twenty-one arches of semi-elliptical form of 60 feet span. Its greatest height will be about 90 feet, and its least height 60 feet. Placed in the centre of a beautiful valley, through which flows the classical river Wharfe—on one side the finely wooded domains of Harewood-park, and on the other, to the westward, the scenery of Ilkley and Bolton Abbey—the viaduct will constitute a noble feature and ornament of the whole. Mr. Grainger is the engineer, and Mr. Bray the contractor.——Mr. Locke, in his evidence before the Gauge Commissioners, speaking on the effect of climate on railways, says, you can never get over the inequalities of the road arising from the change of temperature and weather. You may have the most perfect road that has been standing for months, and been run upon daily—you will have a shower of rain, or a continuation of wet weather, during the time the trains are running, and in two days the roads may become positively dangerous, and no ordinary precautions can meet that; therefore, I say, until we can ensure our roads being in better order than we can at present, we ought not even to maintain our present speed.——The *Daily News* says, that a geographer at Munich has made the calculation, that when all the railways projected are in activity, a person may proceed from that capital to St. Petersburgh in 66 hours, to Naples in 47, to Rome in 38, to Hamburg in 35, to Paris in 32, to Berlin in 25, to Geneva in 24, to Milan in 23, to Venice in 22, to Dresden in 21, to Vienna in 18, to Leipzig in 18, to Frankfort-on-the-Maine in 17, to Strasburg in 15, to Stuttgard in 9, and to Nuremberg in 8 hours.——It is fully expected, that the Richmond Railway will be open for conveyance of the public to Wandsworth fair on Whit-Monday, and be completed throughout by June next. The greatest engineering difficulty has been the crossing of the esier beds, which are considerably below high water mark, and a mere deposit of mud, to the depth of many feet. Over these beds and the Wandle, as well as other streams, twenty-two arches were to be erected, and of these all but one have been completed.——The posts for sustaining the wires of the galvanic telegraph are erected nearly all the way between Leeds and Derby.——At a recent meeting of the Town Council at Hull, a letter accompanied by plans was read from F. Rosenberg and John Malan, proposing the construction of a railway and tunnel for connecting the Hull and Selby Railway with the Victoria Dock and the east side of the town of Hull. A plan was also submitted by the same parties, for a new dock proposed to be erected on the Foreshore of the garrison.——Mr. Brunel, in his evidence before the Gauge Commission, stated, that he thought every circumstance connected with the construction of the railway is in favour of the wide gauge, as respects the safety of the carriages and the facility of their running at high speeds; but still he should not be at all afraid of running carriages at 60 miles an hour on the narrow gauge. He further said, on the subject of the break of gauge, so far as the coal trade is affected, experience in railway matters enables me to state, that, as regards coal, there is no difficulty whatever in keeping up a set of waggons for that particular branch of trade; the trade is regular, the demands and supply are very regular indeed, and there is no difficulty in having, particularly for the large consumption of Oxford and that neighbourhood, a stock to that particular purpose. That stock, I believe, would be a new one; and I am quite sure, that, if the line is made to Rugby, the coalowners, and all parties carrying coal, will forget all their difficulties, and be too happy to have a stock made to supply the Oxford market.——The first bridge over the London and Birmingham line which was the means of communication from the Hampstead Road to Upper Seymour-street, has been removed, and a large number of houses which were nearly finished have been pulled down. All the houses on the east side of Whittlebury-street have been taken by the company, the owners and occupiers, in some instances, receiving as much as 40*l.* premium for going out, and are to be pulled down immediately after the sale of the materials on the 16th instant. The houses in Drummond-street, on the west side of the terminus, have also been taken, and negotiations are, it is understood, still pending for the range of houses, from Drummond-street to Birchmore-street, in Seymour-street, by the company.——On Tuesday week a bridge over the Newcastle and Carlisle line gave way. It was originally erected upon piles, and the recent heavy floods have deepened the river at one of the piers to such an extent, that the piles have given way, and two of the arches have sunk on the lower side of the bridge fully two feet, and thus rendered the line impassable for the trains.——Last week nineteen labourers, while excavating a tunnel at Courcelles, near Paris, were inclosed by the falling in of a considerable quantity of earth and sand. By means of a water-course they held communication with those who came to their assistance, and complained most of the want of air. The chief engineer instantly bored through from the surface down to that part of the tunnel in which they were. The last accounts state that the men, although not then liberated, were in good health and spirits, and that the mound which inclosed them had been reduced to no greater thickness than 6 or 7 feet.——A letter addressed to the proprietors of the Great Western Railway by "One of Yourselves," has, within the last week, gone the round of the London press in the form of an advertisement. The object of the writer is to induce his brother shareholders to come to a ready and reasonable decision, in accordance with prevailing opinions, on the guage question. He traces the history of the broad guage, dwells upon its origin, gives its money value as compared with the narrow, and points to its engineering results with respect to economy, celerity, safety, &c. After referring to the recommendation of the Guage Commissioners that some equitable means should be found for producing uniformity of guage, he foretells that, if this advice be not acted upon, other companies will be too ready to lay down an opposition line on the narrow guage.——On Monday last another portion of the South Eastern Railway was opened, viz. from Canterbury to Ramsgate. At a dinner given on the occasion, Mr. Macgregor, the chairman of the company said, that henceforth there would be a daily communication between London and Ostend by steamers in connection with the new branch line.——The Preston viaduct consists of 27 arches, and it crosses the turnpike-road from London to Brighton, near the Brighton terminus. It has been finished several weeks, and the principal portion of the wooden centres supporting the arches taken away. On Saturday morning the men engaged in ballasting the line over the viaduct, discovered symptoms of the middle arch, which crosses the turnpike-road, having given way. Workmen were immediately employed in placing timber to support the arch. It was found to have sunk a foot or 18 inches, and will have to be taken down and rebuilt. This arch was of wider span than the others, and was the only elliptic arch in the viaduct. Some persons ascribe its subsidence to its being built in that form, others to the continued wet weather, as another of the arches has since been found to be cracked. They will both have to be taken down and rebuilt. Such an occurrence as this demands strict inquiry.

TO PREVENT CONDENSATION ON SLATE COVERING.

Sir,—Having seen in The Builder, a short time since, an inquiry from a correspondent for means to prevent condensation on the under side of slate slabs, when used as a covering for flats, I beg, through the same medium, to inform him, and others to whom the information may be useful, that by simply covering the under side with one or two coats of strong distemper colour, the annoyance may be prevented. This I have found to answer well in a closet in my garden, where the nuisance arising from constant dripping, led to the investigation of the subject, and the result attained.

Yours, &c., from the beginning,
Chelmsford, April 13th, 1846. Nroht.

INSTITUTION OF CIVIL ENGINEERS.

April 7th, 1846. Sir John Rennie, President, in the chair. The conversation upon the estuary of the River Severn being renewed, led to an interesting discussion upon the River Clyde, and the capability for improvements of that river, which will be continued at the next meeting. The paper read, was a short notice by Mr. G. Buchanan explanatory of a plan and sections of the Midlothian Coal Fields.

The coal field treated of, is that by which the City of Edinburgh has long been supplied, and it was stated to be still very far from being exhausted, but that a very large portion of the coal seams were rendered useless on account of the vast volume of water which, percolating through the old workings, pervaded the free-stone strata above the coal, and poured down in such quantities, that the pumping engines were barely sufficient to keep open the present workings; it therefore became the object of the proprietors to obtain an extensive system of drainage throughout the coal-field. Mr. Buddle, of Newcastle, was requested to draw up a report on the subject, from which it appeared that the great difficulty to be encountered arose from the circumstance, that an open water communication existed throughout the district, and a pumping-engine placed in any one spot would draw the water from every part around, which would render it an operation involving great labour and expense, which ought to be borne equally by all the mine proprietors. The paper then described the situation of the great dyke by which the coal was intersected and thrown 80 fathoms upwards; the north east boundary, where the seams are standing on edge, and then gave the different seams of coal and their qualities. These were—

Splint coal.. 3 feet thick.. good quality.
Rough .... 3 ,, .. ditto
Bufic..... 4 ,, .. { inferior quality not much worked.
Diamond .. 4 ,, .. valuable when found.
Jewel..... 4 ,, .. most valuable.

THE IRON TRADE.

The quarterly meetings of the iron masters of South Staffordshire and Shropshire were held on the 8th instant at Wolverhampton, on the 9th at Birmingham, on the 10th at Stourbridge, and on the 11th at Dudley. There was an evident intention on the part of the masters to keep up the prices of the last quarter. A great number of buyers present tendered orders at reduced prices, but the masters were firm, and refused to accede to a reduction, however small, upon any description of iron. There appears to have been no alternative to the determination acted upon at these meetings, owing to the high price of materials, and the difficulties which must attend any attempt to reduce wages at the present time. The prices quoted were for pig-iron, from 4*l.* 15s. to 5*l.* 10s; bar-iron, 10*l.*; railway iron, from 10*l.* 10s. to 11*l.*

The manufacturers complain bitterly of existing prices, as they have the effect of shutting them out of the foreign market, and obliging them to sell at home at ruinous rates. Some idea of the extent to which the price of the raw material has thus effected our iron manufacturers may be formed, when we state the rates at which iron has been sold in these districts, as fixed by the quarterly meetings during the last four years:—

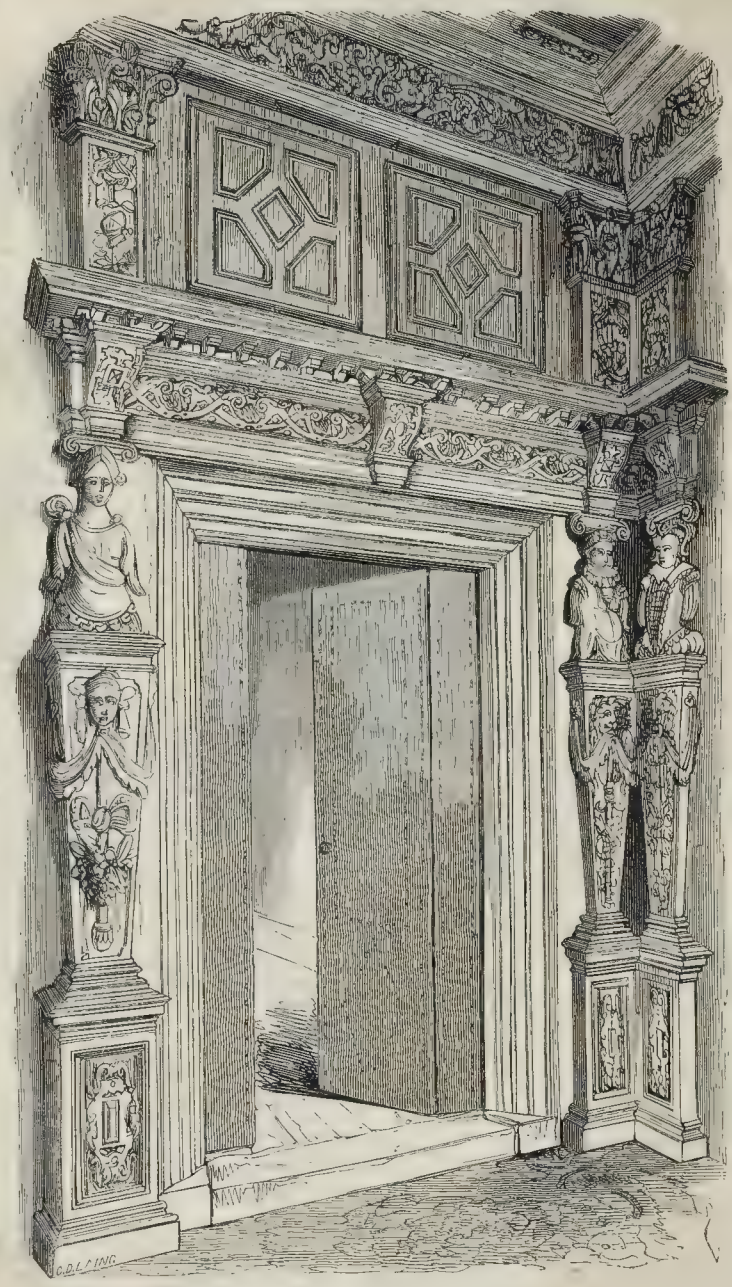
	BARS.		HOOP.		PIG.	
	£. s.	£. s.	£. s.	£. s.	£. s.	£. s.
April, 1843..	4 10 to 5	0.. 6	0 to 6	10.. 3	10	—
,, 1844..	7 10 to 8	10.. 7	0 to 7	10.. 4	0 to 4	10
,, 1845..	10 0 to 11	10.. 11	0 to 12	10.. 6	5 to 5	10
,, 1846..	10 0 to 12	0.. 11	0 to 12	0.. 4	15 to 5	10

At Glasgow the prices of pig-iron have remained very firm, viz., holders at 68s., cash for three-fifths No. 1, and two-fifths No. 3, and 69s. to 70s. cash for all No. 1, free on board.

THE QUEEN AND ARCHITECTURE.

Her Majesty has been pleased to manifest her interest in the advancement of architectural skill, by a step which will be viewed with much gratification by many of our readers. On Monday next Earl de Grey will take the chair at the Institute of Architects, to present the medals recently awarded, and the circumstance to which we allude will then be stated.

DOORWAY, CANONBURY HOUSE, ISLINGTON.



CARVED DOORWAY.

GREAT CHAMBER, CANONBURY HOUSE, ISLINGTON.

Canonbury House was formerly the residence of the celebrated Sir John Spencer, Alderman of London, a man of immense wealth and well known at the time for his active services to his fellow-citizens. Sir John Spencer's daughter and heir, Elizabeth, was married in 1594 to William Lord Compton, by which match the manor of Canonbury came into the Northampton family, and is now the property of the present earl. Canonbury House internally is one of the richest specimens of the architecture of James I. that is to be found in the neighbourhood of London. The house, or rather the remains, are of considerable extent, forming at the present time several large dwelling-houses, inhabited by different families. That portion of the building which contains the best rooms, and is in the finest preservation, is occupied as a ladies' school, conducted by Miss Green. From a passage on the first floor leading to the drawing room, is taken the doorway, the subject of our sketch; this passage with a room adjoining, was formerly a portion of the old great

BUILDER

chamber, a room of considerable extent, the scene formerly of many a rollicking party and festive entertainment, but which is now cut down to more sober dimensions fit for a modern drawing room. Its architectural decorations are of extraordinary rich character; its ceiling is a very fine piece of decorative plaster work, and in design one of excellent taste. The room contains a quaintly carved oak fireplace, in which are small statues of Mars and Venus draped. The room had originally wood panelling and carved pilasters placed at intervals; all this, with the exception of two or three pilasters, have disappeared; the doorway, with the busts of the old English gentleman and dame in the quaint costume of the time, is very curious.

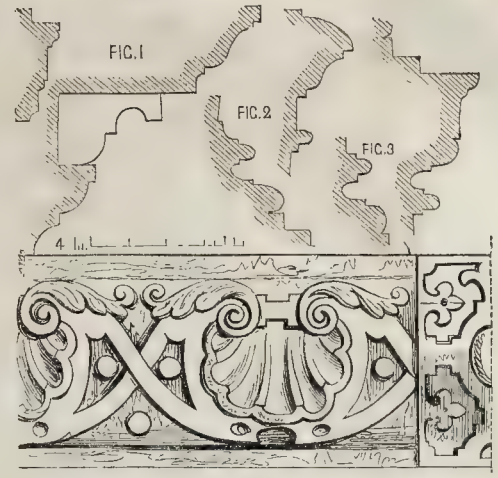
These doorways generally projected like small screens into these great rooms, and were used as a protection from the cold. The present appearance of the doorway, placed so awkwardly in the corner, and cutting off the pilasters, is probably owing to some alteration of later times. The small print of details shew its Roman moulding and enriched frieze; there are several running ornaments throughout the building of the same character as the latter. The ceiling of the room bears the date 1599, probably that year when Sir John Spencer came to reside on the spot. Besides the great chamber, there are several other rooms full of rich carvings, especially one on the ground-floor, now used as the young ladies' school-room, which retains all its original decoration: this was formerly the parlour of the old mansion.

The whole of the carving of these old buildings is carefully protected by the noble owner, the present Marquis of Northampton: the tenants being strictly directed in their leases to uphold, maintain, &c., all the several antiquities submitted to their charge.

C. J. Richardson.

Fig. 1. Section of cornice: the architrave mouldings behind.
Fig. 2. Section of mouldings under bust and at base.
Fig. 3. Section of mouldings at pedestal.

DETAILS OF DOORWAY.



THE CURVED LINES OF THE PARTHENON.

"SCAMILLI IMPARES" OF VITRUVIUS.

After the appearance in our journal of Mr. Penrose's paper on this subject,* Mr. Jopling forwarded to us the following inquiries:—

1st. Will Mr. Penrose have the kindness to state what instrument was used in taking the levels of the Parthenon?

2nd. In what way those levels were taken?

3rd. Whether any plan was adopted to check the accuracy of the *level*, or the levels taken at the time?

Further it would be very desirable if both Mr. Penrose and Mr. Scoles would furnish you for The Builder with the actual dimensions they each took of the columns of the Parthenon.

Again, would it not also be desirable in some way, if not full size, yet on as large a scale as possible, to have the dimensions and actual form of lines, as well as a practical method of describing such curves, to shew their great accuracy, recorded in the Grecian Gallery of the British Museum?"

On submitting these to Mr. Penrose, we obtained the following reply:—

The instrument used for levelling, was a spirit level inserted in a wooden bar 2 feet long, working on a three-leg stand, having cross wire sights, and care was taken to reverse every observation, by which the same result was obtained in all cases.

As regards a practical method of describing such curves, take a straight-edge, H*h*, fig. 1, about 5 feet long; fix a string at one end of this straight-edge, *h*, and let the other end traverse, upon a table or drawing board, round a fixed point, H, by means of a pin or awl. Let the string be cut off exactly 2·025 feet shorter than the length, H*h*, of the rod. The string being fixed to the moveable end of the rod *h*, and to a fixed point S at some convenient distance HS, from H, viz., about 3 feet,

Now let the straight-edge revolve about H, and keep the string tight against it with a pencil, as at Q; thus will an hyperbola, PQA, be traced on the board, having all its horizontal dimensions equal to the real size, and

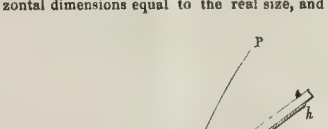


Fig. 1.

its vertical according to some scale which can be very easily determined:—

Draw AY perpendicular to HS, fig. 2, and at a distance, NP=$\frac{1}{11}$th of the axis we have been using, viz., $\frac{1\cdot013 \text{ feet}}{11}$ = ·092 feet, draw PF parallel with AY. Then set off FQ=·696 feet, which is equal the entire diminution of the column, and the segment QP will be proportional in height to the shaft of the column, and if it be divided so as to represent 31·4 feet, the scale so obtained will give the full size entasis at any point required.

A somewhat similar method may be used to

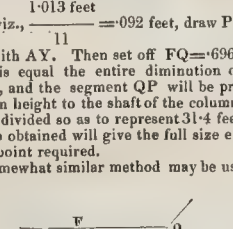


Fig. 2.

obtain any desired entasis for any column that may be required, having first fixed upon the amount of the entasis and the diminution of the column, by first drawing the curve as here described, with any convenient axis and foci, and then applying a straight-edge until we get exactly or approximately the amount of entasis and diminution required; dividing the length of the arc so obtained for a vertical scale of the column; but as this implies something of the loose nature of a tentative process, it would of course be more satisfactory to fix exactly the upper, lower, and middle points of the proposed curve, the distance below the springing of the focal line, and then obtain the curve by an analytical, or, when possible, by a rigid geometrical process; the first method, however, is very easily done and capable of great exactness.

Mr. Penrose says, "the interpretation of the scamilli impares of Vitruvius by our correspondent, J. P. W. (p. 151 *ante*), is certainly a highly ingenious explanation of the passage as it stands in Newton's translation. But that translation is much too free, and does not give a faithful version of the Latin text. That of Wilkins is more true to his author, "The stylobate ought not to be constructed upon the horizontal level, but should rise gradually from the ends towards the centre, so as to have there a small addition. The inconvenience which might arise from a stylobate so constructed, may be obviated by means of unequal scamilli."

The simple literal translation is this:—"The stylobate ought to be set out, so as to have in the middle an addition, by means of unequal scamilli (or foot-stools). For if it be directed by the level, it will appear to the eye to be hollowed."

DISSOLUTION OF RAILWAY COMPANIES NOT INCORPORATED.

The Lords of the Committee of Privy Council for Trade have communicated to Mr. Rogers, the Registrar of Joint Stock Companies, with a view to making it known with the least possible delay, that it is the intention of her Majesty's Government, immediately after Easter, to propose to Parliament a Bill to enable any railway company, which at the time of the passing of the Bill shall not have obtained an Act of Parliament, to dissolve itself.

By the Bill it is intended to provide for the calling of a meeting of the shareholders, either by the managing body, or by a given number of shareholders, at which meeting it is intended that the holders of a majority of the shares in the company, or the holders of three-fifths of the shares belonging to those present, or represented by proxy at the meeting, shall have the power to determine upon the dissolution of the company.

* See p. 122 *ante*.

STRIKE AMONG THE OPERATIVES.

At Liverpool the turn-out of the operatives in the building trades continues with very little prospect of an arrangement between the masters and men. There are, it is stated, about 4,000 hands out of employ. Delegates from all the trades met last week, and stated it was the determination of the workmen not to sign the declaration put forth by the masters, to the effect that they do not and will not belong to a trades' union. A public meeting of the trades was held on Tuesday evening, and it was resolved that delegates' meetings should be held every Friday evening, till the pending dispute between the masters and men be settled.

The master builders have put forth a manifesto, in which are detailed the various concessions they have made from time to time. They state that the several demands made amount to no less a sum than 22 per cent. upon what was formerly paid, and that no security exists against further demands. This document concludes in the following terms:—"It is quite clear that whatever temporary advantage may be gained, and loss and inconvenience avoided by the few masters whose men are now at work, that they are assisting in imposing a heavy and still increasing tax on the public, in destroying their own authority, and in vitally injuring the building business in all its branches, by surrendering the entire controlling power to the secret mandates of an irresponsible body, thus destroying the salutary check of the masters, and leaving the public at the mercy of the Trades Unions."

At Birmingham also the strike continues. A meeting was held on Monday evening at the Acorn Tavern, when upwards of fifty of the principal master builders attended. It was stated officially to the meeting that the two gas companies would co-operate with the masters in resisting the demand of the men. A deputation was then appointed to wait upon the architect of the Borough gaol, in course of erection, for the purpose of requesting him to suspend further operations at that building. The deputation, in pursuance of the above resolution, waited upon Mr. Hill, the architect, and were favourably received; and that gentleman promised to call a meeting of the Borough gaol committee, and lay the request of the masters before them. The object of this application is to cut off the resources of those men who are on strike, as contributions are levied upon the men at work. At this meeting it was stated that there were only three works of any importance in the course of erection in the town, namely, that of the Norwich Union Office in the Temple, the new gaol, and the intended erection at the corner of Temple-street, New-street, by Mr. Beilby, stationer. It was eventually resolved that the present demands made by the bricklayers are greater than the price of provisions or the state of trade warrant, but that the builders composing this meeting are willing to advance the bricklayers one shilling per week upon their present rate of wages, on condition that they comply with this offer immediately.

Last week the carpenters and joiners of Redditch struck for an advance of wages, namely, 3s. a-week more than they have been receiving during the winter.

The tin-plate workers employed in Birmingham, about seventy in number, have struck against a proposition made by their masters to reduce their prices twenty per cent.

At the Rhymary Iron-works great distress is experienced, owing to the men employed having struck for an advance of wages. They have done nothing for nearly two weeks, and the consequence is universal confusion and a total stagnation of trade. Numbers have left the place with a view of obtaining employment in the localities where wages are higher.

At Carmarthen the painters struck. The *Carmarthen Journal* says, the masters having consulted, and found their own, as well as their workmen's interests, would be best promoted by acceding to the very temperate and reasonable demand for an increase of wages, the differences between the parties have been amicably arranged.

To Clean Japanned or Paper-Mache Articles.—Warm water should never be used, as it is apt to crack the varnish. Olive oil applied with the hand will speedily remove slight scratches.

NATURAL TYPES IN DECORATIVE ART.

THE IONIC VOLUTE.

At the last meeting of the Decorative Art Society, March 25th, Mr. Crabb, V.P., in the chair, several observations were offered in discussion, upon the adaptation of natural types to ornamental purposes, and, also, on the symbolical associations which have, in many instances, regulated their application in decorative art.

Mr. E. Cooper exhibited a process for producing a volute by means of a natural form. He had selected a shell, the *buccinum spiratum* or syracuse whelk, and affixed it to a board; a string, with crayon attached, was then wound along the spiral hollow of the shell, and this, in the course of its convolutions, delineated what he assumed to be the Greek volute. He compared the result satisfactorily with engravings by Nicholson, from the Ionic capitals to the temple on the Ilissus, and the Temple of Bacchus at Teos; and he had detected an exact correspondence in size in Inwood's "Erechtheion," plate 21, from the Temple of Victory, on the Acropolis. Mr. Cooper then explained that in an examination of a fragment of an Ionic capital in the British Museum, he observed that the eye had been *fitted in* with a stone *similar* to the other part, and further, that in another instance the eye had been lost out. The orifice thus exposed, he conjectured had been necessarily made to receive an instrument for guiding the tools used in working mouldings on the face of the volute. Its diameter agreed very nearly with that of the lower part of his shell, and he presumed that a modified cast in metal from the shell would supply an instrument suited to such a purpose, and which at any rate offered an inexpensive and ready mode of striking scrolls for handrails, &c. Mr. Jopling tested the volute described by Mr. Cooper by a notation of eight gradial intersections, and contended that this scale of expansion was distinct from that of the Greek volute. His remarks were afterwards sustained by a comparative experiment upon a rubbing which Mr. Cooper had in his possession. It was also said that the engravings referred to previously by Mr. Cooper were incorrect.

COMPARATIVE PRICE OF RUSSIAN AND CANADIAN TIMBER.

For a return of the number, tonnage, &c., of all ships by which timber was brought into the United Kingdom, from the colonies or foreign countries, during the last seven years; also an account of the export duties levied by foreign powers on timber, and the net price, free of duty, of Memel and Canada timber at the beginning of each of the above years, appears the following abstract, giving the comparative prices of Russian and Canadian timber in the port of London during the first week of each successive year from 1839:—

Date.	Memel.	Rate of Duty.	Canada.	Rate of Duty.
	£. s. d.	s.	£. s. d.	s.
Jan. 1840	8 0 0 to 9 5 0	55	Red ... 5 0 0 to 5 0 0 Yellow ... 3 2 0 „ 4 5 0	10
Jan. 1841	7 15 0 „ 8 0 0	55	Red ... 4 0 0 „ 4 10 0 Yellow ... 4 0 4 „ 4 5 0	10
Jan. 1842	7 15 0 „ 8 0 0	55	Red ... 5 2 0 „ 5 5 0 Yellow ... 3 15 0 „ 4 3 0	10
Jan. 1843	7 15 0 „ 8 0 0	55	Red ... 3 15 0 „ 4 5 0 Yellow ... 3 3 0 „ 3 6 0	10
Jan. 1844	5 5 0 „ 5 10 0	25	Red ... 3 1 0 „ 3 6 0 Yellow ... 2 16 0 „ 3 3 0	1
Jan. 1845	5 0 0 „ 5 10 0	25	Red ... 3 18 0 „ 4 6 0 Yellow ... 3 6 0 „ 3 11 0	1
Jan. 1846	5 12 6 „ 5 17 6	25	Red ... 3 6 0 „ 3 11 0 Yellow ... 3 6 0 „ 3 11 0	1

The Society for the Encouragement of Arts in London have awarded their silver medal, for a design for sedilia, to Mr. Henry A. Darbishire, of Greenheys, late pupil of Mr. John E. Gregan, of Manchester.

THE ART-UNION OF LONDON AND THE GOVERNMENT.

The conduct of the Chancellor of the Exchequer in now opposing the legalizing of art-unions, is regarded with much displeasure by a large number of persons who regard it not merely as unparliamentary but as shortsighted, and calculated to produce great injury. Two years ago, when Government first unwisely interfered with these valuable associations, Sir Robert Peel said more than once, it was wrong to imagine the Government were opposed to art-unions, and that they would support a Bill which could be brought in to legalize them. The House admitted the goodness of the principle by a resolution, appointing a committee to inquire into the best means of placing art-unions on *a firm and permanent basis*; the committee so appointed, inquired most carefully into the subject, have set forth in an excellent report the sense they entertain of the value of such societies, and recommend that a bill should be brought in immediately, so that uncertainty may no longer prevail; and now after all this the Chancellor of the Exchequer is to return to the question of principle, and say, art-unions are lotteries, and I see no reason why their promoters should be exempted from the pains and penalties of the existing lottery Acts.

The assertion that they encourage gambling was disproved over and over again; the simple fact that the subscribers restrict themselves, with *very* few exceptions, to *one share*, even in a greater degree than at first, is of itself a sufficient disproof of it.

Of the good effect they have had in spreading a love of art throughout all classes, all bear witness; there cannot be two opinions upon it, and as regards the interests of artists as a body, we have evidence that the suspension of art-unions would produce an amount of positive distress which only those who have inquired into the subject can rightly estimate.

The hint thrown out by us last week is about to be acted on. A public meeting of artists will be held, and a memorial forwarded to Sir Robert Peel. A large body of artists have manifested their anxiety to move in it, and simply wait for some of their more favoured brethren to take the initiative, lest if they moved first, the latter might consider it *infra dig.* to follow. There is no time to be lost, as Mr. Wyse's bill stands for committal on Wednesday next.

CHURCHES—EAST AND WEST.

Speaking of the new church at Sandown, in the Isle of Wight, which is advancing rapidly towards completion, the *Hampshire Advertiser* says:—"There is one defect in the building which its lofty and conspicuous position makes the more unpleasantly obvious. With no excuse in the nature of the site, with plenty of space round it, the building stands nearly north and south, in utter defiance of all English custom.

It may be said that the custom of placing churches *east* and *west*, or nearly so, is not a Catholic custom, but only an English one; since the churches on the continent are not so placed. Very well, but supposing it to be English only, so is the Prayer-book, in some parts at least; now we should like to know how such a position as that of the new church at Sandown is to be reconciled with the requirements of the rubric. How is "the priest" to "stand at the north side of the table" in this case? Will a niche be cut for him in the end wall of the chancel, or will the table be moved away, so as to allow him to stand *behind* it, facing the people? which last may, for ought we know, be the more primitive way. Again, it is directed that the ten commandments be put up at the east end of the church or chancel; how will that direction be obeyed? There are plenty of places of worship in England built like this church at Sandown without any regard to the points of the compass; meeting-houses, for instance; and again, certain Romish chapels, as that at Derby, which stands north and south,—and that in St. George's-fields, which stands nearly so. But we, for one, think it would be safer to adhere to English custom, and the English prayer-book, in this matter, than to follow either domestic dissent, or foreign popery."

The details of the church referred to, are said to be very *eccentric*; perhaps some of our correspondents will point out in what this eccentricity consists.

NOTES IN THE PROVINCES.

The royal gardens at Cumberland-lodge are to be broken up, and the materials of the orangeries, the hot-houses, and the pinery, are directed to be sold. The celebrated vine nearly one hundred feet in length, which produced last year upwards of two thousand bunches of grapes, has been commanded to be preserved.——A few weeks since we referred to the exertions being made by the vicar of Leamington towards raising a subscription to defray the expenses of building an additional church in that town. A sufficient sum has been collected, and an edifice capable of accommodating 500 persons will shortly be commenced in Beauchamp-square.—— It is said that an additional wing is to be added to the Roman Catholic Cathedral of St. Chad, Birmingham. A new church, also, upon a smaller scale, is to be commenced almost immediately at Edgbaston, so that there will then be three Romish churches in Birmingham.——It is intended to rebuild the parish church of Wambrook, near Chard, at an expense of about 1,000*l.*, in consequence of the dilapidated state of the present edifice, and the insufficiency of the accommodation afforded therein. The funds will be raised by voluntary contributions, aided by grants from the Church Building Societies and a church rate.——The new barracks at Pembroke being completed, various fortifications for the protection of the Naval Arsenal, in the same locality, will shortly be commenced.——On Sunday week, at Exton Church, Lincoln, an accident connected with the heating apparatus took place. Just as the congregation had assembled for divine service in the morning, a loud hissing was heard in the chancel, which proceeded from one of the pipes; the noise gradually became louder, and terminated in a terrific explosion, the steam bursting forth with frightful force, and the dense atmosphere rendering it impossible to ascertain the extent of danger in which the congregation was placed. Fortunately no lives were lost, and the injuries received were not of magnitude, several being only slightly scalded. The accident is attributed to some air which had remained in the expansion pipe.——The directors of the Hull General Cemetery Company having determined upon publicly exhibiting the various plans and designs, sent in for laying out their grounds, before making a selection, such exhibition took place on Wednesday and Thursday last, and will finally close this day.——Public baths, on an extensive and economical scale, are about to be erected at Edinburgh. A committee has been formed to carry out the design, and a subscription entered into, which already amounts to upwards of 2,250*l.*——The sites for the markets at Ely are at length decided upon. The cattle-market is to be held in the White Hart-garden, and the Corn Exchange is to be erected in the middle of the Market-hill. Many of the shareholders are strongly in favour of a public room, and the committee feel disposed to comply with their wishes. Every thing in reason will be done to make it an ornament to the town.——A new Baptist chapel, in the Gothic style, from a design of Mr. T. E. Owen, is about to be erected at Portsea. The estimated cost is 2,100*l.*——The restoration of Wetwary Church, Yorkshire, has recently been effected. The transept, formerly occupied as a school, has been once more opened to the congregation. A new pulpit and reading desk, the works respectively of Messrs. Simpson and Malone, and Mr. Sissons, are highly spoken of in the *Hull Packet*. The alterations were made after the design of Mr. H. Wheatley, of Hull.——A new church is about to be erected for the Tangier district in Taunton.——Last week a public meeting was held at Southampton for the purpose of petitioning Parliament to require railway companies in connection with that town to erect a central terminus.——The new cemetery at Southampton will be consecrated by the bishop of Winchester on the 7th of next month.——The Worcestershire Church Building Society have determined upon enlarging the church at Lye Waste, upon the plan proposed by Mr. Egginton, their architect. They have also at the present time under consideration various alterations proposed to be made in Wasperton Church, the estimated cost of which is 700*l.*——Mr. Hakewill visited Yarmouth last week for the purpose of examining St. Nicholas's Church. He proposes to remove the present girders of the tower, and to throw open the archways under the tower; in so doing, he contemplates giving greater effect to the interior of the edifice.——The ceremony of laying the first stone of St. Mary's Chapel, Twyford, near Reading, was performed on Wednesday week, by Robert Palmer, Esq., M.P., in the presence of a considerable number of the neighbouring clergy and gentry.——Last week the chapel of ease, recently erected by William St. Quintin, Esq., at Scampston, situate about six miles from Malton, Yorkshire, was publicly opened for the first time. The *Hull Packet* speaks in praise of the design, as well as of the liberal manner in which the proprietor has carried it into execution.

CLUB DWELLINGS FOR THE WORKING CLASSES.

Sir,—Notwithstanding the great desire that exists for ameliorating the dwellings of the industrious classes in large towns, it does not appear that any plan of building has yet been decided on for effecting this desirable purpose. I therefore beg leave to communicate the outlines of a scheme for affording suitable lodgings for single men of this description, together with other accommodations that may, it is hoped, be likely to ameliorate the condition of such persons, contribute to their daily comfort, and lead to the improvement of their morals.

Buildings on a large scale can, as is well known, be constructed at a less cost per cube foot of interior space than small ones; and can also be warmed, lighted, ventilated, at a less comparative expense. So provisions can be purchased, cooked, and served, at a lower rate in large than in small quantities. These considerations have given confidence as to the economy of the plan proposed.

Supposing, then, that a building on this plan were to be erected for the accommodation of 200 men, the following might be the general arrangement of it:—The structure, besides providing a separate lodging-room for each man, to be suited to furnish the inmates with means of obtaining personal cleanliness; food of kinds suited to their purses and their tastes; sedentary and mental recreation after the labours of the day were over; together with some other desirable appendages.

A building for these purposes would, for 200 men, require to be about 230 feet long, 26 feet wide, inside dimensions; to consist in height of a basement floor, a ground-floor, and of four stories above; the whole being fireproof.

It is assumed that for cleanliness, privacy, health, and general comfort, each individual should have a separate chamber, which might be considered ample if measuring 10 feet by 8: a row of such chambers running on each side of a middle passage 6 feet wide, would occupy the four upper floors of the building, excepting only the space required for a staircase. The staircase, for various reasons of convenience, to be in the middle of the building; on each landing water-closets of good construction, having windows to the exterior.

Each separate chamber to have its window, and to be furnished with an iron bedstead, a press for clothes, a washing-basin, a cock for the supply of clean water, with means of running off the foul. The middle passage to have a large window at each end for ventilation, and appropriate means of lighting the whole building with gas, including at pleasure, each separate room. The roof flat, for recreation in fine weather, and a small infirmary on the middle of it for occasional sick. The basement floor to be appropriated to a kitchen, scullery, larder, beer and coal cellars, baths, drying-room for wet apparel and shoes, laundry, and apparatus for heating the whole building.

On the ground-floor, next to the staircase, and on each side of it, an apartment, consisting of two bed-rooms, a sitting-room, and a small kitchen for a married porter (who might also act as barber), and his wife as housekeeper. The two porters to be on duty alternately; their wives, with such assistance as might be deemed necessary, to clean and keep in order the whole building. The principal part of the ground-floor to be appropriated on one side of the staircase, to a dining and coffee-room, the other side to a library and reading-room. At one end of the ground-floor a dispensary, and dispenser's sitting-room. At the other end, an apartment for a steward, whose business it would be to receive rents, to keep general order, and enforce adhesion to regulations.

In so large an establishment, it is evident that various regulations would have to be adopted as necessary to the well-being of the inmates generally, as also to the security of the landlord. Thus, with a view to the landlord's security, consequently to the low rent at which lodgings could be afforded, an innovation, in this country, as to the time of payment of rent is proposed, namely—that it should be paid in advance; and that from the first it should be stipulated that no credit would be allowed. In foreign countries, where rents from the highest to the lowest, are habitually paid in advance, many are the advantages found to result from this practice. Security to the landlord enables him to let his premises on lower terms than when, as in this country, there is always an average degree of risk to be provided against. To the tenant, if honestly paying his rent as it becomes due, it can make little difference whether it be at the beginning or the end of the week that he has to pay; whilst to the thoughtless, paying in advance operates as a check to useless or extravagant expenditure; to the intentionally dishonest, this establishment is not intended to afford an asylum. For these reasons, payment of rent in advance, either by the week, the month, or quarter, at the choice of the tenant, should be a rule.

For general management, such as seeing to the good quality and fairness of price of provisions, furnished from the kitchen and butlery, the cleanliness of apartments, &c., and orderly conduct of the inmates, a committee of them might be formed by ballot—the whole of the inmates voting—analagous to the committee of managers of the great London clubs, which are found to be so ably, and so economically directed.

It seems needless to enter into details of the manner in which the kitchen might supply better diet than is habitually obtained by the single workman, and at a lower price. A dispensary is proposed, as by means of a small weekly subscription from an inmate advice and medicines would be obtained, in case of illness, without farther pay. The dispenser might advantageously be allowed private general practice, so that superior talent could be obtained for this important office.

Buildings on the same general plan might be constructed for single women; although as their earnings are comparatively very small, the accommodation to be provided would necessarily be on a smaller scale. In this case, also, the reading-room would become a work-room for such of the inmates as might be sempstresses; their minds and morals might, it is confidently hoped, be greatly improved were some one (perhaps some benevolent visiting lady) to read aloud during the weary hours they were labouring at their needle. In truth, to persons conversant with the hardships females of this class endure, and the temptations to which they are subjected, it may seem that cheap respectable lodgings for women and girls are even more required than for men.

If, on the other hand, the building were for married persons, it would require that each couple should have additional chambers according to the number of their children. It may just be noticed that the flat roof would afford superior play-ground for children than now their only one, the *street*, and much juvenile depravity might thus be avoided.

March 23rd. M. B.

Restoration of St. Mary Redcliffe Church, Bristol.—The first stone of the proposed restoration will be laid on the 21st inst. by the mayor, J. Kerle Harberfield, Esq., in the presence of the corporation, and assisted by the ancient Society of Freemasons, who number in Bristol nearly 400.

Public Baths in Yorkshire.—Her Majesty has lately subscribed 100*l.* in aid of the local subscription towards the erection of public baths at Bradford, Yorkshire.

MOSAIC DECORATIONS.

The new church at Wilton, says the *Salisbury Journal*, contains some ancient mosaic work of great interest. It originally formed a shrine erected in the church of Santa Maria Maggiore, at Rome, for the martyrs Simplicius and Faustina; it was the work of Pietro Cavallini, about the year 1256, and was brought to this country in the last century by Sir William Hamilton. Horace Walpole built a chapel to receive it at Strawberry Hill, where it remained until that collection was dispersed a few years ago; it was then purchased by the Right Hon. Sidney Herbert for his new church at Wilton, and is peculiarly appropriate to the building, for the greater part of the old Romanesque churches were adorned with this kind of ornament; indeed, the art of making mosaic was carried to its greatest extent at the time when the fine Lombardic churches were erected in the great cities of the north of Italy. On this side of the Alps it is very rarely seen. In France it existed in the old Benedictine Convent of Clugny, now destroyed. It is a curious fact, that in Westminster Abbey are works by the same artist, though in a sadly mutilated state —viz., the shrine of Edward the Confessor, finished under Henry III., according to the inscription in 1270—and in the tomb of Henry III. himself, who died in 1272, erected, with the assistance of Cavallini, by his son Edward I. The remains of the shrine now used in different parts of Wilton church are in excellent preservation. So fresh and brilliant, indeed, are the colours, that it is difficult to believe they have existed very nearly six centuries. This may be accounted for by the genial climate of Italy, which tends materially towards the preservation of works of art.

Correspondence.

DRYING AND SEASONING OAK.

Sir,—I have long observed the obliging manner in which you insert the queries of your readers, and that the replies elicited are to many besides the querist, of much importance. I am at present engaged to some extent in the manufacture of oak fittings and furniture, and it being almost impossible to procure any quantity of the wood in a sufficiently dry state for working, I desire very much to know the quickest and best means of seasoning and drying oak, and also what preparation is used for filling the pores of the wood previous to French polishing. I have been told there is some way of using plaster of Paris for the purpose. R. S.

Dublin, April 6th.

Venetian Nail Trade.—It is well known, that the nails of Venice enjoy a very great reputation, and meet with a considerable sale in different countries, particularly in the Levant, which has induced the Belgium Government to import from Venice samples of those sorts which are the most saleable generally to the commercial interest. Three barrels of these nails, accompanied with a full detail of the manner of making them, have arrived at the department of the Minister of Foreign Affairs at Brussels, where they will remain for thirty days for the inspection of the iron manufacturers, merchants, mechanists, and all those connected with the industry of the country. After that period, they will be sent into those localities for which they have been imported by Government, for the purpose of causing a new industry in Belgium in this important branch of the iron trade.—*Mining Journal.*

Royal Academy.—The following subjects have been given out for prizes, to be awarded on the 10th of December next, the anniversary of the foundation of the Royal Academy:—A silver medal for the most accurately-finished drawings of "St. Peter's, Cornhill," the plan, elevation, and section to be done from actual measurement. A silver medal for the best medal die, to be cut in steel, from the head of the Giustiniani Apollo, in the Royal Academy; the size to be not less than 1¼-inch in diameter. Silver medals for each of the best drawings and models in the antique and life schools, and two silver medals for the best copies made in the school of painting, between the time of its opening after the exhibition and the 1st of November next.

Miscellanea.

Railway Compensation.—A short time since a jury case of some importance was tried before Mr. Bodkin, M.P., as assessor, and Mr. Pain, as deputy-warden of the Cinque Ports, at the Town-hall, Margate, in respect of land at Margate, belonging to Messrs. Taddy Hatfield, and required by the South-Eastern Railway Company for their extension line to Margate. The Attorney-General (with a special fee of 150 guineas), Mr. R. Gurney, and Mr. Deedes, as counsel, and Messrs. Crowder and Maynard, appeared for the claimants (Messrs. Hatfield); Mr. W. J. Alexander, Queen's counsel, and Mr. Merewether, as counsel, and Mr. Nash, for the South-Eastern Company. The case occupied the attention of a special jury from 11 o'clock in the morning until five minutes to 12 at night. The land required by the company was 12 acres 1 rood and 19 perches of arable and pasture land, with a straight frontage of 330 feet to the Marine-parade. The whole estate and farm, comprising above 216 acres, and residence, was bought by Mr. Hatfield, in 1839, under the Court of Chancery, for 16,800*l.* Mr. Hornblower, surveyor, of Birmingham, proved his estimate for the land taken by the company, and damage, including loss of frontage, sea view, brick-earth, and severance, at 18,312*l.*; Mr. Mayhew, of Nether Court, estimated it at 17,178*l.*; Mr. Charles Smith, of London, estimated it at 18,474*l.* Other witnesses proved the sale of other railway land at 4*l.* 4*s.* per foot, and the sea-wall to have cost the owners, 20 years ago, 2*l.* 19*s.* to 4*l.* per foot. For the company, Mr. John Clutton estimated the sum to be paid at 4,552*l.* 5*s.*; Mr. Roper, of Stamford-street (who had valued the estate in 1839, for the Chancery sale), estimated it at 3,863*l.* 5*s.*; Mr. Norton, of Broad-street, estimated it at 3,100*l.* 10*s*; Mr. Cramp, of Margate, at 4,460*l.* 7*s.*; and Mr. Jenkins, of Margate, at 4,114*l.* 6*s.* Mr. Bodkin, at past 10 o'clock at night, commenced his summing up; and the jury, after retiring for a quarter of an hour, returned a verdict for the land and severance (including 25 per cent. agreed for forced sale), 5,265*l.* The claim had been sent in at 18,023*l.*, and the company had offered 6,000*l.*

St. Paul's and the Monument.—Dr. Carus, who accompanied the King of Saxony to England in 1844, has recently published an account of his tour.* In it are the following remarks on two of our London lions:—"I had (he says) reserved my afternoon for a walk through London. First, through the Strand and Fleet-street, to St. Paul's. I had brought with me no very great expectations of this edifice, great only in regard to its size, and the sight of it even diminished my opinion. In the place of one of the most magnificent old cathedrals, celebrated as one of the most splendid buildings of the middle ages, the seventeenth century—this century in matters of taste below all criticism—has set up one of the most tasteless collections of columns, vaulted roofs, eaves, and statues, that encumbers the earth. Sir Christopher Wren, the architect, has a monument here, upon which stands the proud word, 'Circumspice!' but his own sentence, or rather that of his age, is expressed here. Only when seen from a distance does the size of the cupola render it an imposing object; seen from within, where in addition every thing seems so waste and deserted, it is a mere soulless vault. Not far from this is the Monument, that well-known column erected to commemorate the great fire of 1666, which, among other things, destroyed the beautiful old Gothic cathedral. It ascends splendidly into the air, with its gilt ornament at the top, particularly in such beautiful sunshine as that of to-day. I could have wished to have obtained a view of London from the top, but this pedantic celebration of the Sunday even closes the door at its base, which on other days is always open! Thus a puritanic faith always prevents every free view! I then turned my steps to new London-bridge, the last of the bridges towards the sea, for from this too, a view is to be obtained; and such a view!"

Hull.—Various new offices are being erected at Hull. One of them is for the official assignee of the Court of Bankruptcy; another is to be devoted to the town surveyor.

* Translated by Mr. Davidson. Chapman and Hall, Strand.

Large Public Market-house for Honduras, Entirely Constructed of Iron.—We had the pleasure and privilege on Thursday last, of witnessing at the Phœnix Iron Works (Messrs. Thomas Edington and Sons), one of the most elegant and extensive market-places, for Honduras, wholly composed of iron, we have ever seen anywhere, and our only wonder and surprise is, that similar constructions have not been introduced into this country, where, by the way, they are so much wanted. The market-place alluded to, measures 108 ft. long and 60 ft. wide, and is surrounded by a colonnade or verandah 12 ft. wide, supported by handsome fluted columns. The interior or main building contains numerous stalls for the sale of the various market commodities, and is ventilated by means of jalousie blades, fixed in the manner of Venetian blinds, which exclude the rays of the sun, while at the same time they afford free ingress to the current of air. There is besides a large ventilator on the top, that nothing may be wanting to encourage a delicious coolness in the hot climate for which it is intended. When erected in Honduras, it will occupy the centre of a large square or open space of ground, and will be entered by four spacious doors, one in the centre of each side of the building. In the construction due attention has been paid to ornament and architectural beauty, whilst at the same time lightness, combined with great strength, have been carefully studied. Iron steam-vessels are rapidly superseding all others, and we make no doubt that iron houses will, in the course of time, become common. The old-established and highly respectable house above-named, so soon as the present market-place is shipped, will immediately lay down an iron church for the continent, ordered some time ago.—*Glasgow Constitutionnel.*

Architecture Abroad.—We glean from the *Athenæum* that the French minister at Athens M. Piscatory, has obtained from the Greek government permission to restore, at his own cost, and by means of the French architects who are pensioners of the School of Rome, a portion of the Temple of Erectheus.—M. Blouet, the architect to whom Paris is indebted for the works which completed that long unfinished monument, the Triumphal Arch of the Etoile, has been elected to succeed M. Baltard as professor at the School of the Fine Arts in that capital—The ancient temple of the Knights of Malta, at Lanon, a very curious monument, in an architectural point of view, has been completely restored under the direction of government; and M. Duban and his assistants are making great progress with the works of restoration at the Château of Blois, whose rich old sculptural details are coming out, it is said, with effect.—From Stockholm we hear of a demonstration made by the Royal Academy of that capital in acknowledgment of the many benefits conferred on the arts and artists of Sweden by the late king, Charles John. It has been unanimously determined that, to perpetuate their memory, a new pediment shall be placed on the principal façade of the Palace of the Fine Arts, which shall exhibit the colossal statue of the king, surrounded by allegorical figures recalling the progress made by the liberal arts in that country, during the reign of the deceased monarch.

Decorations in France.—In the park of Malmaison, recently purchased, with its château, by Queen Christina, her Majesty has erected a Gothic chapel, under the direction of M. Suréda, the architect, in the style of the Sainte-Chapelle, at the Palais de Justice. The *Athenæum* says, the walls are to be covered with mural paintings, in the fashion of the 13th century; and M. Henri de Gerente has just finished one of five windows which are to enrich the building. The one completed represents St. Augustin, the patron saint of the Duke de Rianzares. The other subjects will be,—St. Christina, the patron of the Queen-Mother; the Holy Virgin; Isabella of Hungary, the patron saint of the Queen of Spain; and St. Louis, the patron of the Infanta Louise. The great gate will be surmounted by a *rosace* of stained glass, richly executed. The arms of Castile, of Leo of Grenada, and of France, succeed each other, on a ground of blue.

Paisley.—Mr. Hastie, M.P., has contributed the sum of 100*l.* towards the establishment of a school of design in Paisley.

PROTESTANT CHURCH IN ALEXANDRIA.—With the actual assistance of the Pacha of Egypt, a church for the Protestants in Alexandria is now building from the plans of Mr. James Wild, the architect of the new church at Streatham.

MEETINGS OF SCIENTIFIC BODIES

During the ensuing week.

MONDAY, April 20.—British Architects, 16, Grosvenor-st., 8 P.M.; Statistical, 12, St. James's-square, 8 P.M.; Chemical (Society of Arts), Adelphi, 8 P.M.

TUESDAY, 21.—Linnæan, Soho-square, 8 P.M.: Civil Engineers, 25, Great George-street, 8 P.M.

WEDNESDAY, 22.—Geological, Somerset House, 8½ P.M.; Society of Arts, Adelphi, 8 P.M.

THURSDAY, 23.—Royal, Somerset House, 8½ P.M.; Antiquaries, Somerset House (Anniversary); Syro-Egyptian, 71, Mortimer-street, Cavendish-square (Anniversary); Royal Society of Literature, 4, St. Martin's-place (Anniversary).

FRIDAY, 24.—Royal Institution, Albemarle-street, 8½ P.M.; Philological (London Library), 12, St. James's-square, 8 P.M.

SATURDAY 25.—Asiatic, 14, Grafton-street, 2 P.M.

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For the building a new workhouse at Ashbourne, Derbyshire.

For the supply of road materials to the Commissioners of the Metropolitan Roads.

For the erection of a Temperance Hall in Upper Temple-street, Birmingham.

For sinking a well deeper in Chenies Mews for the Southampton Paving Trust Commissioners, St. Pancras, Middlesex.

For the execution of works and the supply of carriages on the Midland Great Western Railway (Ireland).

For the erection of certain buildings on the Sheffield, Ashton-under-Lyne, and Manchester Railway.

For works required to be done in the erection of farm buildings at Desborough, Northamptonshire.

For all or any of the works required in the erection of a church at Westleigh, near Manchester.

For executing various works at the Liverpool Philharmonic Concert Hall.

For the erection of a building and other works in the Grammar School Playground, Ipswich.

For various repairs to be done at Mitchelmersh Church, Wilts.

For certain alterations to be made in the Victoria Rooms, High-street, Doncaster.

For building sewers in Falcon-street and Castle-street, Falcon-square, and other places contiguous thereto, in the city of London.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At Feering, near Coggeshall, Essex: 1,520 oak, ash, and poplar seconds, &c.

At Dinton and Sutton Mandeville, Wilts: 150 very capital oak timber trees.

At the Anchor Inn, Redbridge, Hants: several lots of splendid oak timber, &c.

At Mayland, Essex, by order of the governors of St. Bartholomew's Hospital: upwards of 300 elm trees and pollards.

TO CORRESPONDENTS.

"Leeds Industrial Schools."—*Mr. Clark's letter to the* Leeds Mercury *was forwarded to us by the correspondent of whom, without any cause, Mr. Clark now complains; but having nothing to do with the immediate point of our correspondent's letter, was omitted for want of room. We therefore cannot insert Mr. C.'s communication in its present shape: some of it we would otherwise print.*

"T."—*The subject named would suit us.*

"E. W. G."—*Mr. Leslie's address is* 60, *Conduit-street, London.*

"Thomas Sanders."—*The name of the successful competitor is not yet declared. We had not room for the article.*

"G. W. B."—*Laxton's or Skyring's.*

"C. R." (Liverpool).—*Juries have full power to give more than the exact market value of a property if there be reason for it.*

"Cleaning Stone Carvings."—*A builder wishes to know the best mode of cleaning dirt from the face of old Portland stone carvings without scraping.*

"W. Royce."—*We are willing to consider any proposition that may be made.*

"Devonshire Marble Works."—*In reply to a correspondent of last week, Mr. J. Lovibond, of Load Bridge, near Langport, Somerset, says the works in question have been closed for some years, but that his establishment is similar.*

"Col. Mason."—*We cannot say with confidence that any cement-lining of fountain-basins will withstand the effect of freezing water. The water should be kept out in frosty weather. If this cannot be done, we should be disposed to try Seyssel asphalte.*

"U. G."—*Loudon's "Encyclopedia of Villa and Cottage Architecture" is the most comprehensive work of the kind, but is not cheap. Hunt's "Tudor Architecture" would be found useful.*

"W. G."—*He cannot legally remove the mahogany sashes, or substitute the common glass for plate.*

"G. S., Newton-road."—*Address Mr. M'Intosh Brookes,* 6, *Adam-street, Adelphi.*

"Cementarius."—*Address C. Couchman, Esq., Waterloo-street, Birmingham.*

"M. B."—*Shall appear in our next.*

"E. F. E."—*Next week.*

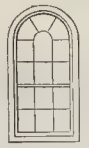
We are compelled to postpone for a week the continuation of articles "Spanish Architecture," "Kane on Turbines," "Sepulchral Monuments," "W. S." *and* "Freemasons of the Church." *Various tenders are omitted for want of room.*

Received.—"Humanitas," "Zeta," "Carpenter and Joiner" (Islington), "A Subscriber."

*** *Several correspondents must excuse us for not paying immediate attention to their particular subjects.*

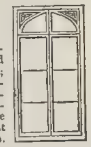
ADVERTISEMENTS.

SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.



JOHNSON & PASK,
1, AMWELL STREET,
Clerkenwell,

Beg to state that they continue to make Sashes, glazed complete, at 10½d. per foot; also, Shop Fronts to any design, and with the best British plate-glass. Every description of joinery on the lowest terms, and of the best materials and workmanship.



A full list of prices forwarded by return of post to any part of the country.

TO THE BUILDING PUBLIC, &c.

ONE WORD with you, and Take Notice, should you want SASHES and FRAMES, go to that Noted Cheap Sash and Frame Manufacturer to the Trade,



R. BOOTH,
No. 5, GIBSON-STREET,
LAMBETH,

Where you can have Sashes and Frames made and glazed at 1s. 3d. per foot supr.; Shop-fronts of every description; greenhouses, doors, and shop-fittings manufactured equally cheap.—For further particulars apply as above (prepaid), inclosing a postage-stamp. Country orders punctually attended to. Terms for Cash only.



N.B. The Cheapest House in London for all kinds of fittings.

TO ARCHITECTS AND BUILDERS.

CHAS. WM. WATERLOW, JOINER to the TRADE, 121, Bunhill-row, returns thanks for the liberal patronage awarded him, and begs to announce that he has devoted a portion of his extensive premises to the sale of ready-made doors, of which he has upwards of 400 on view, and a variety of sashes and frames; he earnestly invites an inspection of his goods, the superior character of which is attested by many from whom he is daily receiving a repetition of orders; and his charges (taking quality into consideration), are allowed to be the lowest in the trade.—Full lists of prices may be had on application at the counting-house, if by letter prepaid, inclose postage stamp.

HERRING'S PATENT WINDOW for hanging the Sashes, whereby they may be instantly disconnected from the Frames, without removing the Beading. It is now being applied in Palaces, Castles, Mansions, first-rate Houses, Villas, &c. It is universally approved and adopted by every Architect that has seen it. Builders in the Country will have a full-sized Window forwarded on receiving an order and reference, and taken back if returned within eight days free. To be seen daily. Licences and other particulars had of the Patentee, 14, Kingsgate-street, London.

This invention is exceedingly simple, increases the cost but slightly, and appears to answer the purpose well.—BUILDER, 28th February.

A Premium of 5*l.* will be given to the first fitter-up of a first-rate House with this Patent, and in proportion for second, third, and fourth-rate Houses.—March 20, 1846.

PATENT WINDOW BLINDS.

TYLOR and PACE manufacture every description of WINDOW BLINDS entirely upon their own premises, by the aid of steam machinery, insuring the best materials and workmanship, at the lowest cost. Patent metallic gauze and perforated Zinc Blinds, in mahogany frames, at 1s. 8d. per square foot; ditto, in metal frames, 1s. 2d. per square foot. A large and choice assortment of Transparencies, mounted, from 19s.; Holland Blinds, on plain or spring rollers, Outside Shades, Venetian and Sun Blinds of every description.

TYLOR and PACE'S Show-rooms, 53, Cornhill, entrance St. Peter's-alley.

TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorized CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced.

I. FARRELL, Secretary.
Stangate, near Westminster Bridge, Jan., 1845. Seyssel Asphalte Company.

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

TO BUILDERS, LANDLORDS, FARMERS, TENANTS, &c.

THE NATIONAL REGISTRY INSTITUTION for transacting all business connected with the disposal of Property, and with the various changes and requirements in the Professional and Commercial World.

Offices, 28, Surrey-street, Strand.

THE PROPERTY REGISTRY.

The object of this Registry is to afford the most efficient assistance to all persons interested in the disposal, purchase, or hire of House, Landed, or other Property.

The REGISTER contains a distinct and classified account of all kinds of Property offered for sale or letting, or required for purchase or hire: comprising Houses, Building Land, Estates, Farms, Premises, Warehouses, Offices, Furnished Houses, Apartments, &c.

To Builders, Landlords, and others, who have Property to sell or let, this Registry will prove particularly useful, affording peculiar facilities for the speedy disposal of their Property, as the information thereof will be extensively diffused throughout the whole kingdom.

Persons who wish to obtain Advances of Money upon real or personal security will materially consult their own interests by communicating their wishes to this institution. Confidential matters conducted with the greatest secrecy possible.

All persons letting Furnished Houses or Apartments, subscribers to this Registry, will have no difficulty in being constantly supplied with occupants.

To carry out the business of this institution with spirit and success, respectable agents are now being appointed in every town in the United Kingdom, to whom a liberal commission will be given. Respectable persons desirous of becoming agents to this and the other registries which the institution comprises, are requested to communicate immediately with Mr. Pepper, Principal, 23, Surrey-street, Strand, where prospectuses can be had, between 10 and 5 o'clock daily.

WILLIAMS'S PATENT SLATE RIDGES and HIPS.—The above article is recommended as the best and the most suitable covering for Ridges and Hips of slated roofs ever invented, possessing a solid Roll of various sizes, more elegant and durable than lead, and 30 per cent. cheaper.—Sold by Messrs. J. and J. SHARP, Slate Merchants, Tooley-street, and Mr. RICHARD COOPER, Slate Merchant, Belvedere-road, Lambeth, London.

DAVEY'S PATENT SLATE RIDGES and HIPS are very superior in appearance to lead, as well as more durable and much cheaper, and are admitted to be the most valuable articles for the purpose hitherto invented. They consist of two side pieces and a roll, either united together to form one solid piece, or in separate parts, and in lengths of from four to six feet. The roll is made of various sizes, perfectly round, and in the strongest way of the slate. They may be purchased of the patentee, W. DAVEY, Broad Quay, Bath, or of any slate dealer in London or the country. Parties ordering a cargo of roofing slates may procure these ridges at the cheapest rate from Mr. JAMES WYATT, Port Penrhyn, Bangor (where they are manufactured), of whom and of the patentee further particulars and prices may be obtained.—Be particular to order DAVEY'S Patent.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—Wyatt, Parker, and Co., Agents. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

ORNAMENTAL TILES FOR COVERING BUILDINGS.

ROBERT BROWNE'S newly-invented CURVED ITALIAN TILES, for which invention the Society of Arts and Sciences awarded a medal. The Gothic Grooved Ridge Tile, with vertical ornaments, invented by R. B. in 1840; also a variety of plain Gothic Ridge Tiles adapted for tile or slate coverings; ornamental Plain Tiles of various patterns.

Tiles form in winter a warmer and in summer a cooler covering than slates or metal, and may be burnt of any desired colour. Address ROBERT BROWN, Tile Works, Surbiton Hill, near Kingston, Surrey.

HIP TILES to suit slate roofs in colour; Ridges, with plain or rebated joints, roll tops, and vertical ornaments; drains, many sizes, with plain or socket joints; paving in squares, hexagons, octagons, &c., different colours; roofing, in Grecian or Italian styles, other devices also, or plain; conduits, which do not injure pure water; fire-bricks and tiles; clinkers, and out-door paving; sundry wall-coping, garden-borders, chimney-tops; also tubular and other flues of peculiar material. No agent, but a depôt at 22, WHITEFRIARS-STREET, FLEET-STREET, LONDON, under Mr. PEAKE'S personal care, to supply genuine TERRO-METALLIC goods at fair prices as per quality; also, additional Stock at No. 4 Wharf, Macclesfield-street, South, City Basin.

The TILERIES, TUNSTALL, STAFFORDSHIRE, are near the centre of England, whence boats are sent direct to any inland place; or to the Mersey for the coasts, the colonies, and elsewhere.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 33, Chiswell-street, Finsbury-square, near Whitbread's Brewery.

Best Patent Cut Clasp.

3d.	4d.	6d.	10d.	20d.
5d.	7d.	8d.	1s. 6d.	2s. per 1000.

Best Sheet Cut Floor Brads 10s. per cwt.
Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6d., 7d., 8d. per inch.
Self-acting Kitchen Ranges with Oven and Back Boiler.
Wrought Bars and Bright Fittings.

3 ft., 3l. 3s.	3 ft. 6 in., 3l. 12s. 6d.	4 ft., 4l.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 168, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

NOTICE TO INVENTORS.

OFFICE for PATENTS of INVENTIONS and REGISTRATIONS of DESIGNS, 14, LINCOLN'S-INN-FIELDS.—The printed Instructions gratis, and every information upon the subject of PROTECTION for INVENTIONS, either by Letters Patent or the Designs Act, may be had by applying personally, or by letter (prepaid) to Mr. Alexander Prince, at the office, 14, Lincoln's-inn-fields. Where may be had, price 12s., or, through any bookseller in the United Kingdom, of Wm. BENNING and Co., law booksellers, 43, Fleet-street, the LAW of PATENTS and REGISTRATIONS, with all Forms and Cases up to the present time, by SIDNEY BILLING, Esq., barrister-at-law, and ALEXANDER PRINCE, of the Office for Patents, 14, Lincoln's-inn-fields.

PAVING, 2s. 9d. PER SQUARE YARD Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN FILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27s. 6d. per ton.

SIR WILLIAM BURNETT'S PATENT for the Preservation of Timber, Canvas, Cordage, Cotton, Woollen, &c., from Decay.

TESTIMONIALS.

From THOMAS GRAHAM, Esq., M.A., F.R.S., L. and E., Professor of Chemistry, University College, London.

"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.

"The wood appears to be fully and deeply penetrated by the metallic salt; I have found it in the centre of a large prepared paving block.

"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the crystallisable salts. I have no doubt, indeed, that the greater part of the salt remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.

"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Toplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotised principles it contains, by entering into chemical combination with them.

(Signed) "THOMAS GRAHAM."

"University College, 25th October, 1845.

From Professors BRANDE and COOPER.

"London, 4th November, 1845.

"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.

"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.

"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.

"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and muldew, while those which have been protected by your preparation are clean and sound.—(Signed) "WILLIAM THOMAS BRANDE,
"JOHN THOMAS COOPER."

"To Sir William Burnett, K.C.H., F.R.S., &c. &c."

Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 53, King William-street, London-bridge.

PREPARED FLOORING BOARDS.

AT REDUCED PRICES.

ALWAYS ON SALE, a LARGE ASSORTMENT of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¼ inch to 1¼ inch thick. Rough Boarding for Flats.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Smith-street, Westminster.

PREPARED FLOORING BOARDS.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, and Old-Barge-Wharf, Upper Ground-street, Blackfriars, a very large stock of well-seasoned Floor Boards of every variety.

A. R., in calling the attention of builders and consumers, confidently presumes on his being able to supply them on such advantageous terms, as will ensure and merit their favours and approbation.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above.

N.B.—A weighbridge on the premises.

MUIR'S PATENT PLANING MACHINERY.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.

MUIR'S PATENT PLANING MACHINERY.

SAW MILLS.

Grand Surrey Canal and Commercial Sawing and Planing Mills, near Plough Bridge, Rotherhithe, immediately adjoining the East Country and Commercial Docks, on the banks of the Surrey Canal, communicating with the Thames.

TIMBER MERCHANTS, BUILDERS, PACKING-CASE MAKERS, Consumers of thin Stuff, and the Trade in general, are respectfully informed that these capacious and convenient SAW MILLS will resume work on Monday, April 27, having undergone a complete reorganization in its SAWING and PLANING MACHINERY. New boilers of greater power (replacing the old ones), the engines thoroughly put in the best working order, with increased speed, and all done under the direction and inspection of eminent engineers, enabling the Proprietors, by their increased power, to compete with, and complete as large a quantity of work as any SAW MILLS of their size in the metropolis, with the utmost despatch, UPON THE MOST REASONABLE TERMS.

The machinery consists of SIX FRAMES (two of which will saw 30 inches deep), one Planing and Grooving Machine, One Veneer Saw, One Scale-board Machine, and several Circular Saw Benches.

Spacious water, and high road frontage, with an extensive WHARF and SHEDS for piling deals, &c.

For the convenience of the trade, &c., at the west end of London and its vicinity, all orders sent to

HENRY JACOBS, 35, SURREY-STREET, STRAND,

will be immediately attended to. For cards, and list of prices, inquire at the office of "The Builder," and at the SAW MILLS.

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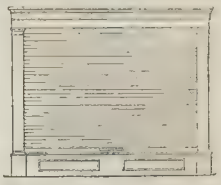
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The Builder.

No. CLXVIII.

SATURDAY, APRIL 25, 1846.

BRISTOL was the scene of an event, on Tuesday last, which will be long remembered by a large number of persons. Efforts in favour of the restoration of the fine church of St. Mary Redcliffe have been made for several years past, an able and energetic committee have sat constantly, and a considerable sum of money has been raised. Some short time ago, as our readers are aware, contracts were entered into, and the work was commenced in earnest. The ground has been lowered several feet all round the structure, which entailed lowering a large number of graves and vaults; perfect drainage has been effected, so as to stop the injuries which damp was occasioning; the approaches have been improved, and Tuesday last was appointed by the mayor, John Kerle Haberfield, Esq., and the corporation, assisted by the ancient Society of Free Masons, to lay the first stone in restoration of the fabric.

Enthusiasm on the subject has been gradually gaining ground, and on this occasion was manifested in an extraordinary degree. The neighbouring streets as well as the churches, were decorated with banners and evergreens, and before the procession started, were crowded with persons as far as the eye could reach.

The stone to be laid, formed part of the last buttress on the north side of the chancel. Galleries were erected on each side of it for the mayoress and about 500 ladies, and were filled at an early hour.

The procession formed on Colston's parade, and must have been more than a quarter of a mile in length; the Free Masons, about 200 in number, with their banners and insignia, forming a prominent feature. The effect of the scene, as the procession ascended the steps of the beautiful north porch, and gradually filled the churchyard, around the platform prepared for the ceremony, was very striking.

It is estimated that in the whole, there could not have been fewer than from fifteen to twenty thousand persons assembled, including amongst those immediately around the platform, the four preceding mayors.

The architects received the mayor and corporation on the platform. The sheriff, vicar, archdeacon, the officers of the grand lodge, the churchwardens, Mr. Proctor, the chairman of the restoration committee, contractors, and clerk of the works followed.

The Rev. Martin Whish, the vicar, having offered up an eloquent prayer, the chairman of the committee read the following address, which was inscribed on vellum, and afterwards handed to the mayor.

"SIR,—It is my gratifying duty to convey to your worship the request of the vicar, churchwardens, and vestry of St. Mary Redcliffe, that you will be pleased to lay the first stone for the restoration of this parish church.

Regarding the magnificent edifice committed to our charge, as one of the finest remaining monuments of the piety and skill of our forefathers, we are most anxious to interest men of the highest reputation, and influence in the truly national work of restoring its pristine splendour, so that it may be transmitted a sacred heir-loom to succeeding generations. And we are satisfied that, while the object at heart will be materially advanced by their assistance, they will, themselves, obtain gratification and honour hereafter, in return for their exertions.

It is with no ordinary pleasure then, worshipful Sir, that we find you disposed to enter warmly into our views, and to strengthen us by your co-operation, and we regard your presence on this occasion, as an evidence of fresh efforts on the part of the citizens of Bristol in favour of this justly celebrated structure, now fast hastening to ruin.

Upwards of four hundred years ago, a princely citizen of Bristol erected this church:—to-day, you, another citizen, commence its renewal; and it may be considered a singular and interesting coincidence in favour of your fitness for the task, that the office of chief magistrate was held by Canynge, six years, and that you have been already called thereto three times.

To aid you in the pleasing task, we invite the assistance of the ancient Society of Free Masons, to whose progenitors Europe is indebted for the greater number of the wonderful buildings raised in the middle ages; and we offer our cordial thanks for their ready co-operation.

Our earnest hope, Sir, is, that under the divine blessing of the Almighty Being, to whose worship this church is dedicated, no long period of time will elapse before a complete restoration is effected; and that you and they, who have laid the first stone, may assist to set the last.

The Mayor then replied as follows:—

Pursuant to the requisition of the vicar, churchwardens, and vestry of St. Mary Redcliffe Church, and of the committee appointed for its restoration, first presented to me, I attend here this day, as Mayor of Bristol, to lay the foundation-stone for the restoration of one of "the most famous, absolute, fairest, and goodliest parish churches within the realms of Great Britain and Ireland." In furtherance of such restoration, I now proceed to perform that duty, and may God Almighty bless, protect, and preserve this church.

The stone being then raised, Mr. Britton, in handing the trowel to the mayor, made some appropriate observations, and asked the assistance of all in carrying out the undertaking. The mayor having laid the stone amidst loud cheers, then said:—

I perfectly agree in the appeal which has been made by the vestry to the good feelings of all who enter this church, thereby asking that each individual, as he explores its beauties, will consider himself responsible for its protection, and should he see the thoughtless or ignorant attempting to deface or injure any part, or forgetful of that decorum proper to be observed in a place dedicated to divine worship, he will at once restrain them. Redcliffe Church is a building honourable to the nation; and, as a national monument, claims the protection of all who enter its walls.

I rejoice that your exertions have been so far crowned with success, that you have been enabled to commence the great and holy work of restoration; and there is no doubt that, under the architects to whom it is intrusted, this restoration will prove effective. There is no question, that if their views can be carried out, our city would possess a parochial church, and the west of England a national monument, of unequalled beauty: one to be visited and admired by multitudes of strangers of our own and foreign nations.

It remains for me to mention, that I feel a great honour has been conferred on me in being permitted to take a part in these proceedings. I beg to express my warmest thanks to the very Reverend the Dean of Bristol, to those gentlemen who have honoured me with their attendance, and especially to the Deputy Provincial Grand Master and the Society of Free Masons, for their kind assistance in the ceremony of this day.

The Free Masons then surrounded the stone, and Deputy Grand Master, Mr. Bushell, applied the level to the stone, sprinkled corn, wine, and oil upon it, and called upon the architects to exhibit the plans, and the various officers to perform their several duties. Mr. A. H. Palmer, the secretary, read aloud the inscription on the stone,* and the chaplain, the Rev. Caddell Holder having delivered an excellently worded prayer, the Deputy Grand Master spoke as follows:—

I assure you, that it has afforded the fraternity of free and accepted Masons of this province, great pleasure in accepting the invitation of the Restoration Committee to attend here this day, for the purpose of lending their assistance to fix the foundation-stone of the restoration of this magnificent structure of former ages.

It is an act strictly within their line of duty, and as they have recently assisted at similar ceremonies at the Guildhall and the Barracks, the fraternity here consummate their labours by assisting to rebuild, and preserve from ruin, a temple dedicated to the worship of the Most High. This, too, is not the first occasion on which Free Masons have worked in this building, for the experienced craftsman will readily discover various marks and proofs of the labours of our ancient brethren.

To no purpose more noble could we now lend our aid, for as Free Masonry totally discountenances impiety, immorality, and irreligion, so should we lend our warmest efforts to maintain a structure, wherein the ignorant may be taught, the vicious reclaimed, and the great and eternal interests of godliness promoted.

I congratulate the mayor on his participation in such a delightful work, and to the Restoration Committee I would say,—Go on, and prosper in your doings; may you live to see that which is now begun in harmony and peace conducted with order, and, I would most sincerely add, finally concluded in brotherly love.

The architects being then invited to address the meeting, Mr. Godwin said:—

As the opportunity had been afforded him of connecting himself in the minds of the citizens of Bristol with the restoration of their noble church, he could not avoid availing himself of it. He entered upon the task with equal pride and pleasure, and would devote his best energies to carry out the restoration effectively. St. Mary Redcliffe belonged not simply to Bristol but to Europe, and any departure from

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* THIS STONE,
in Restoration of St. Mary Redcliffe Church,
was laid on the 21st day of April, A.D. 1846, by the
Right Worshipful JOHN KERLE HABERFIELD, Esquire,
Three times Mayor of Bristol, assisted by the
Ancient Society of Freemasons;
The Right Worshipful HENRY SHUTE, Esquire,
Provincial Grand Master;
The Right Worshipful WILLIAM DONE BUSHELL, Esquire,
Deputy Provincial Grand Master;
in the presence of the Clergy, Corporation, and Citizens
of Bristol.
MARTIN RICHARD WHISH, A.M., Vicar.
THOMAS PROCTOR, Chairman of the Restoration Committee.
JOHN WARRY, Jun. } Churchwardens.
JOHN HARE, }
JOHN BRITTON, F.S.A. } Architects.
GEORGE GODWIN, F.R.S. }

the original would be an offence against posterity. Throughout Germany and France a desire for the restoration of ancient buildings was universally apparent; around every town-hall and every church a scaffolding was to be seen. The same spirit he was glad to say was shewing itself in England. The present meeting, the most gratifying at which he had ever been present, was a triumphant reply to the assertion that men in Bristol were too actively engaged in making fortunes to attend to matters of literature, or regard the works of antiquity. The erection of that building, however, was itself sufficient to refute the calumny, and the present citizens were anxious to emulate its founder. Reference had been made in Mr. Proctor's address, to the coincidence that the present mayor, like Canynge, had held that office three times. The coincidence might be shewn to extend further. Simon de Burton, who founded the church in the thirteenth century, was three times mayor; Everard le Frenshe, who was buried in the transept, was three times mayor; Sir Thomas Mede, whose monument was at the east end of the north aisle, close to where they then stood, was mayor three times, so that it would seem that connection with St. Mary Redcliffe was a reward to all those men who had gained the confidence, like their present able and excellent chief magistrate, of their fellow-citizens. The presence of the Free Masons on this occasion must be a source of pleasure to all who, like himself, had inquired into their early history, and had found how much was owing to them. Even at a time when information was confined to a few, and the other sciences were in a low state, architecture flourished, and Europe was covered with wonderful edifices—hardly to be imitated. This was chiefly owing to the Free Masons, who, when the clergy were sent into distant parts missionaries of religion, followed them as missionaries of art, and raised for them fitting temples. It was curious to note that one of the few ancient documents describing for the workmen the parts of the building, which remained, related to the doorway of St. Mary Redcliffe, and had been of great value in determining the meaning of many technical expressions. He would not detain them longer than to say he trusted all would unite to obtain the completion of the building, each in their several circles, and he would ask them for three honest, hearty, English cheers for the restoration committee who had worked so well, to be received by them as thanks for what they had done, and encouragement for what they were going to do.

The cheers, which were taken up by the multitude, and prolonged for several minutes, having subsided, Mr. Proctor said in reply:—

On behalf of the committee, I gratefully acknowledge the commendation bestowed upon us, and assure all who feel interested in the preservation of this noble church, that no efforts shall be wanting on their part to procure a complete and faithful restoration. One thing I will venture to assert in the name of the committee, that the admirers of this magnificent structure need not fear its injury at their hands, as no mending or patching will be attempted, but, so far as the means at the disposal of the committee will enable them to go, a sound and legitimate restoration shall be effected, though it be found necessary to undertake the work severy by severy. That the restoration shall be completed, they will require the aid of all who wish the building preserved; and that it shall be legitimate and faithful, they look with confidence to the gentlemen under whose direction the work is proceeding.

The ceremony being over, the hundredth psalm was sung by the children of the various free schools, and the meeting then adjourned in regular order to the church, where a selection of anthems, ending with God save the Queen, was sung, and terminated the proceedings.

The greatest praise is due to the committee for the admirable manner in which the whole was conducted, as well as to the Free Masons for the able part they played in the ceremony; there was no waiting, no confusion, and all were in their proper places. We have entered thus fully into particulars because we think, with one of the speakers, that St. Mary Redcliffe belongs not alone to Bristol but to Europe, and that all our readers are interested in its restoration. The co-operation of the present respected mayor, and the proceedings of Tuesday last, will give new vigour to the committee, and must lead to satisfactory results.

PROFESSOR WILLIS ON ECCLESIASTICAL ARCHITECTURE.

On Tuesday last, the Rev. Robert Willis, M.A., Jacksonian Professor at Cambridge, delivered the first of a course of eight lectures on "Ecclesiastical Architecture," at the Royal Institution. He commenced by stating, that his subject comprised the history of a Christian church; and as ecclesiastical architecture was composed of many separate branches, he should then endeavour to give them a general view of the subject, commencing with those religious edifices which preceded the Christian period. If we considered attentively the arrangements of buildings, we should remark in every one a distinct view to its particular purpose. In a church a pulpit, a reading-desk, and an altar, combined with facilities for accommodating a congregation, were necessary features; in a court of justice, there must be space for a large number of persons, with places for the judges, the jury, and the prisoner; a theatre must be so contrived that a large audience can see, and hear with ease, and have a place for the stage and scenery; these were considerations which had immediate influence upon the plan of each building. When all this had been provided for, the architect might say, that the plan was impracticable, that the roof could not be supported without certain props or intermediate walls, and therefore they would at once see, that the consideration of purpose and construction must go hand-in-hand together. Methods of construction have been borrowed, in all ages, by one nation from another, and we might, perhaps, take some plan that suited our requirements, and adopt it to the intended building. But here stepped in the architect. There was a certain character of design, which suited the purpose of each building, and though he was not disposed to give too much influence to this principle, it was one which should be laid hold of, and might be turned to good account. This character would be understood by supposing a theatre were to be used for a church. People would say, this is in too gay a style for the purpose; and *vice versa*, a building might be too sombre and grave for a theatre. The power to impress the fitting character was a peculiar mental gift, given, as it appeared, to certain men, who found it impossible to communicate it to others, whilst in that particular, many had failed, who possessed the highest abilities. But returning to the theatre: after finding that it was too gay, it might be said, that the symbollism, or the subjects represented, were not of the proper kind; for, as in a church, besides the æsthetic character, we should expect that art would be employed upon subjects, bearing upon the purpose for which the structure was erected. There was, indeed, supposed to be another kind of symbollism, which might rather be called occult symbollism, that which referred a group of three forms to the sacred number 3, and the eight sides of a font to the seven days of the week, and a supposed eighth day of regeneration, and by which some were of opinion, the proper character of church architecture was to be gained; but he believed that these notions were quite unworthy of the present state of intelligence. We must endeavour to catch the enthusiam, which filled the architects in former days, and we could only understand their works by considering the state in which the ritual was, and the history of the art, and we might then obtain a church suited to our own wants.

The professor explained the meaning of *style*, as used in reference to the general character and distribution of the building, and also to the modes, in which different nations had practised their architecture, and said, that he should now commence the history of churches, shewing how, step by step, we had been led to the modern period. He should show the steps by which Gothic architecture arose, and how, and whether, the main characteristics of Christian churches were derived from buildings that went before them. To make his meaning more clear, he had devised the card-board models upon the table. They were not, strictly speaking, models, but drawings of the elevations, arranged together upon the ground plan. An architect's representation of a building required different drawings; these by a mental process, he was able to combine, so as to give an accurate impression of the appearance of the building. What the architect did in his mind, he, the professor, had done in card-board, and he hoped the idea might be valuable. All lecturers on architecture had felt the difficulty of explaining by drawings, to a general audience, and any one who expected to get satisfactory models from other hands than his own, would be inevitably disappointed.—Much credit is due to Professor Willis for these models;—by means of a few bits of board for steps, and pieces of card-board, with parts cut out, or drawn upon them, for walls, with some ingenious contrivances for holding them together, which also admitted of their being readily taken to pieces, a knowledge of ancient architecture was given to many amongst his audience, which would probably have taken them some months to acquire.

The mere arrangement for pagan and Christian worship, continued the Professor, was essentially different. In the former, the statue of the god was within the temple, but the multitude were without, whilst in the latter, the congregation worshipped within the church, which consequently required an arrangement suited to the capabilities of hearing and sight.—The pagan temples, according to Vitruvius and existing remains, were here described from the models. First of all was the *temple in antis*, having two columns only, between antæ, these being merely decorations placed at the ends of the walls. The prostyle temple had a portico of columns, not inclosed by walls, but projecting one or more columns in extent from the *cella*. The word *porticus* had been a puzzle to antiquaries, it was in its original sense a colonnade, and the "portico," or porch in front of the temple was properly the pronaos, the space before the naos or cella. The peripteral temple was the prostyle temple with a row of columns all round, which added greatly to its magnificence, but, as they would observe, did not render it any the better adapted for a large congregation; there was still no light but at the porches at the ends, and over the doors. The word peripteral was derived from the Greek words *περι*, about, and *πτερὸν*, a wing, signifying that it had wings or porticoes all round; and it was remarkable that the word "aisle" was derived from "ala," also signifying a wing. In the dipteral temple, another rank of columns was added. Still no step had been gained towards providing for a large congregation. The cella was, it was true, a little enlarged, but the principle of its arrangement was the same, whereas the Christian temple was a Pagan temple turned inside out. From the dipteral temple was produced the pseudo-dipteral, by omitting the inner rank of columns; this lessened the expense, and allowed a greater width to be given to the ambulatories. The roof in all these was of wood, the ceilings of the porticos being of stone. The first great modification was in the hypæthral temples. There was much difficulty in restoring the plans of these, as the walls of temples had often been destroyed, probably for the sake of the materials. Mr. Lucas's model might be referred to. The alteration consisted in leaving a portion un-

covered, which let in the light, and at the same time let in the rain; how the sides were roofed, or whether there was a reservoir for the water, as at Pompeii, was matter of dispute. There was also an interior row of columns on each side, dividing the space into three aisles,—for himself, said the professor, the term "centre aisle," was so convenient, that he should always use it. The internal columns were in two tiers. These, with the one called amphi-prostyle, were the various forms of Grecian temples.—Between the Greek temples and the Roman, there were some essential differences. The former were supported on steps surrounding the edifice, whilst the latter were raised upon a basement or podium, the steps being at end. In Roman temples, the walls were seldom plain, but had three quarter columns or pilasters. Whilst the arrangement was prostyle, that usually adopted, the appearance was peripteral. The interior of the cella was often elaborately enriched, as might be seen in the temple at Baalbec.

Thus the Pagan temples were unfitted for the Christian religion, and he described them, rather to shew why the latter did *not* arise out of them. Still, it was true that when the Christian architects were first applied to, they in some degree followed preceding models. The Professor then, referring to the arrangement of the basilicas, said, that it had generally been thought, that the early Christian churches were derived directly from those structures. But though Christianity was legalized under Constantine, Christian churches had existed previously. Had the Christian worship taken place in other places, as in cemeteries, there would have been no going forth to destroy the churches, in times of persecution, as recorded by certain writers; and there could be little doubt that large churches did exist, previous to the time when the basilicas were granted by Constantine. In the plan of the basilica there were many essential differences. The Professor then noticed the church of St. Clement at Rome, probably the most interesting example of the early form of church; in which the episcopal chair, and seats for the clergy in the apse, are still remaining, and postponed the further consideration of his subject till Tuesday next.

ON THE DEVELOPMENT AND CONVERSION OF CONVEX SURFACES.

To change the form of one figure into that of another of equivalent area, when possible, constitutes a very interesting problem in architecture and other branches of the practicalarts; and when this problem is combined with that of the development of curved surfaces upon a plane, it forms one of the most important and useful applications of *descriptive geometry*. The subject, when considered in all its generality, is by far too extensive to admit of being fully and systematically treated of in the pages of a periodical publication; its complete discussion would require a volume, and much study and labour would be necessary to point out all the cases in which the principles of development and conversion might be usefully applied; the practical man, however, will be at no loss to discriminate the cases that come within the range of his own operations, and the examples which we have chosen for the subject of illustration in the present paper, will serve to shew in what manner the conversion is to be effected in all cases of a similar nature.

Let ABDE, fig 1., be a right cylinder, of which the diameter is AB, and length AE or BD, and let it be required to describe a circle that shall be equal in area to the convex surface of the cylinder.

Now the solution of this problem involves no difficulty, it is rigorously accurate, and yet we are persuaded that very few of our most intelligent operatives are acquainted with the method of performing it; in order, therefore, to put them in the way of resolving this and other problems of a kindred nature, we think proper in the first place to investigate the method of construction, and for this purpose it is necessary to admit the existence of the following properties, viz.: That the circumferences of circles are to one another in the same proportion as their diameters, and that the areas of circles are to one another in the same proportion as the squares of their diameters; these properties are demonstrated by

Fig. 1

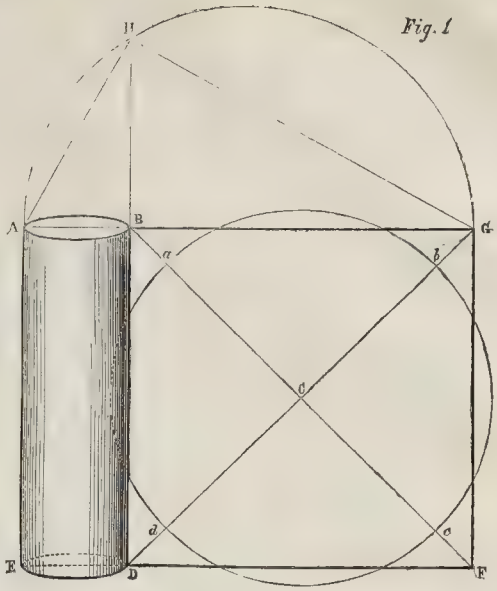
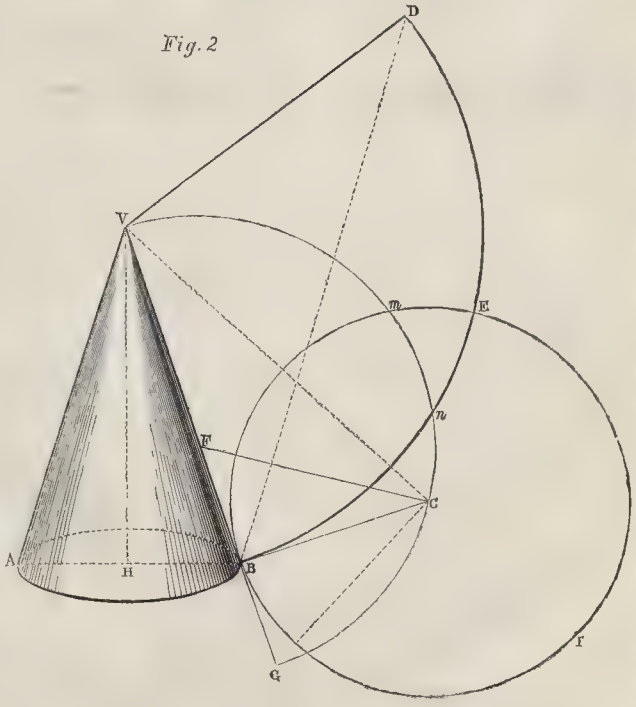


Fig. 2



Euclid in the sixth and twelfth books of his "Elements of Geometry," and are, consequently, well known; the investigation is therefore as follows:—

Put π = the circumference of a circle whose diameter is an unit; d = AB, the diameter of the given cylinder; l = BD, the length of the given cylinder, and $\delta = ac$, the diameter of the circle, whose area is equal to the convex surface of the cylinder; then we have, by the first of the above properties, $1 : \pi :: d : d\pi$, the circumference of the circle whose diameter is AB, or the circumference of the end of the given cylinder; and by the rules of mensura-

ion, the convex surface of a cylinder is expressed by the circumference of its end drawn into its length; hence we have $ld\pi$ for the expression of the convex surface. But the area of a circle whose diameter is unity, is expressed by the term $\frac{1}{4}\pi$; consequently, by the second of the above properties, we get the following proportion, viz:—$1^2 : \frac{1}{4}\pi :: \delta^2 : \frac{1}{4}\pi\delta^2$, for the area of the circle whose diameter is δ, or that of which the area is equal to the convex surface of the given cylinder; therefore by comparison, we have $\frac{1}{4}\pi\delta^2 = ld\pi$, and by expunging the common symbol π and extracting the square root, we finally obtain

$$aC = \tfrac{1}{2}\delta = \sqrt{ld},$$

an expression involving nothing but linear quantities, and for this reason, the value of $\frac{1}{2}\delta$, or the radius of the required circle, can be determined by a process strictly geometrical, requiring nothing beyond the finding of a mean proportional between two given lines, or between the diameter and length of the given cylinder. The mode of construction is as follows:—

Produce the diameter AB directly forward, until BG becomes equal to BD, the length of the cylinder; and upon AG, as a diameter, describe the semicircle AHG, and produce DB, the given length of the cylinder, to meet the circumference AHG in the point H; then is BH the radius of the circle, of which the area is equal to the convex surface of the cylinder. This is obvious, for by the elementary principles of geometry, BH is a mean proportional between the lines BA and BG placed together as one line; and by the foregoing investigation, this is the condition required by the problem to be satisfied; therefore, if a circle be described with BH as a radius, it will contain an area equal to the convex surface of the cylinder.

This is the general method of construction, but the figure which we have given represents a particular case, and involves a curiosity into the bargain, for it will be seen that BDFG, which indicates the development of the cylindrical surface is a square, and, consequently, BG, which is equal to the circumference of the cylinder, is also equal to BD its length. Draw the diagonals, BF and DG, and on the point of intersection, C, with the radius, BH, describe the circle, *abcd*, which will be equal to the convex surface of the cylinder; but the square, BDFG, is equal to the development of that surface, consequently, the square, BDFG, and the circle, *abcd*, are equal in magnitude.

Now the celebrated problem of squaring the circle, is *to find a square that shall be equal to it in area;* but what we have done above is the converse of this, for we have found a circle that is equal to a given square. Here then we have a mechanical method of *squaring the circle*, or rather we should say of *circling the square* to a very great nicety; for there is nothing mechanically impossible in making a cylinder, of which the length shall be precisely, or very nearly, the same as the circumference of its ends,* and this being done, the problem is resolvable by the principles which we have here laid down.

It must not, however, be supposed that we are here supporting the idea of squaring the circle, for every one who has dipped but a little below the surface of mathematical knowledge, is perfectly aware that with our present system of numerical notation a definite ratio between the diameter and circumference can never be found, or in other words a square can never be determined which shall be precisely equal in area to a given circle.

The convex surface of every right cylinder can by the above means be converted into a circle of equal area, but to do the same for an oblique cylinder transcends the powers of elementary geometry; the general solution of this case requires the application of the conic sections, and even curves of a higher order: we have thought proper to mention this, lest some of the readers of THE BUILDER should be led into the supposition of impossible, or at the least very intricate and difficult cases.

The following example will shew the method of applying the above principle of conversion, and since every right-lined figure can be converted into an equivalent rectangle, it will be found that the principle is much more general and extensive than might at first sight be imagined.

Example.—One side of a rectangular parallelogram is twelve feet and the other three feet; what is the radius of the circle which contains an equal area?

Here, then, if we consider the proposed rectangular parallelogram to be the development of a cylindrical surface, of which the length is three, and circumference of the ends twelve feet, its area will be thirty-six square feet, and we have only to find a mean proportional between 3 and $12 \div 3 \cdot 1416$ for the radius of the circle sought; thus we have $BH = ac = \sqrt{36 \div 3 \cdot 1416} = 3 \cdot 385$ feet, and if a circle be described with this radius, it will have nearly the same area as the given rectangle, or the rectangle may be reduced to an equivalent square by finding a mean proportional between its sides, and then the square may be reduced to a circle of equal area, by reference to a cylinder of which the length is equal to the circumference of its base, precisely in the same manner as in the construction of the figure. Another example may be as follows.

Suppose an architect should find it necessary to convert a square plinth into a cylindrical base of equal solidity and height, what must be the radius of the cylindrical base, the side of the plinth being three feet?

In this case, we have only to find a mean proportional between BG and $BG \div \pi$, and the thing is done, for according to the conditions of the question, $AB = BG \div \pi$; hence we get,

$BH = aC = \sqrt{9 + 3 \cdot 1416} = 2 \cdot 865$ feet very nearly, for the radius of the circle sought.

In the next place, let it be required to determine the radius of a circle, of which the area shall be equal to the convex surface of a right cone.

Admitting the rules of mensuration to be known, as in the preceding case, the principles of construction may be investigated in a similar manner. Thus, let AVB, fig. 2, be a right cone, of which AB is the diameter of the base, and AV or BV its slant height, and let the sector, BVD, be the development of the convex surface, obtained by the cone revolving upon itself about the vertex V, which remains fixed; it is therefore required to determine the circle B*m*E, whose area shall be equal to the sector, BVD, or to the conic surface, AVB.

Let the symbols, π, d, and δ denote as before, and let $l = AV$ or BV the slant length of the cone; then the convex surface of the cone is expressed by the term $\frac{1}{2}dl\pi$, and the area of the circle equivalent thereto is $\frac{1}{4}\pi\delta^2$; therefore, by comparison, we get $\frac{1}{4}\pi\delta^2 = \frac{1}{2}dl\pi$; and this, by expunging the common symbol and extracting the square root, becomes

$$\tfrac{1}{2}\delta = \sqrt{\tfrac{1}{2}dl};$$ that is,

the radius or semi-diameter of the circle, of which the area is equal to the convex surface of the cone, is equal to a mean proportional between the radius or semi-diameter of the cone's base and its slant length or height. Hence the following construction:—

Prolong the slant side of the cone VB to G, and make BG equal to BH the radius of the base; then on VG as a diameter, describe the semi-circle V*mn*CG whose centre is at F, and at the point B, erect the perpendicular BC to meet the circumference just named in the point C; then is BC the radius or semi-diameter of the circle required; therefore, on C as a centre with the radius CB, describe the circle B*m*E, and it shall be equal in area to the sector BVD, or to the convex surface of the cone AVB.

Since BED the arc of the sector is equal to the circumference of the cone's base, the most correct way of laying it down upon a plane, is to determine the angle BVD, the laying down of an angle being susceptible of greater accuracy than the laying down an arc of a circle, and the method of determining the magnitude of the angle, is simply as follows:—

BV : 180° :: AB : $\sim$ BVD, the angle sought, which being laid down by a protractor or a scale of chords, will give the sector BVD very correctly. Thus, if the diameter of the cone's base be nine feet, and the slant height fifteen feet, we have 15 : 180° :: 9 : 108°; therefore, if at the vertex V of the cone we make an angle of 108°, it will give the inclination of the line, VD, to BV, the slant side of the cone, from which the sector is readily found.

N.B. A circle equal to the convex surface of an oblique cone cannot be found by the principles of elementary geometry. T.

* In a conversation with Mr. Holtzapffel, the excellent ornamental turner of Long-acre, he admitted that it is possible to construct a cylinder, of which the length shall not differ from the circumference of its ends by more than the thousandth part of an inch; but it is probable that in this estimate he has far underrated his own powers, seeing that the four hundredth part of an inch is distinctly appreciable on the quarter-inch diagonal scale; such is the present advanced state of mechanical manipulation.

SEPULCHRAL MEMORIALS IN ENGLAND.

ON the 31st ult., Mr. W. D. Keyworth, sculptor, read a paper on this subject at the Hull Literary and Philosophical Society. Mr. Keyworth is the modeller to the Yorkshire Architectural Society, and has recently erected a monument in the Holy Trinity Church, Hull, which is well spoken of.

He commenced by referring to the earliest sepulchral memorials in this country, which were mere mounds of earth or stone called barrows; he then alluded to the introduction by the Romans of monumental tablets, some of which might now be seen in the cloisters of Lincoln Cathedral. He then came to the sepulchral memorials found in our churches, none of which could be ascribed to a period anterior to the Norman Conquest, and even from that date up to the reign of Henry III. the number was exceedingly small. It was not common until the 14th century to have inscriptions on these monuments, though there were instances to be found before that time—one in black marble of the daughter of William the Conqueror, for instance, was found in the chapter-house of Lewes. The exact time when effigies first occurred on coffin lids or tombs, was uncertain, but the 11th century was the earliest that could be ascribed to any cumbent effigy. It was about the close of the 12th century that effigies in armour made their appearance. The improvement visible in the arts of design in the 13th century were next dwelt on. The lecturer said:—"The social intercourse of the different European nations during the crusades, contributed very much to the cultivation of literature and the arts. Sculpture and painting had already made their re-appearance in the Republican States of Italy, and itinerant sculptors from that country seem to have traversed Europe in the exercise of their art. It is presumed that they came to this country, for during this century we find a material improvement compared with monuments of an earlier date. In the attitude of some of the monumental effigies of the 13th century, which are supposed to have been done by or after these foreign artists, we find a graceful simplicity, and in the drapery a freedom of arrangement which is not always to be found in the more elaborate and finished productions of a succeeding age. The monumental tombs during the early part and middle of this century were very low, and the sides quite plain; the effigies were also cut like those of the preceding century to fit the coffins, of which they formed the lids. There are some tombs of this description beneath low unornamented arches made within the church wall. These tombs have in general been assigned to the founder of the church, or to some early benefactor. There are some flat slabs which served as coffin lids, and were placed level with the pavement of the church, and are very beautifully sculptured with crosses in relief. This style of sepulchral memorial was very common from the 12th to the 16th century; the most ancient examples are known by the coffin shape of the slab, and the simple form of the cross. In the later examples the slab became of equal width throughout, and they were not used as coffin lids, but merely formed part of the pavement of the church." He exhibited an example of the 13th century from the church of St. Augustine, at Hedon, a very fine specimen of these simple and impressive memorials. Several examples of nearly all periods are to be found amongst the ruins of Thornton Abbey, Lincolnshire. Mr. Keyworth, in reference to the common opinion that the cross-legged effigies of knights, were those of Knights Templars, coincided with the opinion of a writer in the *Archæological Journal* that such was not the case. The lecturer then said, that it was during the reign of Edward I. that the sides of the tombs of persons of rank began to be ornamented with armorial bearings, and small sculptured statues within pedimental canopied recesses, and this style was used until the latter part of the 16th century. The lecturer next proceeded to consider

the sepulchral memorials of the 14th century, a period without its parallel for the beauty and chasteness of its monuments; one of the most beautiful examples of these was the Percy Shrine, at Beverley, which, whether viewed in its noble grandeur as a whole, or examined in its minute particulars, was perfection.

The lecturer said:—"During this period, besides these highly ornamented canopies, we find tombs as in the 13th century, with effigies upon them, but without any architectural detail to distinguish them, except when they are inserted within the walls of a church, when elegant pointed arches, with rich ogee-shaped canopies, were often constructed above them, as in the monument on the south side of the chancel of the Holy Trinity Church, in this town, supposed to be that of William de la Pole. This is a very interesting example, and is almost one of the earliest examples of a monument to a merchant burgess. Near to it are the remains of another monument of the same period, and from what is left of it, we may judge that it has been even more beautiful, and enriched with more architectural detail than that of De la Pole. Mr. Keyworth regretted to say that these valuable, interesting, and only memorials of this period in our own town, are, from neglect and other causes, in a very dilapidated state. The De la Pole monument has been covered with several coats of stone-coloured paint, which has filled up the delicate and rich carving about it, whilst the figures of the venerable merchant and his lady have been daubed very liberally with bronze-coloured paint. The other monument has fared even worse than its neighbour. All the beautiful feathering, as it is called, round the arch has been wilfully broken away, and the tomb and effigy, which he supposed must have existed at first, has been removed to make an entrance from the burial-ground, on the south-side of the chancel into the church. A quantity of brickwork has been erected within the arch of the monument, and the doors fastened to this brickwork, entirely burying all the beautiful architectural detail of this very interesting memorial. It is entirely exposed on the outer-side of the church, to the weather, but has at some time been protected by a chantry, the walls of which remain, although the roof has long since perished. Now that such an interest is taken in the restoration of our beautiful church, it is to be hoped that something will surely be done, if not to restore, at least to preserve from further injury and decay these very interesting monuments. I am not acquainted with the particulars of this last named monument, although I believe it is known whose memorial it is. The armorial bearings on the outer side of it are in such a state of preservation that they may be easily distinguished." The monuments of the fifteenth century were distinguished from those of the fourteenth by a style of composition remarkable for the profusion and display of minute ornament. The monumental brasses and other memorials were then alluded to by the lecturer. The materials commonly used for the monuments of the middle ages were then referred to. The change brought about at the Reformation, and the tasteless and debased character of modern monuments were also spoken of at great length, and the paper concluded as follows:—"In bringing these few and imperfect remarks on the sepulchral memorials of England to a conclusion, I will direct your attention for a short time to the memorials erected in our churchyards or cemeteries, these are of the same character as our monuments. The prevailing taste seems to be for debased Greek and Roman architecture, decorated with urns and sarcophagi, sculls and cross-bones, shovels and mattock, scythes and hour-glasses, every description of emblems are employed but those connected with our Christian faith. In conclusion, we have found in tracing the progress of monumental art from the earliest times down to the Reformation, that the monuments were subservient, and in harmony with the structures in which they were placed; warriors are represented in harness, ecclesiastics in their vestments, civilians in their robes, and females in their ordinary costome, but all of them absorbed in religious meditation and prayer. Since the Reformation down to our own day, our monuments have been of the most debased character as works of art, yet there is now every reason to believe that we are in such matters, on the road to improvement; as the taste for the ecclesiastical architecture of the middle ages becomes more general, and its principles more developed, we trust that the debased character of our monuments will disappear, and give place to a better and purer style of sepulchral memorial."

In an interesting conversation on the subject which followed, the chairman, Mr. C. Frost, remarked, that with respect to the Holy Trinity Church, there was no doubt great foundation for Mr. Keyworth's lamentations at the destruction of several rare works of art. For instance the monument of the De la Poles had been destroyed not only by painting, but by putting on artificial noses of plaster of Paris; no doubt many as well as himself would remember the figures before they were painted, and before these artificial noses were added to them, and he certainly thought them far more worthy objects of attention than they were now; he much preferred them in their dilapidated state than in their present deformed condition. With respect to the monument at the south transept of the church, and which was now the doorway, he was happy to say that it would not be long before that would be restored as far as it was possible.

Mr. Lockwood said, that the monument referred to by Mr. Keyworth (on the authority of Gough) as that of the De la Poles, was, in fact, that of Sir Robert de Selby and his wife. The other monument, the deplorable condition of which he had alluded to, was older than that of the Selbys, and the arms of which shewed it to be the memorial of a Bishop of Mann, who possessed the not very aristocratic or euphonious name of Scroggins. This was to be restored as fully as it could be; the effigy was gone, but the chantry and all remaining of the monument, would now be restored by the churchwardens. The other monument at the south transept was one of the same description as the last; there was a small chantry on the outside of this, which would be also restored. He took the opportunity of stating, that the churchwardens were most anxious, so far as they had the means, that the church should be restored in all its integrity.

REMUNERATION OF ARCHITECTS.

Sir,—No one knows the verity of the facts related in the article in your last number, entitled "Leaves from the Diary of an Architect," better than I do, touching the manner in which the time and talents of the architect are daily fretted away by those would-be friends, who forsooth, have not the smallest atom of compunction in asking his advice upon the practicability of whatever visionary scheme may enter their heads. I venture to say, were the professional man on such occasions to put his hand in his pocket when asked such favours, and offer them a guinea, they would be highly indignant, and consider themselves insulted, yet at the very moment they are consuming his time and talents; but such is man's inconsistency. Professor Hosking's introductory remarks, quoted in your leader, are iron-tongued, and not to be contradicted; they ought to be hung up in the study of every architect, as silent monitors to such inconsistent visitors. It would, indeed, be well, were there to be some plan adopted in the profession as to the charges which he is entitled to, and never until such is the case will matters be otherwise. I am convinced, from experience, that such a system as at present exists is an embargo upon talent, and prevents many from pursuing those studies with that ardour, which is requisite to their advancement in the profession.

But this change cannot be effected unless it emanate from those who have attained a high standing in the profession; let them rectify this crying evil, they have it in their power from their position, and in doing so, they will raise the profession to which they belong, and confer a lasting boon upon their less fortunate brethren. The physician and the lawyer have their fees, and can demand them; put the architect and surveyor in the same position, and not leave his claims as an open question; for so long as such continues, he is almost sure to be occasionally victimized.

I am, Sir, yours, &c., W. S.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

ANTIQUITIES OF COLCHESTER.

At a meeting on Wednesday, the 15th inst., Sir William Betham in the chair, Mr. Bateman exhibited a bronze fibula, found in a barrow at Money Ash, Derbyshire; the peculiarity consists in its being formed of one piece of wire twisted into form; also some arrow heads, from the same county.

Mr. W. Chaffers, jun., forwarded for exhibition, a massive gold ring with intaglio, representing Jupiter seated, holding in the right hand a patera, and in the left a lance, an eagle is by his side; it was taken out of the river, at the time of the pulling down of Old London Bridge.

Mr. E. B. Price sent a drawing of a curious font, lately discovered, built up in the wall of the church of All Saints, at Hastings.

A very interesting paper was read on the Antiquities of Colchester by Mr. C. Roach Smith, in which that gentleman stated the results of his examination of the wall, which extends for nearly two miles round the city; this he considers is of the Roman era, judging from their peculiar method of building, by placing two rows of bonding tiles between every five or six of stone, as well as from the appearance and texture of the tiles and red mortar, which was composed of pounded tiles and lime, becoming in the course of time as hard as the tile itself. The castle he decides to be of later date, as well from the essential difference of the materials employed in the building, as from the architecture. He then proceeded to describe the antiquities which have been brought to light there, among which were, the extraordinary piece of sculpture of a sphinx; fragments of Roman inscriptions; a beautiful bronze of the bearded Bacchus; a small bust of Caligula, another of Jupiter Tonans; a cupid riding on a griffin; also a bronze statuette of a sphinx found a few years since on the same spot as the larger one. He incidentally mentioned, that there was a fine collection of Roman antiquities in the possession of Mrs. Mills, of Lexden, found in that locality.

A discussion ensued upon the different representations of the sphinx among the ancients. In Egypt, it was emblematical of sovereignty, and denoted prudence, and state secrecy, hence Augustus chose it as his seal.

Numerous specimens of ancient ring money in gold, silver, brass, and iron, were laid on the table, and a communication was read by Mr. Croker from Mr. Sainthill, of Cork, on this subject. These rings, according to the theory first promulgated by Sir W. Betham, were used by the Celtæ, as a circulating medium before the use of coins was known, prior to the invasion of Britain by the Romans, and are identical with that mentioned by Julius Cæsar and Tacitus, in their accounts of the ancient Britons. They are semi-circular rings, with cups at each end; immense quantities of them are found in the bogs of Ireland, the uniformity of weight (being the multiples of twelve grains), was an argument in favour of Sir W. Betham's theory; some have been found of gold, weighing fifty-six ounces, indeed, of all weights down to the very minute specimen produced by Mr. Croker, and found by that gentleman in a piece of turf; he also exhibited an iron ring found between the teeth of a skeleton in Ireland.

Mr. Pettigrew stated, that this ring money is observed in paintings and hieroglyphics in Egypt; in one instance, figures are seen weighing them in a pair of scales.

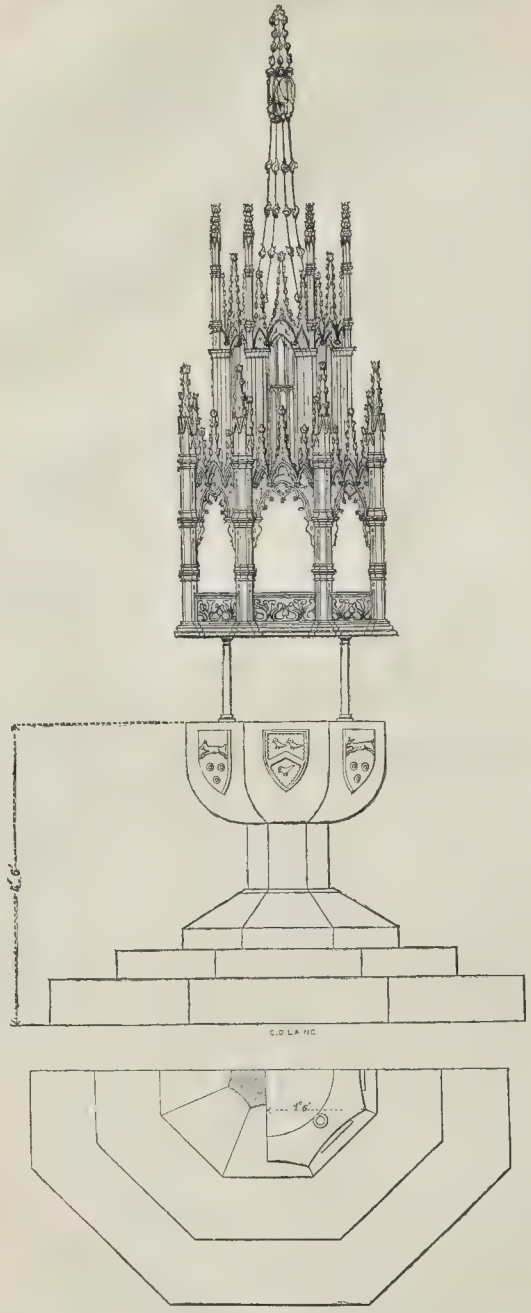
Rings of similar shape are at the present day manufactured at Birmingham, and other places, and are taken by the natives of the coast of Africa, in barter for gold-dust and other produce, they are called iron manillas, and pass for about the value of one half-penny.

ART-UNION OF LONDON.

The general meeting for the distribution of the funds will be held on Tuesday next, in Drury Lane Theatre; the Duke of Cambridge will preside. We shall give in our next number full particulars of the meeting, the report of the Committee in full, and *a list of all the prizeholders*.

A general meeting of artists will be held in Willis's rooms, on Monday evening, to determine on measures in support of Art-Unions.

FONT, CHURCH OF ST. NICHOLAS, NEWCASTLE.



FONT FROM THE CHURCH OF ST. NICHOLAS, NEWCASTLE-ON-TYNE.

The font represented by the accompanying engraving, is in the celebrated church of St. Nicholas, Newcastle. It appears to have been made, or repaired, by Robert Rhodes, the builder of the upper part of the steeple, for his coat of arms with another, probably that of his wife, is sculptured on the basin.* Rhodes was one of the bishop's justices about the year 1486, and was a munificent donor to churches in Newcastle. The lofty cover is of very delicate and curious workmanship.

W. J. N.

Newcastle.

* Brand's "History of Newcastle," 1789.

FISHMONGERS AND POULTERERS' ALMSHOUSES.

Sir,—In The Builder of April 11th, on reading over your leading article, relative to the competition for the Fishmongers and Poulterers' Almshouses, among the many just remarks made, I observe that a set of drawings answering to the description of those sent in by me have been traced; if such is the case, and they prove to be mine, you may rest assured it shall not go unnoticed, and I should be much pleased if every architect whose drawings have been served thus would take similar steps, as I feel satisfied the committee to whose care the drawings were entrusted, are answerable for such conduct, *if or not* it has been done with their sanction.

During my articles I competed for many public buildings for practice, since that time seldom without invitation; in this instance I was invited by one of the committee, a just and honourable gentleman, and who I feel satisfied, as far as lies in his power, will see justice done to all competitors; he is the only person I know even by name, but I trust we may find many like him among the committee, when the result may prove better than expected.

In the year 1837 or 38, I competed for the new Post-office, Manchester, when the following occurred:—After waiting nearly two months from the date of my sending in the drawings (which were a set of studied line and sepia drawings), I called to know the result, and was informed by the secretary that I was not one of the successful competitors, the premium being awarded to the owners of three drawings most elaborately got up, at the same time he offered me a sum for mine, which I at first refused, but finding (by private information) that my drawings had been copied, and fearing expense in trying the case, getting evidence, &c., I abandoned the idea of a lawsuit, and received a sum for the drawings. I left Manchester immediately after, but have since been informed that the building has been executed from them, under the superintendence of another architect; this will shew the nature of competition generally, which has so disgusted me, that I never intend competing again, and I trust many, if not all, of my brother professionals will do likewise.

I must apologize for further intruding, but would feel obliged if you could forward me the name of any gentleman who can recollect the drawing traced, if again laid before him. Business prevented my attending on the days for view, and I did not read your journal of last week until one of my clerks called my attention to the circumstance, when it was too late to write to you in time for the 18th inst.

I am, Sir, &c., W. S. H., architect.

April 20th.

*** Just before going to press, we received a letter from Mr. Recknell, the secretary, terming our observations of the 11th inst. "erroneous and unfair," and promising a reply when the general meeting to receive the report of Committee on plans (held on Thursday last,) was over. We shall be very glad to receive a satisfactory explanation of the extraordinary proceeding to which we referred. We pledge ourselves to the truth of the statement, that a party was engaged in *tracing the plans* during our visit.

Russian and Canadian Timber.—We last week gave an extract from a Government return relating to this subject. Since then, the accuracy of the return has been questioned in the House of Commons by Lord G. Bentinck, and an explanation elicited from the Premier as to the origin of the error, and its extent. The nature of the mistake is, that the prices were necessarily taken from the *Prices Current*, which are not official Customs' documents, but a mercantile list, in which some of the values quoted include the duties, whilst others do not. The heading of the space containing the values—viz., 'value in bond,' led to the error; it applied only to the upper half of the column, not to that part in which these prices were entered; and this distinction was not observed. A new and corrected return will forthwith be presented to the House.

Hawkesbury National Schools.—We noticed several months since the laying the foundation-stone of the above schools. The building is now finished, and was opened last week with great *éclat*. The style is Tudor.

PORCH, ALL SAINTS' CHURCH, STAMFORD.

The annexed engraving is of the tower entrance to All Saints' Church, Stamford; there is another porch on the south side of nave, which is engraved in Parker's "Glossary." It is almost entirely a "third pointed" church, was rebuilt by John Browne, merchant of the staple at Calais, who died in 1442, and was buried in the north aisle.

5, Burwood-place. GEORGE TRUEFITT.

INSTITUTE OF BRITISH ARCHITECTS.

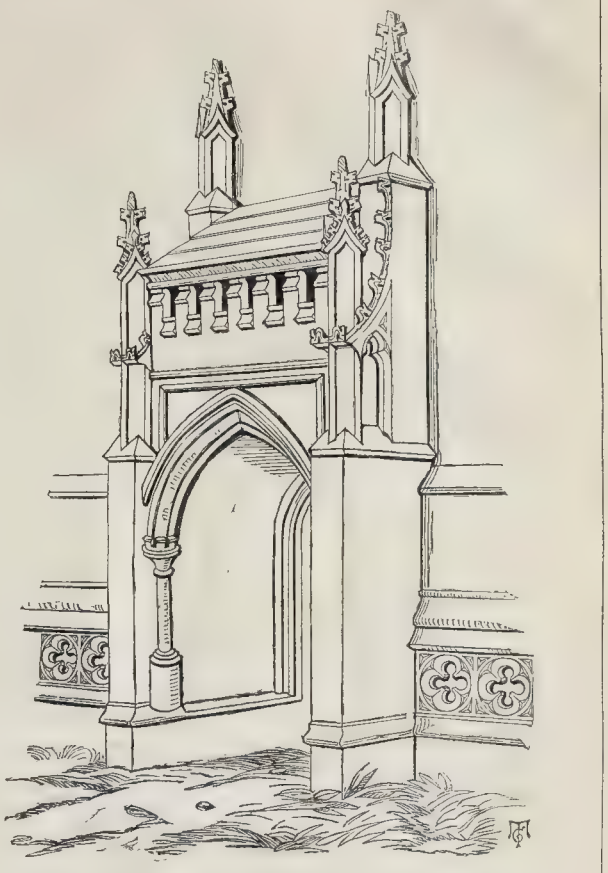
ROYAL MEDAL.

At the ordinary meeting, on Monday evening, Earl de Grey in the chair, several donations were announced; a paper "On the triumphal arches of ancient Rome," by the Rev. Richard Burgess, B.D., was read, and the medals were presented to the authors of the successful essays and drawings. Mr. Donaldson drew the attention of the meeting to the interesting nature of some of the donations. One sent by Mr. Roberts, was a cast from a bust of Sir Robert Smirke, executed in marble by Campbell, and presented to the architect by his pupils. Mr. Donaldson made some remarks in reference to the influence of Sir Robert Smirke, and the theatre at Covent-garden, upon the progress of the art, an influence which had led to many improvements, and the bust was therefore a valuable contribution to the series already in the possession of the institute. Captain Beaufort's work on Karamania was interesting from the plans, which it contained, shewing the sites of the ancient cities in this part of Asia Minor. These plans, he informed the meeting, were made by Mr. Cockerell, who accompanied Captain Beaufort. Amongst the other donations were a piece of marble pavement from a temple in India, a second volume of Gailhabaud's Architecture, and a new work on half timbered houses, by John Clayton, architect.

Mr. Burgess then read an amusing and valuable paper on triumphal arches, in which he noticed the principal examples, and explained the motives of their erection. This paper we shall give at length next week. Lord de Grey, in consigning to the Chevalier Hebeler the medal voted by the Institute to the Chevalier Beuth, passed a high eulogium upon the latter. The Chevalier Beuth presided over an institution at Berlin, united by community of interest and feeling with the Institute of British Architects, to whose members he had on many occasions rendered acts of kindness. The intrinsic value of the medal was nothing, but he hoped that the Chevalier, now about to retire into private life, in order to engage more completely in those pursuits, in which he took interest, would not consider the medal altogether destitute of value, associated, as it was, with feelings, of which no words could convey too warm an expression. The Chevalier Hebeler, in reply, signified the pleasure he felt in receiving this testimonial to the Chevalier Beuth, who had contributed greatly to the improvement of the arts in his country. Lord de Grey then noticed the increasing interest in the Institute, shewn in various communications from foreign societies, a result which he had long since expected, and he felt proud to preside over it. In presenting the medal of the Institute to Mr. Thomas Worthington, of Manchester, for the essay on brick, he expressed the satisfaction which he felt in having the opportunity of giving it; and whatever Mr. Worthington's future objects in life might be, he thought he would never have cause to regret having gained the reward. To Mr. Nicholl, who had gained a medal of merit for an essay on the same subject, he said, that he was glad, as president of the Institute, to present a reward to one, who was a member of the same body; he trusted that the present result would induce him to proceed in the path he had so well commenced;—last year he had covered himself with "slate," and this year he had laid a good foundation of "brick." To Mr. Wadmore, he presented a medal for the best design for a royal chapel, repeating that the value of the medal consisted in the fact of having gained it, and saying, that he hoped in some future year, when Mr. Wadmore discovered the medal of the Institute in some forgotten drawer, he would look with pleasure to the occasion on which he had received it.

Lord de Grey then gave the announcement, to which allusion was made in the last number of THE BUILDER. He said, that some time ago, it had been suggested to him, that if application could be made to the Queen, her Majesty might be graciously pleased to offer a medal herself, and that this would be an extraordinary stimulus to the members of the institute. He had not, at that time, felt able to say how far such a result might be expected, but the subject had since been mentioned to her Majesty, and he was now happy to say that her Majesty's acquiescence was instantaneous. He had only made the communication to the proper party, on a Saturday, and on the Tuesday following, he was informed, that her Majesty would give an annual medal for the best essay or design, as might be agreed upon. He did not know whether he was doing any thing not warranted by the written rules, but he was at least sure, that he should receive the concurrence of every member in proposing, that the cordial and hearty thanks of the Institute be forwarded by him, through Mr. Anson, to her Majesty, without another day's delay. The details would be considered by the council; he presumed that the Institute prizes would be competed for as usual, on the 31st of December, and they would therefore have abundant time to prepare. He felt much pleasure that he had been instrumental in obtaining this, and he should be happy, if under any circumstances, he should be present next year, when her Majesty's medal would be conferred. After a vote of thanks, the meeting adjourned to the 11th of May.

PORCH, ALL SAINTS' CHURCH, STAMFORD.



ON HORIZONTAL WATER-WHEELS, ESPECIALLY TURBINES.*

The nature and importance of the submerged horizontal water-wheel, invented in France a short time before 1827, and called a *turbine*, having excited attention, Sir Robert Kane has been led to translate Rühlman's memoir of it, and to convert all his rules and formulæ for calculation. Euler's mill is generally understood. "A perpendicular cylinder, or any similar hollow body, filled with water, and free to turn on its axis, bears on every point of its sides a pressure outwards, which tends to impel the vessel in its own direction, but can produce no motion if the side is strong enough to withstand it, because the point of the cylinder lying diametrically opposite experiences a similar pressure. If we make an opening in one part of the side, and apply to it a tube, which is directed at right angles to the axis of the cylinder, the pressure ceases there, from the water finding vent, but that on the diametrically opposite part remains, and produces a circular motion of the vessel, which is in a contrary direction from that which the water flowing out horizontally assumes. Professor Seyner, in Gottingen, pointed out the application of this principle to driving millstones, and Barker, an Englishman, practically executed similar constructions."

"Almost identical in theory with the abovementioned wheels are those in which the wheel forms a drum, shaped like a cone truncated parallel to the base, with its wider end uppermost, and bearing spiral float-boards on its surface; an inclosed space surrounds the wheel

* From the German of Moritz-Rühlman. Edited by Sir Robert Kane. Hodges and Smith, Dublin, 1846.

concentrically; and when the water, entering the case from above, runs down along the windings of the spiral, it compels the wheel to turn round.

Borda's proposition of conducting water to a horizontal wheel, so that it should meet the latter without any shock, gave origin to various trials and experiments; but the merit is due to the French mining engineer, Burdin, of having given the first successful plan for the attainment of the proposed object."

"The water, in running out, acquires, by its descent, a velocity equal to that which is due to the other half of the available total fall, that is, exactly equal to that of the wheel; so that it leaves the latter without any absolute velocity.

Notwithstanding the advantages of Burdin's wheel, many circumstances seem to have been found in practice which might materially diminish the useful effect specified; and particularly it must be known that there are cases in which it cannot be employed at all. It was reserved for the French engineer, Fourneyron, to give to horizontal wheels such a construction, as left almost nothing to be desired. It is true that in 1827 Burdin gave to the Société d'Encouragement, &c., at Paris, a memoir on a submerged horizontal wheel, whose construction had much analogy with Fourneyron's, but it was about that time that Fourneyron erected the first of his turbines at Pont, on the Ognon.

In the year 1834, Fourneyron received the prize offered by the above-named society for the construction of the best horizontal wheels, and the reason of its being given so late was because the programme required that at least two such wheels should be erected and completed on the large scale.

In comparison with Burdin's wheel, the height of the concentric cylinder in Fourneyron's turbine, which forms the proper wheel, is very small, and scarcely exceeds 10 or 15 inches. The motive water enters sharply in a horizontal direction at the internal circumference of the vertical cylinder, presses from all sides on the compartments of the wheel, flows along the curved paddles, and escapes at the external circumference of the wheel.

We can easily form an idea of Fourneyron's, if we conceive an ordinary vertical water-wheel, with curved paddles, laid down horizontally, and that the water which gives it motion, flowing from the centre, enters at the internal circle, and escapes at the outer side."

The book before us is illustrated, and contains a mathematical examination of the theory. M. Morin, in a work on these turbines, gives the following statement as the result of his experiments:—

"1. That the wheels are applicable equally to great and to small falls of water.

2. That they transmit a useful effect, equal to from 70 to 78 per cent. of the absolute total moving force.

3. That they may work at very different velocities, above or below that corresponding to the maximum effect, without the useful effect varying materially from that maximum.

4. That they may work from one to two yards deep under water, without the proportion which the useful effect bears to the total force being sensibly diminished.

5. In consequence of the last preceding property, they utilize at all times the greatest possible proportion of power, as they may be placed below the lowest levels to which the water surface sinks.

6. That they may receive very variable quantities of water without the relation of the useful effect to the force expended being materially lessened."

All who are interested in the economy of water power, and the construction of machines best adapted for obtaining it, should examine into the subject-matter of the volume before us.

ELECTROPHONIC TELEGRAPH.—Professor Jacob, of the Imperial Academy, St. Petersburgh, has just communicated to that body the invention of an electrophonic telegraph, composed of ten keys, ten different accords, and ten conducting wires, by which the letters of the alphabet and words can be expressed by means of sounds. The academy has pronounced a favourable opinion of the invention.

HEREFORD CATHEDRAL. — The eastern portion of the choir of this cathedral is about to be restored under the superintendence of Messrs. Cottingham and Son.

NOTES IN THE PROVINCES.

GRIMSTON Church, Norfolk, has recently undergone very extensive repairs, under the superintendence of Mr. Charles Ayton, of Attleborough. It was re-opened on the 3rd inst., on which occasion the Bishop of Norwich took occasion to speak in high terms of the new works; his lordship also headed a subscription towards a new painted glass east window.——At Cambridge, the Philo-Union Society, a literary and scientific body, are about to erect a building for their own use and for other purposes. It is to consist of a library, club-room, and a theatre, which may be used for lectures, concerts, debates, and public meetings. The estimated cost is 5,000*l.*, and this sum it is proposed to raise in shares of 5*l.* each.——The new church at Heavitree, near Exeter, now approaches completion, and it is fixed that the ceremony of consecration shall take place on Friday, the 5th of June.——The Bishop of Lincoln consecrated, on the 7th inst., the newly-erected church at Southwell, in his diocese. The church is capable of holding 650 persons. Four yew trees, presented by Miss Cooke, were planted in the burial-ground after the consecration, by individuals who have taken an active part in the erection of the edifice. Total estimated cost of erection, about 3,000*l.*—— The Manchester Botanical and Horticultural Society are about to erect a new saloon in their gardens at Old Trafford. It is to be 150 feet by 45 feet; and 22 feet in height to the centre of the dome, or 32 feet to the centre of the dome ventilator. The whole of the front of this saloon is to be made of glass, and moveable, so that it may be removed in bright, hot weather. In short, the new saloon will have a back wall and two end walls, while the other side, and the whole of the domed roof, will be of glass, covering an iron framework. Possessing an area of 6,750 square feet, or about 740 square yards; it will accommodate nearly 2,000 persons.—— A new public room, in the Roman style of architecture, from a design by Mr. Edward Welch, has lately been erected at Birkenhead. It is 46 feet long, 30 wide, and 21 feet high, with a decorated open roof, and three centre flowers for chandeliers. In the centre of the room, over the entrance doorway, and retiring back over the staircase landing, is an orchestra, accessible from a passage behind, and separated from the room by an iron railing cast to the pattern of the lyre. This orchestra will also serve the purpose of a platform for public speaking, lecturing, &c. —— The restoration of the Norman tower at Bury St. Edmunds is making great progress. The walls have been taken down 12 feet all round, to the spring of the upper tier of arches, and at the south-east angle 25 feet of the ashlar or stone casing has been removed and replaced, large masses of the rubble core having also been cut out at the fissures and decayed places, and the cavities filled up with solid grouting. The second tier of arches have been turned afresh with some new keystones, but generally speaking the identical stones have been replaced as nearly as possible in their former situations, so that, we learn, the work exhibits scarcely a sign (except its restored regularity) of a hand having been recently applied to it.——At the current Dorset Quarter Sessions, the Marquis of Westminster brought forward a motion on the subject of prison discipline, involving alterations in the county gaol to the cost of 9,000*l.* The motion was unanimously affirmed.——The county surveyor of Wilts has received instructions from the bench of magistrates to prepare a plan and estimate of a new police station-house, including a magistrates room for holding petty sessions, accommodation for the lodging of a superintendent and policeman, stables, &c. The same to be erected at Swindon.——At the Essex Quarter Sessions, held last week, a committee of fifteen magistrates was appointed to superintend the erection of a county lunatic asylum. Whether the proposed asylum shall be solely for the county of Essex depends upon circumstances. The committee have the power to negotiate with the magistrates of a neighbouring county, and to make preliminary arrangements for the erection of one asylum sufficiently large for the lunatics of both counties. The Act of Parliament does not require that the building should be commenced for three years, but at the end of this term, if not begun, the Secretary of State can step in and build it at the expense of the county.——The foundation-stone of a subscription church at Preston will be laid at Whitsuntide. The *Preston Chronicle* says:—"We have seen a plan of the building, through the kindness of our townsman, Mr. Latham, architect, and we need only say that it reflects infinite credit upon him, and that the church will be an ornament to the neighbourhood in which it will be erected.——An Independent chapel, from a design of Mr. W. Stuckey, is being erected at Langford. It will be a Gothic structure, and have two octagonal towers in front. The cost is estimated at 500*l.*, and it will be capable of accommodating about 300 persons.——The restoration of Eton College Chapel, including the enlarging of the choir, the erection of Gothic stalls, and a new screen, &c., is to be proceeded with immediately. The cost is estimated at from 10,000*l.* to 12,000*l.* A new burial-ground, in connection with the college, extending over about an acre of land on the Eton-wick Road, and within 500 yards of the college chapel, was consecrated on Thursday week by the Bishop of Lincoln.——Some misunderstanding has arisen between Mr. Hakewill and the restoration committee of St. Nicholas's Church, Yarmouth. Mr. Hakewill proposes to remove the brickwork inside two arches, which he contends is both useless and unsightly. The committee, bringing little or no knowledge to bear upon the subject, oppose their ignorance to the architect's science; they are timid, and think the safety of the fabric may be endangered. Tenders for the several works will be advertised for immediately. The estimated cost of the restoration is 5,000*l.*——At Liverpool a large "home" is being built by public subscription as a lodging-house for sailors, annexed to which will be a "refuge" for that meritorious class. The subject of the improvement of the port of Colchester having been referred to the Admiralty for their assent, in compliance with the standing orders of the House of Commons, their lordships have appointed Captain Washington, R.N., one of the Tidal Harbour Commissioners, and Captain Vetch, Royal Engineer, to inspect the river, and report on the proposed plan.

FREEMASONS OF THE CHURCH.

THE VERONESE MISSAL.—EGYPT.

APRIL 14.—The Rev. G. Pocock, L.L.B., in the chair. The Right Hon. the Earl Cadogan submitted specimens of Greek glass in illustration of the Portland Vase. Mr. George Isaacs presented an old English manuscript and seal, of a grant of land in Cumberland of the time of Henry VIII.; and exhibited several abbey seals in Bucks, dating between the 12th and 13th centuries. Mr. Weale exhibited 70 plates of stained glass and painted glass, 60 of which were highly coloured; they were of the age of Albert Durer.

The celebrated missal executed by Francesco and Girolamo Veronese, was exhibited by Mr. Jarman, upon which Mr. W. H. Rogers, the illuminator to the Society, read a description, tracing the history and pointing out the characteristics of this volume. The enthusiastic account given of it by Dibdin in his "Decameron" was referred to, and quotations made from it with explanatory comments. The arms, which occur in several places, are those either of Pope Sixtus IV., or Julius II., while Cardinal, from which it may be inferred that the illuminations were executed in the latter half of the 15th century. It was commenced by Francesco, and finished by his son Girolamo, the instructor of Julio Clovio. The former held a high and well-deserved position in fame among the Italians of his time, who bestowed on him the title of *Francesco da i libri*, to the assumption of which modern criticism would willingly allow his prerogative. He has sketched with a fine pen in outline, not only miniatures of the most exquisite character, illustrative of important subjects in the Roman Missal, but he has encircled them with arabesque borders of such extraordinary conception, that one is astonished at the fact of a single mind being able to produce combinations so varied, but all so truly magnificent. Subjects from the sacred text are sometimes combined with the ornament of which they form a part—a principle of design not uncommon in the 16th century, but of which Mr. Rogers considers this the earliest specimen. The

principle of Francesco's colouring was entered into, and contrasted with that of his son, the former being invariably a union of wash and stipple, and the latter entirely body-colour. An arabesque design had been enlarged from one of Francesco's, and exemplified on an intelligible scale, the style of his composition. Dolphins, boys, masks, gems, flowers, and monsters were subservient to his will, and grouped with a degree of unity which many in the present age may in vain strive to emulate.

A proof engraving of one of the miniatures was exhibited. Upon this, as upon many others, the artist had inscribed his name, a circumstance of such rare occurrence in other MSS. that the names of few more of the great illuminators of Italy are known to us than those rescued from oblivion by Vasari. A singular feature in this artist's works is the appearance of a number of short inscriptions in various parts of the ornament. They have not been explained, and were probably mere types of private vanity. The finest of the miniatures by Girolamo were pointed out among them; one containing a half-length portrait of the Pope, another of St. Gregory, behind whom his holiness is kneeling, with an attendant bearing the tiara; and the last, which is very remarkable, as representing the payment of a large basin of coin for the execution of the volume.

Mr. George Russell French, architect, then read a lecture on Egypt, in which that country was considered chiefly in its relation with the Hebrew nation. After alluding to the different names by which Egypt, "the black country," was known, both in scripture and profane history, the lecturer quoted the instance of Abraham's going down into Egypt when a famine arose in Canaan, and the arrival of Joseph, followed by that of his father and family, their establishment in Goshen, and the subsequent ill-treatment of their descendants by the king, "which knew not Joseph." He then endeavoured to shew that this king was one of the race of the Hycsos, or shepherd-kings, a dynasty which had usurped the throne of the ancient Pharaohs, and under whom probably the native Egyptians were compelled to work in bondage as well as the Israelites—an opinion countenanced as well by the command of Moses, "Thou shalt not abhor an Egyptian, because thou wast a stranger in his land," or by other collateral evidence. The assertion of Josephus, that the Israelites were employed on t e Pyramids, was then discussed, and among the illustrations in support of this declaration, the well-known account in Herodotus, of the money expended on vegetables for the workmen, was compared with the avowed longing of the Israelites for the very same vegetables after their Exodus. Upon some of the monuments of Egypt, among the persons engaged in the drudgery of making bricks, men are depicted wearing beards working with the native Egyptians; and as the latter shaved their heads, it is conjectured that the Hebrews are intended by the bearded parties. The absence of hieroglyphics in the interior of the Pyramids, the absolute and unusual plainness of the sarcophagi placed therein, and these last again found empty, point to a very early period of erection, either before the invention of hieroglyphics (which was Belzoni's opinion), or to the refusal of the sacred scribes to record the deeds of the founders, which would be easily accounted for if we can refer the building of the Pyramids to the shepherd-kings (which is Lord Lindsay's belief). Even if not engaged upon the great stone Pyramids of Gizeh, the Hebrews may have assisted in building the *brick* Pyramids at Dashoor, Saccarah, and elsewhere.

Notice was taken of some of the miracles of Moses before Pharaoh; and, in allusion to the turning of the waters of the Nile into blood, the opinion of travellers was quoted as to the great sweetness of the waters; and, probably, Jeremiah alluded to this delicious quality when he speaks of "the waters of Sihor" (2 v. 18). The river being worshipped as a god, called ὄθεος on the great Sphinx, and, in fact, every thing to the Egyptians, or as Achilles Tatius expresses it, "both river, and land, and sea, and haven;" and that people affecting great cleanliness and dislike to blood, the pollution of their sacred stream must have been a terrible infliction.

The rising of the Nile was then accounted for, and an apposite illustration quoted from Shakspeare of the measured standard by which it was usual to ascertain the height of the waters, the great poet with admirable judgment, selecting a pyramid rather than a column, as he was writing of the days of Cleopatra, and the famous nilometer was not erected till the year 820, A.D. One state of things was consequent upon another in a country like Egypt; the inundations of the Nile rendered it necessary that the burial places should be raised above their reach, and the necessity of keeping the bodies unburied for some time, brought embalming into use, of which the first recorded instance was for the partriarch Jacob.

The idolatries of the Egyptians were glanced at, especially those which influenced the Israelites, as the setting up of the golden calf, a copy of apis, at Mount Horeb, in later times repeated by Jeroboam at Dan and Bethel, his two golden heifers being imitations of the bull apis adored at Memphis, and the bull Mnevis worshipped at Heliopolis. Ezekiel's vision when he saw the seventy elders (or Sanhedrim) offering incense in the dark chamber of the temple, on the walls of which "all the idols of the house of Israel were portrayed," agrees exactly with the representations in Egyptian temples and tombs. The calamities which came upon Egypt were doubtless, as well for her monstrous idolatries as for her injurious treatment of the Israelites subsequent to their Exodus, and the predictions of the prophets that Egypt should be "the basest of kingdoms," and that there should be "no more a prince of the land of Egypt," have been completely verified in the conquest of the country by successive nations for twenty-four centuries, until it is at this moment suffering under the stern and iron rule of Mehemet Ali, the most cruel despot that Egypt has hitherto known.

SPANISH ARCHITECTURE.*

The branch of our subject which we now approach, as it is spread over ten centuries, embraces many changes; and may be divided into the beginnings of the dispersed Goths; the round-arched Romanesque; the different stages of the pointed style; the revival or Cinque Cento; the Classical; and the decline, first into meretricious ornament, and then through the *Rococo* to the present academical and death. Thus Spanish architecture has followed the monarchy from its cradle, waxing strong with its growth, splendid in its manhood, and feeble with its decay. Spaniards, when writing on what we still call *Gothic* architecture qualify that epithet, which is alike false in its historical as in its secondary and vituperative signification. Descendants of the mighty Goths, the prostrators of Rome, that name is looked up to by them as the fountain of honour, not disgrace. In Spain, as elsewhere, it cannot exactly be said by whom the pointed style was invented, or when it was first introduced; the form itself must long have been obvious, since it is perfectly produced by the lines which divide every one of the then common series of intersecting round arches, of which it is but a development; nor in all probability was its first adopter aware of the mighty capabilities which this germ contained, as the acorn does the oak. The Spaniards, assuming that it was first used in Germany, and by Charlemagne, term the pointed style, Gothico *Tedesco* and *Germanico*. Be its inventors who they may, it certainly did not originate with the Spanish Goths, whose existence had ceased some five centuries before its appearance; nor does it deserve the stigma which has been cast on it by classicists and academicians. This style, at once original and Christian—unadulterated by those associations of Jupiter and Juno, which infect the walls of every antique elevation—was created for a new and purer religion; hence the rapidity with which it spread simultaneously over most of Christendom, attaining in Spain a glory which one day will be properly appreciated. There it creeps, not along the ground, like the horizontal line of the Pagan temple—nor the low-roofed mosque of the Moslem, of earth earthy, like their creed—but aspires on high, ascending with the prayers of those who worship within, to whom alone the privilege of looking up to heaven and a future has been vouchsafed. And how lovely is this Christian style in itself—how perfect in its own rules orders, and proportions—how inexhaustible in its resources and varieties of combination—how full of meaning, intention and capability—how significant its cruciform plan, its perpendicular spires—how rich in mystic symbols, being itself a symbol of the Infinite—how profound the religious awe—how innate the devotional sentiment, yet how true the artistic feeling and poetry—how boundless the scope in elevation, construction, and decoration, for individual mind and genius to work and expand itself, with which the limited and fixed classical system never could or can compete. There indeed the lust of the eye is gratified, but the Christian heart is not touched—nay, cloyed with sameness of sweets, it loathes the honeycomb. The remnant of the Goths, who fled before the Moors into the Asturian caves, to temples not raised by hands, had to struggle for mere existence; their architectural progress was that of an army which first bivouacs, then runs up huts, and when the ground is cleared of foes, builds barracks and citadels. More than a hundred years elapsed before their earliest works were erected, which date from the ninth century, and are correctly called by Spaniards *Obras de los Godos*, works of the Goths, not Gothic works."

"The characteristics of this Spanish Romanesque or corrupted Roman manner, are the portico, useful in the damp Asturias, a massy masonry, the round arch, solid piers, and want of height. The style in less than a couple of centuries was improved by a northern element, which was brought into Catalonia by the Normans, who aided the Christians against the Moors, and who settled in reconquered districts; it soon spread into the Castiles, and particularly in the eleventh century, under Alonzo VI., whose wife was a French princess—whose primate was a monk of Cluny—whose son-in-law, Ramon, was a Burgundian, and brother to Pope Calixtus II. Foreign creeds and fashions were the natural result; and we find, in 1060, Petres de Tamber, a German, rebuilding the cathedral of Leon; while in 1090 Ramon was employing, on his new works at Avilla, Casandro, a Roman, and Florin, a Burgundian. Again, in 1118, the Norman prelate, Oldegar, commenced the stately cathedral of Tarragona, a city wrested from the infidel by his countryman, Robert Burdet, a 'warrior,' as his Norse name implies. About the same time, Geronimo, a native of Perigueux, and bishop of the Cid, took peaceably, after his pugnacious patron's decease, to church-building, and erected the castle-cathedrals of Zamora and Salamanca. Thus the Normans in Spain enfulated their contemporary countrymen in France, England, Sicily, and Apulia. Their style was also propagated by the Templars, who, numerous and powerful in the Peninsula, maintained a close freemasonry with their tramontane brethren: the collegiate church at Toro, the Magdalen at Zamora, and the church at Mansanara, near Aviles, are fine specimens of Templar architecture. The prevailing characteristic is simple solidity. The masonry was too robust, too thick to require buttresses; and as forays and invasions were then rife, the churches were built, like those in Syria, both for prayer and defence—hence the smallness of windows which weaken walls, and the size of towers, which offered refuge keeps. The windows are round-headed, and often divided by a single pillar, without mullions or transoms, and exactly the *Ajimez* of the Moors. Among ornaments, the chevron and billet-moulding occur frequently. The transition from the round arch to the pointed one was gradual, and the two may be seen in juxtaposition in the nunnery of *Las Huelgas* near Burgos, which was founded in 1180 by Leonora, daughter of our Henry II., and wife of Alonzo VIII. This now degraded pile is an architectural encyclopedia, in which the horse-shoe arch intermingles with round and pointed ones, and Gothic crocket-work with Saracenic diapery. The windows now become wider and more elegant—the buttresses, finials, and external supports richer."

"The civil wars which ensued after the death of St. Ferdinand blighted these blossoms of piety, and filled the land with poverty and crime. Now castles were raised instead of convents—some of which yet remain, shorn, like aged oaks, of their leaves and branches. The Spaniards, who previously had made use

* From the "Quarterly."—Continued from p. 172, *ante*.

of Moorish fortresses, now that they began to build for themselves, abandoned the Oriental form and material, to adopt those of the Romans and Goths."

"The private dwellings of Spanish kings and nobles down to Charles V. were chiefly Moorish, and artisans of that nation were employed in most works of luxury and ornament. Few of the ancient capitals are without a royal palace. Of these the most interesting examples are the Alhambra, the Alcaiseria at Zaragoza, the Alcazares of Seville and Segovia; and of private houses, those of the Alba and the Casa de Pilatus at Seville.

The bridges built by the Moors were narrow, and high pitched in the arch, being destined more for horse and foot passengers than carriages; fine specimens exist near Martorell and at Toledo. The Spaniards here again, as in their castles, adopted a Roman model, of which such noble ones remain at Merida, Salamanca, and Alcantara. Among the best imitations is that thrown over the Ebro, near Logroño, in 1107, by Juan de Ortega; those over the Miño at Lugo and Orense; and others near the cities of Santiago and Zaragoza, the Mecca and Medina of the Peninsula: indeed, the early bridges, roads, and hospitals, were chiefly constructed to facilitate the progress of pilgrims. In later times primates and prelates were true pontifices maximi: witness those grand works that span the Tagus at Talavera, and at the Puente del *Arzobispo*, which denotes its founder Archbishop Tenorio, as that lower down, *del Cardenal*, does its author Cardinal Carvajal. The subsequent ones were the work of the state. Thus Philip II. built those at Simancas, Badajoz, and Madrid; Charles III. that of Alcolea, near Cordova, which, like one at neighbouring Ronda, is superb, both in conception and execution.

To return to Gothic architecture: once established in Spain, it advanced as steadily as the classical had done, where the rude Tuscan preceded the chaste Doric and the elegant Ionic—and thence expanded into the beautiful Corinthian and ornate Composite. The fourteenth century—the age in England of our valorous Edward III. and of William of Wykeham—in the Peninsula was that of the gallant Alonzo XI. and Archbishop Tenorio. The most successful among native architects were Jayme Fabra, Juan Franck, Alonzo Martinez, and Juan Alfonzo: the finest examples of this glorious period will be found in the exquisite Cathedral of Leon, the St. Ouen of the Peninsula—in the elegant ones of Palencia, 1321—and Oviedo, 1388—the solemn Seu and Sa. Maria del Mar at Barcelona, 1328—the Seu of Zaragoza—and the convents of Lupiana, near Guadalajara, 1330—and Guadalupe, 1389. The *Transito*, or Jewish synagogue of Toledo, 1350, is without rival in the world, and presents a matchless ensemble of all that Hebrew and Gothic and Moorish art could do in juxtaposition.

The fifteenth century witnessed the full-blown development of the Spanish Gothic, which now luxuriated in storied windows richly dight, in high embowered roofs, in heraldic pomp, and in a lacework embroidery of decoration thrown over walls and ceilings. This—the period of our Waynfleet, Chichele, and Henry VII.—found more than a parallel in Juan II., the Mæcenas of the troubadour, in Ferdinand and Isabella, and their great cardinals, Mendoza and Ximenez: who, like their predecessors and successors in the primacy of Toledo, were among the noblest patrons of learning and art that any country or age has ever produced. Then arose those cathedrals and colleges whose founders may well smile from their graves upon the magnificence of moderns. These colossal and costly monuments, raised in days of poverty, shame the carpenters' Gothic of this iron age of money-changers and millocrats. Now the gift of half an acre for a site from one who owns half a country is trumpeted forth as munificent;—if any thing really noble be done, it is treated as a sort of symptom of madness! In those times no wonder was excited when Christian men, or Christian women either, offered the fruits of self-denial on the altar. Very many, frugal at home like the older Romans, like them reserved their magnificence for the 'Palace of God.' Now private luxury and domestic decoration contrast with religious poverty in art and meanness in feeling; nay, the Gothic devotional sentiment has almost become too mysterious to be comprehended in 'modern contracts to be finished in eighteen months.' Centuries then elapsed during the erection of the temple; the completion was handed down from one generation to another as a sacred duty; the church, built on a rock and like one, rose as if to endure for ever. Nor was expense of gold or thought ever grudged on this labour of love. The founders did not sit down to build a tower without mature consultation—nay, frequently, in cases of difficulty, juries of the most eminent architects were summoned to decide on plans which had been prepared by numerous competitors. Although one general principle pervades all the cathedrals of Spain, a difference is perceptible in the provinces, many of which were once independent kingdoms: the sister piles retain a family likeness, without being identically the same, insomuch that Spanish architecture has its provincialisms—like the dialects, manners, and customs of the different parts of the Peninsula, which are so marked as to afford certain geographical tests.

WESTMINSTER COURT OF SEWERS.

On Friday, the 17th inst., a court was held; Mr. Leslie was chosen chairman. The clerk presented the treasurer's book, by which it appeared, that the cash balance at the bankers was 10,620*l.* 17*s.* 9*d.* In consequence of a communication from the solicitors of the court relating to the Highways Bill, some additions were suggested to various clauses, and an application was ordered to Sir James Graham requesting the additions to be made.

The Vauxball Bridge Company appealed against the rate, alleging that they did not consider themselves liable. The court thought otherwise, and ordered the collector to apply for a warrant at the next court, if the rate were not paid before.

Mr. W. Tooke, the solicitor to the Institution of Civil Engineers, in Great George-street, Westminster, appealed against the rate upon a part of the institution occupied by the secretary, alleging that the property was exempted by the 6 & 7 Vict., cap. 36. It appeared that the property was leasehold, and the Civil Engineers' Institution covenanted to pay the landlord's taxes, among which sewers' rates were named. The appeal was deferred for a month, and on the motion of Mr. Le Breton, seconded by Mr. William Donaldson, the opinion of the Solicitor-general was ordered to be taken as to the liability of the institution to sewer's rates; the draft case to be presented to the next court.

On the applications of various parties, 3,450 feet of the new forms of sewers were granted, and 98 drains. A special clerk of the works was appointed, to see that the applicants strictly obeyed the orders of court, by making the sewers in the best possible manner as to materials and workmanship.

The following accounts were presented to the court as having been examined and passed by the committee of accounts:—

Commissioners' fees, quarter ending Lady-day	£65	4	0
Petty cash, quarter ending Lady-day	140	4	2
Bricklayers' and labourers' wages from the 25th December, 1845, to 27th March, 1846	458	1	2
	£663	9	4

A long discussion took place on a proposition to invest 5,000*l.* of the balance at the bankers in exchequer bills; the profit and loss on such purchase to be calculated and distributed over the districts at the end of the year. The arguments against the proposition were, that the rates having been made much too high, and the expenditure much reduced, occasioned the heavy balance, and was a temporary evil; and the difficulties of calculating the proportions of profit and loss appearing almost insurmountable, the proposition was negatived by ten to four.

An important motion was then disposed of, viz., to rescind an order of court of the 20th February last, limiting the extent of No. 3 sewer to 100 feet. Mr. Cumberlege and Mr. Mayhew both detailed numbers of courts and alleys, where at present no sewer or drain exists, all of which were of a greater length than 100 feet. The order was unanimously rescinded. It was understood that the surveyor should direct his attention to these confined localities, and present a plan by which they might be cheaply and effectually drained. Adjourned to Friday ,1st of May.

SOCIETY OF ARTS.

April 15th.—Mr. Thomas Webster, M.A., vice-president, in the chair. The first communication was on Mr. Rand's inventions for the manufacture of flexible metal vessels, for preserving paint and other matters, by Mr. Carpmael.

Mr. Carpmael stated, that Mr. Rand, who is an artist, had, from the inconvenience and waste of colour which takes place when it is put up in the bladders ordinarily used for that purpose, been led to endeavour to find a substitute, and the use of metallic vessels suggested itself to his mind. After many experiments, he succeeded in forming them of so thin a body of metal, that they are capable of being collapsed so as to shut out all air. The tubes are made of block-tin, the 150th part of an inch in thickness, and have at the upper end a nozel and screw-cap, and are closed at the bottom by being folded over once or twice with a pair of pinchers, so as to exclude all air. As the colour or other matter which they contain is pressed out, the tubes are collapsed, and thus the upper part of the tube always remains full. Each tube has to go through the following process of manufacture:—A small piece of block-tin is put into a dye, upon which a punch, worked by a fly press, descends and forces the metal up of the required thickness between the surfaces of the dye and punch; thus by a single blow the body of the tube is formed. It is then removed to a second press, by which the screw on the neck of the tube is formed, and by a second blow in the same press the maker's name is stamped upon it. The cap is formed in a similar manner by a third machine. The tube, when struck, is placed in a lathe, and cut the required length. Thus a perfectly air-tight bottle is formed without seam in a few seconds.

Mr. Wright exhibited a number of the tubes, which were beautifully ornamented, some of them being covered with richly embossed velvet and other materials, and filled with choice perfumes; he presented one of the bottles to every lady present.

He also stated that he had exported to various parts of the world, essence of anchovies, prepared mustard, cold creams, volatile chemical preparations; it is also intended to export and import butter, preserved meats, and other substances, in cases of this description.

The second communication was by Mr. Banks on the cotton produced in Honduras and Yucatan, and the practicability of introducing free labour cotton from Africa and other countries into the British market.

VELOCITY OF FLOWING WATER.

Sir,—I require to convey water from a spring in the hills to a valley beneath, by cast-iron pipes, a length of 3,700 feet, in which there must be 58 bends to suit the windings of the hill.

The fall in 2,700 feet from the spring, to be 2 inches to 10 feet (or 45 feet perpendicular in that distance) with 50 bends, 8 of them formed from angles of 90, and 42 from angles of 135 degrees, the whole to be assumed as pipe 2-inch diameter in the bore. The other 1,000 feet, to have 8 bends only, and each at an angle of 135 degrees, the fall to be 21 inches to 10 feet, or 175 feet perpendicular in this length.

I wish to know the velocity with which water ought to flow through the first length (say 2-inch pipe), and to what diameter the bore may be reduced for the second length, to be just capable to carry all the water from the first length of 2-inch pipe.

If you will be so good as to insert this in The Builder, some of your correspondents may kindly give a practicable formula for the computations, and much oblige your humble servant and Constant Reader.

Bath, 20th April, 1846.

Strike in the Building Trade.—The strike, we are sorry to say, still continues. The loss to all parties must be immense.

Correspondence.

CURB STONES.

SIR,—A correspondent in your number of the 4th inst. refers to the curb stones used in Paris, as per sketch which you gave in your number of 21st March last, and says they might be made in cast-iron instead of stone. No doubt they might, but they would be made cheaper, and, I think, nearly as strong, of terro-metallic earth, such as is found in this district. A. B.

Stoke-upon-Trent.

Miscellanea.

ONE EFFECT OF A STRIKE.—Mr. S. Holme the builder, of Liverpool, recently wrote a letter to his workmen, in which he says:—"In no country, except Great Britain, are hod carriers generally employed. I never saw one in any part of the continent; and it is not only more convenient but more economical, in almost every instance, to hoist up materials, or use a wheelbarrow, than to pay men for carrying heavy loads up a ladder. We no more need to have bricks carried on men's shoulders than the merchant, in hoisting his goods into a warehouse, need adopt such an antiquated principle; yet I should be sorry to introduce machinery for this purpose, in every instance, as it would throw many poor men out of employment; but the labourers must be prepared for it, for the period is fast arriving when we shall be driven to hoisting instead of carrying, and a turn-out of hod carriers will precipitate the measure.

THE NEW HOUSES OF PARLIAMENT.—Lord Canning paid a visit of inspection to these works last Saturday, with reference more particularly to the fitting-up of one of the entire floors of the new building, overlooking the Thames, to supply the increasing requirements of the railway committees. Messrs. Grissell and Peto have, in consequence, received directions to complete immediately twenty of these apartments for the above purpose. The rooms in question are approached by a passage-way across the new building, communicating with the present temporary committee-rooms in the Star-chamber court, and they are in immediate connection with the new corridor, extending from one extremity of the building to the other, nearly 600 feet in length. There are upwards of 200 workmen employed in the operation.

THE GREAT WESTERN RAILWAY.—Bogue, of Fleet-street, has just published a "History and Description of the Great Western Railway, its Geology, and the Antiquities of the District," embellished with numerous views of the viaducts, stations, bridges, and antiquities, by J. C. Bourne. It is one of the finest works of the sort ever seen. We shall take an early opportunity to speak of it at length.

NEW APPLICATION OF THE HOT-BLAST.—A writer in the *Aberdeen Herald* says, that he has seen wood seasoned more thoroughly in the course of a few hours by applying the hot-blast than it could have been in many months by the present modes.

THE ACADEMY TRAVELLING STUDENTSHIP.—Not one drawing was received this year from the architects, who had gained gold medals at the Academy, in competition for this reward; consequently the privilege falls to the lot of a painter.

THE APPROACHING EXHIBITION.—It is said that the number of architectural drawings sent to the Royal Academy this year is less than has ever been known. This is no doubt occasioned by the engrossing nature of railway work.

IMPROVED COMMUNICATION.—As a precursor of the sub-marine railway (?), a submarine telegraph, connecting France and England, is to be commenced immediately, it is said, with the permission of both Governments.

TO PREVENT CONDENSATION ON SLATE COVERING.—A correspondent says, a coat of *drying oil* applied to the underside of the slates would be found effectual to prevent condensation.

SOCIETY OF ANTIQUARIES.—The annual election of officers took place on Thursday last, when the house list was carried. Lord Mahon is the president, recommended by both parties.

EXTRAORDINARY EXCAVATION IN THE CITY.—In the course of a few days an excavation, ordered by the commissioners of sewers at Guildhall, will be completed in the city, that was commenced about four months ago, and which extends from Whitefriars-dock to Fleet-street, opposite Craven-court. The whole length was tunnelled under the houses, which was an operation of considerable difficulty, and it was expected that the whole would not have been executed without some serious accident, but fortunately none has occurred. The sewer is constructed at a depth of about 23 feet from the surface. During the excavation the workmen discovered a vault, which was found to be about 80 feet long, reaching almost from Fleet-street to the Thames, nine feet wide and seven feet deep; it was built of the most durable material, and the pavement of it was formed of Roman bricks of a beautiful red colour. On Tuesday last two human skulls, with the thigh bones and part of a human chest were discovered.—*Globe.*

NEW PROPELLING POWER.—Mr. R. Mushet, of Coleford, concludes a letter to the *Mining Journal* as follows:—"Why not employ the force of a large steel spring similar to the spring of a watch, to put in motion a railway train? The spring might, from time to time, be wound up by the power of small stationary steam-engines; and as watches will go for twenty-four hours without winding up, why should not a locomotive, furnished with a similar source of power within itself, go for an equal space of time? Those who have seen and understand the construction of common musical snuff-boxes, will readily comprehend how the force of a spring may be made to communicate to the driving wheels of a locomotive any required degree of velocity; the little fly-wheel, or fan of the box, revolving at a rate far greater than would ever be required in railway locomotion."

NEW ROMAN CATHOLIC CHURCH.—The foundation-stone of this edifice, the estimated cost of which is 11,000*l.*, was laid at Burnley last week by the Right Rev. Dr. Brown.

DUTY OFF BRICKS.—We have received numerous communications on this subject, urging its immediate repeal. We will consider them shortly

MEETINGS OF SCIENTIFIC BODIES

During the ensuing Week.

MONDAY, April 27.—Geographical, 3, Waterloo-place, 8½ P.M.

TUESDAY, 28.—Civil Engineers, 25, Great George-street, 8 P.M.; Syro-Egyptian, 71, Mortimer-street, Cavendish-square, 8 P.M.

WEDNESDAY, 29.—Society of Arts, Adelphi, 8 P.M.

THURSDAY, 30.—London Institution, Finsbury-circus (anniversary); Royal, Somerset House, 8½ P.M.; Antiquaries, Somerset House, 8 P.M.

FRIDAY, May 1.—Royal Institution, Albemarle-street, 8½ P.M.; Botanical, 20, Bedford-street, Covent Garden, 8 P.M.

TENDERS.

For the Trinity Schools, under Mr. Basevi, architect, Blackheath.

Piper and Son.....	£1,544 0
H. Johnson	1,458 0
Travers	1,398 0
G. Smith	1,371 0
Twoohay	1,360 10
Hill.....	1,317 0
Barr (not accepted)....	1,290 0

Mr. Hill's tender accepted.

For building schools at St. Thomas's, Goswell-street, St. Luke's. Mr. Hesketh, of Bermondsey-square, surveyor.

Watson	£1,876
Jay	1,664
Haynes and Co.....	1,636
Foster	1,599
Saunders.....	1,589

NOTICES OF CONTRACTS.

[We are compelled, by the interference of the Stamp Office, to omit the names of the parties to whom tenders, &c. are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent Garden.]

For building a sewer along Upper Gower-street to the New-road, St. Pancras, being in length about 950 feet.

For building a bridge at Higham, Suffolk.

For the construction of the masonry, &c., of the Conway-bridge, for the Chester and Holyhead Railway Company.

For the erection of stations at Rearsby, Brooksby, Kirby, and Melton, on the Midland Railway.

For the erection of stations at Lincoln and Newark on the Nottingham and Lincoln Railway.

For the execution of works on the Syston and Peterborough branch of the Midland Railway. They are divided into two contracts. The lengths respectively are 4 miles 60 chains, including a tunnel of 750 yards, and 9 miles 40 chains.

For taking up the present stone floor and laying down a new floor in the County Hall, at Warwick.

For the execution of certain repairs to the workhouse, College-street, Bury St. Edmunds.

For the erection of an additional engine shed and tender, repairing shops, at the Derby station of the Midland Railway.

For the restoration of the eastern portion of the choir of Hereford Cathedral.

For the supply of 2,000 tons of chairs for the York and North Midland Railway.

For the execution of works on the London and Blackwall Extension Railway.

For building six new houses in Turner's-court, St. Martin's-lane, London.

For the construction of the various stations and other buildings from Cowton to Richmond, Yorkshire, for the Great North of England Railway Company.

For the execution of works on the Oxford, Worcester, and Wolverhampton Railway. There are four separate contracts, comprising large earthworks, bridges, and tunnels.

For the construction of a large gas-holder tank for the Lincoln Gas Light and Coke Company.

For lighting the parish of St. Paul, Deptford, with gas for a term of three years.

For the erection of certain buildings on the Sheffield, Ashton-under-Lyne, and Manchester Railway.

COMPETITION.

A premium of twenty guineas is offered for the most approved design, comprising plans, sections, and elevations for an hotel, to be built at Rugby, Warwickshire.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At Stradbroke, Suffolk: 70 ash timbers, varying in size from 20 to 60 feet and very clean, also 3 capital elms, &c.

At the Bell Inn, Panfield, Essex: 253 oak timber trees now standing.

At Holbrook, near Ipswich: 24 good elm timbers, a quantity of pollards, &c.

At Hadleigh, near Rayleigh, Essex: 203 oak trees, now lying near Scrub House.

At the Rose and Crown Inn, Tunbridge: 858 oak trees, now standing on the Nizells estate.

At Poslingford, near Clare, Suffolk: 150 capital oak timbers,

At the White Horse Inn, Snettisfield, Warwickshire: 10 lots of superior elm timber trees of large dimensions and ready felled.

At Hadstock, near Linton; 300 valuable oak timber trees now being felled.

TO CORRESPONDENTS.

"*W. J. N.*"—The M.S. which accompanied drawing of font was mislaid.

"*Blistering of Paint.*"—A correspondent wishes to know how painted wood-work (especially in south aspect), may be prevented from blistering.

"*T. T.*" (Ringwood).—Take the opinion of a surveyor in the neighbourhood, who can examine the premises.

"*V. Y.*"—Complains of brickwork in New Oxford-street. We will examine it.

"*E. F. G.*"—We cannot authenticate the report. St. John's, Cambridge, was named.

"*J. K.*"—Any time before July. If a letter be addressed to Mr. Hawkins, British Museum, by any person of known respectability, permission to study in the galleries will be granted.

"*Lover of Fair Play.*"—We cannot question the decision of a jury on anonymous statements. We will look into it.

"*R. L.*"—Weale, Holborn, has published a good work on the subject.

"*J. B. R.*" (Birmingham).—We shall be glad to hear from him again.

"*Leeds Industrial Schools.*"—We have received several communications on this subject, and will give them consideration.

"*M. S. B.*"—Next week.

"*Seasoning Oak.*"—A reply to "R. S." in our next.

"*A Young Beginner.*"—Look to "Tredgold's Carpentry."

"*J. Pulham.*"—Letter shall be sent to Col. Mason.

"*The Rev. J. B.*"—Future reports shall be less full.

Received.—"W. G.," "Rev. J. F.," "J. G. H.," "B, B." "The Demoralization and Injuries occasioned by Want of Proper Regulation of Labourers engaged in the Construction of Railways," by Edwin Chadwick, Esq. (Chas. Knight); "Tables and Rules for calculating Earthwork, Land, Curves, &c., required in Railways and Canals," by J. B. Huntingdon, C.E. (Weale, 1846); Reply to "Observations of the Great Western Railway Company on the Report of the Gauge Commissioners." (Vacher, Parliament-street, 1846).

ADVERTISEMENTS.

ROYAL ADELAIDE GALLERY.—Arrival in England of the OHIO MELODISTS.—These extraordinary quartette singers and personators of Nigger eccentricity perform at this Institution every evening at 9 o'clock. Les Petites Dansceuses Anglaises continue to receive unbounded applause in their elegant divertissem ent. A Concert every evening, conducted by Mr. A. Sedgwick: Vocalists—Miss Pearce, Mrs. Stuart, and Mr. Binge. Lectures on Chemistry. On Tuesday, Thursday, and Saturday, Major Beniowski on his New Invention of Printing for the Blind from usual types, at 3 o'clock. Microscope, Chromatrope, and Dissolving Views, daily. Admission 1s. Schools half price.

NOVELTIES of EXTREME INTEREST and INFORMATION at the ROYAL POLYTECHNIC INSTITUTION. Scenes in the Oregon Territory form a part of an entirely new series of Dissolving Views. Portraits of the most distinguished Men, in the Sikh Government and Army of Lahore, magnified by the opaque microscope. Also, Portraits of Sir H. Hardinge, and Sir Robert and Lady Sale. The Physioscope and Chromatrope, with new and beautiful variations. The most interesting of the novelties at work are Macintosh's Rotary Engine, Coleman's Patent Locomotive Engine, for ascending and descending Inclined Planes, Farrell's Archimedian Railway, an Envelope Cutting Machine, Wood's New Patent Steam Engine Governor, and the Atmospheric Railway. Experiments with the Diving Bell and Diver. Lectures on Chemistry and Natural Philosophy, with brilliant experiments. Admission, 1s.; Schools, Half-price. A brief description of the Oregon Territory, from Notes by a Nine Years' Resident, presented to the visitors.

GREAVE'S LIAS CEMENT, stone-colour, free from vegetation, does not crack, and is well adapted for every description of modelling and casting.
GROUND LIAS LIME, for concrete, or as mortar for sewers, dock-walls, and hydraulic works generally; is superior to any other lime or cement.—Office, 2, South Wharf, Paddington, and Stratford-on-Avon.

Agent for Liverpool—Mr. Wylie, 56, Gloster-street.
Ditto, Manchester—Mr. J. Thompson, Back King-street.
Ditto, Chester—Mr. J. Harrison, Linen Hall-street.
N.B. Marble Floors. A large quantity of Vein and Black Marble on sale at reduced prices.

ROMAN CEMENT, &c.
REMOVAL.
THOMAS JOHN CROGGON
Begs to inform the Trade that he has removed to
8, LAWRENCE POUNTNEY-HILL and
THREE CRANES WHARF, 69, Upper Thames-street.
Orders addressed to either place for ROMAN CEMENT of genuine quality will be executed with promptitude and the strictest regard to quality and economy.

KEENE'S PATENT MARBLE CEMENT.
WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.
Patentees and manufacturers, J. B. WHITE & SONS, Millbank-street, Westminster,

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.
CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—
1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.
It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.
For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.
For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.
Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.
JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.
Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.
Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,
JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the action, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

PORTLAND CEMENT does not vegetate, requires no colouring, is perfectly hydraulic, and resists the action of Frost. The cost of the material and of working it is about the same as Atkinson's Cement, Manufactured by J. B. WHITE and SONS, Millbank-street, Westminster, and sold at their Warehouses:—
Druce's Wharf, Chelsea,
Bell's Wharf, Paddington,
Earl-street, Blackfriars,
Albion Wharf, Deptford-bridge,
by Salmon and Co., Dublin,
and at 36, Seel-street, Liverpool.

BLUNDELL'S STUCCO PAINT.—An article perfectly resembling stone surface, for the purpose of covering the outside of buildings, has long been a desideratum. This STUCCO PAINT possesses the necessary qualities. It adheres firmly to the walls, resists the action of the weather, and is altogether free from the glossy appearance of Oil Paint. It is laid on mixed with rain or pure river water, and can be made to any required shade or stone colour. Further particulars may be obtained on application to the Inventors, BLUNDELL, SPENCE, and Co., Paint and Colour Manufacturers, 69, Upper Thames-street, London; and at their Colour Works, Hull.

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SAW MILLS, GILLINGHAM-STREET, PIMLICO.
TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.
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THE GENERAL WOOD CUTTING COMPANY, TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.—SAWING in all its branches executed with the greatest precision and despatch. PLANING by the most approved Machinery, reducing the Boards to a parallel width and thickness, and grooving or matching with undeviating accuracy. The operation economizes time, money, and material.

SIR WILLIAM BURNETT'S PATENT for the Preservation of Timber, Canvas, Cordage, Cotton, Woollen, &c., from Decay.
TESTIMONIALS.
From THOMAS GRAHAM, Esq., M.A., F.R.S., L. and E., Professor of Chemistry, University College, London.
"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.
"The wood appears to be fully and deeply penetrated by the metallic salt; I have found it in the centre of a large prepared paving block.
"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the crystallizable salts. There are no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.
"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Teplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.
"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotized principles it contains, by entering into chemical combination with them.
(Signed) "THOMAS GRAHAM."
"University College, 25th October, 1845.
From Professors BRANDE and COOPER.
"London, 4th November, 1845.
"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.
"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.
"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.
"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.—(Signed) "WILLIAM THOMAS BRANDE,
"JOHN THOMAS COOPER."
"To Sir William Burnett, K.C.H., F.R.S., &c. &c."
Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 53, King William-street, London-bridge.

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ALWAYS ON SALE, a LARGE ASSORTMENT of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¾ inch to 1¼ inch thick. Rough Boarding for Flats.
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WILLIAMS'S PATENT SLATE RIDGES and HIPS.—The above article is recommended as the best and the most suitable covering for Ridges and Hips of slated roofs ever invented, possessing a solid Roll of various sizes, more elegant and durable than lead, and 30 per cent. cheaper.—Sold by Messrs. J. and J. SHARP, Slate Merchants, Tooley-street, and Mr. RICHARD COOPER, Slate Merchant, Belvedere-road, Lambeth, London.

DAVEY'S PATENT SLATE RIDGES and HIPS are very superior in appearance to lead, as well as more durable and much cheaper, and are admitted to be the most valuable articles for the purpose hitherto invented. They consist of two side pieces and a roll, either united together to form one solid piece, or in separate parts, and in lengths of from four to six feet. The roll is made of various sizes, perfectly round, and in the strongest way of the slate. They may be purchased of the patentee, W. DAVEY, Broad Quay, Bath, or of any slate dealer in London or the country. Parties ordering a cargo of roofing slates may procure these ridges at the cheapest rate from Mr. JAMES WYATT, Port Penrhyn, Bangor (where they are manufactured), of whom and of the patentee further particulars and prices may be obtained.—Be particular to order DAVEY'S Patent.

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HIP TILES to suit slate roofs in colour; Ridges, with plain or rebated joints, roll tops, and vertical ornaments; drains, many sizes, with plain or socket joints; paving in squares, hexagons, octagons, &c., different colours; roofing, in Grecian or Italian styles, other devices also, or plain; conduits, which do not injure pure water; fire-bricks and tiles; clinkers, and out-door paving; sundry wall-coping, garden-borders, chimney-tops; also tubular and other flues of peculiar material. No agent, but a depôt at 22, WHITEFRIARS-STREET, FLEET-STREET, LONDON, under Mr. PEAKE'S personal care, to supply genuine TERRO-METALLIC goods at fair prices as per quality; also, additional Stock at No. 4 Wharf, Macclesfield-street, South, City Basin.
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To Builders and Mechanics this association is peculiarly adapted, it enabling them to build or finish houses, and generally to acquire property without any outlay of their own capital. The large and excessive fines, fees, &c., which the borrower is obliged in most other societies to pay, being in this wholly done away with, the borrower being only answerable for the payment of his subscriptions. Amongst other important advantages it will be found in this society there is no Redemption Fee—no Fine on Withdrawal—no Bidding for Shares—no Deducting of Discount from amount to be advanced—no Postage Fees—Reduced Law Charges—no Excessive Fines. INTEREST AT FIVE PER CENT. ALLOWED ON EVERY PAYMENT. Members assisted to purchase at auction and pay deposit. The Directors act gratuitously.
Members can withdraw the whole of their subscriptions at any time, and receive interest thereon at 5l. per cent. Females and minors may become members.
Prospectuses may be obtained and shares taken of the Secretary at the offices at any time of the day; the Solicitor, W. A. Rivolta, Esq., 44, Bloomsbury-square; the Surveyor, Mr. Bray, 259, High Holborn; and of the Manager, 5, Crosby Hall Chambers, Bishopsgate-street. Prospectuses forwarded by post on receipt of one postage stamp.
An early application for shares and advances is desirable. Country Members can pay their subscriptions to an agent, who will be paid by the Association; and local surveyors will be appointed. Applications for appointment as surveyors and agents should be made at once.
THOMAS PAVEY, Manager.

The Builder.

No. CLXIX.

SATURDAY, MAY 2, 1846.

BEFORE the chair was taken at the general meeting of the Art-Union of London in Drury Lane Theatre, on Tuesday last, the house was densely crowded in every part but the topmost gallery, and even this was partly occupied before the proceedings closed. The stage was also filled with persons, and the appearance of the whole was very striking.

H. R. H. the Duke of Cambridge, who was to have taken the chair at twelve o'clock, not having arrived at half-past twelve, the Right Hon. LORD MONTEAGLE was requested to preside and said:—

Ladies and gentlemen, before the business of the day commences, I beg to explain to you that I yesterday had the honour of seeing his Royal Highness the Duke of Cambridge, and he expressed on that occasion, as he always does, his deep interest in the prosperity of the Art-Union of London, and his anxious desire to contribute to its success in every way in his power. He also expressed to me his intention of presiding on this occasion, and I am persuaded that it is only some circumstance of importance that has prevented his Royal Highness from honouring us with his presence. I shall, in his absence, occupy the chair; but I trust that before we transact what may be termed the real business of the day, his Royal Highness will arrive.

Routine business was then commenced, and Major Story and Mr. G. L. Parrott were elected scrutineers. The president, however, not arriving, the honorary secretary commenced reading the following

REPORT.

At nine successive general meetings of the subscribers, the committee have had the gratification of announcing the continued success of the Art-Union of London, in spite of occasional difficulties and uncalled for interference. From the time of its establishment in 1837, when the amount subscribed was 489*l.*, every annual statement has shewn an increase almost unexampled; and at the last meeting the subscription was no less than 15,440*l.* On this, the tenth anniversary, they have again the pleasure to report a similar advance, the total amount subscribed being 16,500*l.*, or 1,100*l.* more than it was in 1845.

The present is a critical moment in the history of this association, and calls imperatively for some observations on the part of the committee: it is considered better, however, first to report succinctly, according to former custom, the proceedings of the past year and the business of the day, and reserve general observations for the conclusion.

The number of local honorary secretaries is increased to 379. The list of places abroad where the society is represented, includes New York, Mexico, Hobart Town, Bombay, Monte Video, New Brunswick, parts of Germany, Canton, and other important localities. To the various gentlemen acting in the capacity of local secretaries, both at home and abroad, sincere thanks are due for much increased exertion and hearty co-operation.

The works of art selected by the prize-holders of last year, 278 in number, were exhibited during four weeks; at first to the subscribers and their friends by tickets, afterwards to the public indiscriminately, and were visited by multitudes almost beyond computation. In connection with this exhibition the committee have to state, that on the part of Sir Erskine Perry, a prizeholder to the amount of 30*l.*, they availed themselves of the regulation which empowers prizeholders to commission the execution, in marble, of any model exhibited in either of the stated exhibitions, and arranged with Mr. W. Calder Marshall, A.R.A., so to execute his group, called "The First Whisper of Love."

The committee are most anxious on all occasions to direct the attention of the subscribers to the elevated art of sculpture, so that some portion of the funds may be applied annually for its encouragement.

As an evidence of their desire in this respect, and with the hope of obtaining a fine work of art, the committee have offered the sum of 500*l.* for a group or single figure in marble, not less than 4 feet 6 inches high, to be competed for by finished models in plaster. The models are required to be sent in by the 1st of July next, and the work completed by the same day in the following year. They look to the English sculptors for such a response to this proposal as may be a perfect justification of the step, and a proof that the views of the society are understood and appreciated. Beyond the selected group, it is hoped that others may be found suitable for casting in bronze.

The bronzes for the present year, after Mr. Foley's "Youth at the Stream," are nearly all ready, and will be distributed immediately after the allotment.

The engraving due to the subscribers of 1844, "The Castle of Ischia," was delivered in May last. The engraving for 1845, "The Convalescent from Waterloo," after Mr. Mulready, R.A., has been greatly delayed by the continued illness of the engraver, Mr. Doo. No arrangements are wanting on the part of the committee to ensure so far as may be the execution of works required for the society, in sufficient time to meet the wishes of the subscribers; dependant, however, as such works must necessarily be on the health and exertions of individuals, they are unable to regulate the production of them with invariable accuracy, and they have reason to believe this is understood by the majority of the subscribers. The subscribers of 1845, to whom the print in question is due, have received a series of outlines by Mr. Rimer, illustrative of Thompson's "Castle of Indolence."

[The Duke here came upon the stage, and was received with loud cheers. On taking the chair, vacated by Lord Monteagle, his Royal Highness expressed great regret that he had mistaken the hour appointed, and assured the meeting that his opinion of the Art-Union of London was unchanged, and his desire to advance its interests increased rather than diminished.—The honorary secretary then resumed reading the report:—]

The engraving due to the subscribers of 1846 (the present year), "Jeptha's Daughter," engraved after Mr. O'Neil, by Mr. Lightfoot, is finished, and will speedily be sent to press. A series of outlines by Mr. G. E. Hicks, illustrative of Campbell's "Gertrude of Wyoming," have been engraved, and will shortly be presented to the subscribers in addition to the print named.

For the ensuing year, a pair of engravings by Mr. C. Rolls and Mr. F. Heath, after pictures by Mr. Uwins, R.A., "The Last Embrace" and "The Neapolitan Wedding," will be distributed. They are already far advanced towards completion.

With a view to future arrangements, the committee have placed in the hands of Mr. Lightfoot, Mr. Frost's "Sabrina," to be engraved for the society, and have obtained permission from Mr. M'Clise, R.A., to engrave his prize cartoon "The Spirit of Chivalry."

A statement of the engraving account will appear in this report when printed.

For the premium of 500*l.* offered by the committee for the best original picture, illustrating British history, twenty-eight cartoons were sent in on the 1st of January last, and were exhibited to the subscribers and their friends, before the selection was made, in the gallery of the new Society of Painters in Water Colours, Pall-Mall, liberally granted for that purpose by the society. After due consideration the committee decided that the author of the cartoon, "Queen Philippa interceding for the Lives of the Burgesses of Calais," was best entitled to receive the commission, provided he was found competent to execute the painting. On opening the letter accompanying the cartoon, the artist was seen to be Mr. H. C. Selous, to whom the committee awarded a premium in 1833 for his illustrations of "The Pilgrim's Progress." The painting when completed will be engraved for the society.

Amongst the cartoons submitted were several of great excellence, and your committee, considering that the publication of them would be acceptable to the subscribers, and an encouraging compliment to the artists who responded to their call, have arranged to engrave in outline reduced drawings of the following:—

No. 2. "Saxon Almsgiving," by Mr. Scott.
No. 8. "Queen Elizabeth's Visit to Kenilworth," by Mr. Ziegler.
No. 12. "Howard Visiting a Prison," by Mr. Armitage.
No. 13. "Non Angli sed Angeli," by Mr. G. Scharf.
No. 22. "Alfred surrounded by his Family," by Mr. Salter.
No. 23. "The Welcome of the Boy King, Henry VI.," by Mr. E. Corbould.
No. 25. "The Seizure of Roger Mortimer," by Mr. Noel Paton, and
No. 27. "Spenser Reading the Faërie Queen to Sir Walter Raleigh," by Mr. Marshall Claxton.

Your committee alluded in their last report to the want of encouragement in the art of gem-engraving, which is seriously felt in this country. Being desirous of assisting this valuable branch of art, and of drawing the attention of the public to it, they offered premiums of 60*l.*, 30*l.*, and 15*l.*, under certain stipulations, for the best cameos in profile, by British born artists, of a head of Minerva, in the collection of bronzes in the British Museum, to be cut in onyx of not less than two strata and one inch in length.

Eight cameos were in consequence submitted, and the committee had the pleasure of awarding the first and second premiums respectively to Miss Elena Pistrucci, of the Royal Mint, and Mr. Henry Weigall, of St. James's street.

Miss Pistrucci's gem will be included in the distribution to-day. Mr. Weigall decided on receiving back the cameo in lieu of the premium, in accordance with a provision to that effect in the conditions.

Reference was made in the last report to the intention of the committee to commission Messrs. Copeland and Garrett to execute in porcelain a reduced model of Mr. Gibson's beautiful statue of "Narcissus," in the council room of the Royal Academy, with the view of assisting the efforts now being made to bring fine art to aid this important branch of manufacture.

The model was ably made by Mr. E. B. Stephens, sculptor: the first copy in porcelain is on the table, and the committee propose to include the right to fifty of them in the present distribution. With the same end in view, that of promoting the connection between manufactures and art, your committee have proposed to produce some work of acknowledged excellence in cast-iron.

A series of unavoidable accidents have delayed the production of Mr. Wyon's medal of Chantrey, allotted so far back as 1843. Five dies in hardening have unfortunately cracked, a misfortune against which it seems medallists have no means of protecting themselves. Mr. Wyon is now, however, again applying himself vigorously to the work, and has pledged himself to the speedy production of it.

The Reynolds' medals, allotted last year, have been distributed.

Mr. W. Wilson has nearly completed for the society a medal commemorative of Sir Christopher Wren. Thirty impressions in silver will be allotted to day. A medal of Flaxman is in preparation, and thus in a short time would be formed a valuable medallic series, illustrating the history of British art, and rendering just tribute to our departed artists.

Since the last meeting, four vacancies in the committee have been filled up by the election of the Rev. Henry Milman, Colonel Fox, M.P., Thomas Wyse, Esq., M.P., and George Dodd, Esq., M.P.

The reserved Fund, the committee announce with gratification, now amounts to 1,946*l.* 12*s.*

The following is a statement of the receipts and disbursements:—

	£.	s.	d.
16,127 guineas received	16,979	11	0
Sum allotted for purchase of Pictures, Sculpture, &c...	9,750	0	0
Ditto for Bronzes.....	450	0	0
Ditto for Medals	200	0	0
Ditto for Porcelain Statuettes	150	0	0
Ditto for Cameo	60	0	0
Ditto for Lithographs	120	0	0
Ditto engraving, printing, &c., of "Jeptha's Daughter"..	2,530	8	0
Ditto for Outlines	1,530	0	0
Total expended in works of art,	14,790	8	0
Expenses:—Printing, Advertisements, Postage, &c. ..	2,189	3	0
	£16,979	11	0

The amount set apart, according to this statement, for the purchase of works of art, viz.:—9,750*l.*, will be thus allotted:—

30 Works of Art of the value of 10*l.* each.
40 Works of Art of the value of 15*l.* each.
36 Works of Art of the value of 20*l.* each.
36 Works of Art of the value of 25*l.* each.
25 Works of Art of the value of 30*l.* each.
25 Works of Art of the value of 40*l.* each.
16 Works of Art of the value of 50*l.* each.
14 Works of Art of the value of 60*l.* each.
12 Works of Art of the value of 70*l.* each.
10 Works of Art of the value of 80*l.* each.
6 Works of Art of the value of 100*l.* each.
4 Works of Art of the value of 150*l.* each.
2 Works of Art of the value of 200*l.* each,
and 2 Works of Art of the value of 300*l.* each.

To these are to be added, twenty bronzes of the "Youth at a Stream, fifty statuettes of "Narcissus," thirty silver medals of Wren, and 258 lithographs of Mr. Ward's "La Fleur's Departure," by Mr. Templeton; making in the whole 617 works. The total sum thus appropriated, including the cost of outlines, and engravings, is 14,744*l.* 15s. 6d.

To save time, the following arrangement is proposed in respect of the last-named works:—The porcelain statuettes will be allotted to the first fifty names drawn consecutively at the close of the general distribution;—the thirty silver medals to the thirty names similarly drawn; and each subscriber whose name is found to stand in the subscription list next after that of each prizeholder in the general distribution, will receive a lithograph proof. Notice of the latter will be sent in the course of two days.

It now only remains for the committee to state to you the present position of the association, their remarks on recent circumstances in connection with it, and their views in respect of future proceedings.

The temporary Act of Parliament under which the distribution was made in April last expired on the 31st of July following. Previously to that date, Mr. Wyse, finding that the Government objected to receive a bill to establish art-unions permanently, before the committee appointed by the House had made their report, brought in another bill to legalize them for one year. This was passed, and remains in force till the 31st of July next. The parliamentary committee having published their report (an able and valuable document) and the minutes of evidence, wherein all the objections which had been urged against art-unions are triumphantly combatted, and the immediate introduction of measures to legalize them permanently is recommended, Mr. Wyse, in March last, brought in a bill to that effect, in which it was proposed to give power to the Government to enforce proper regulations, and prevent the abuse of the privilege. This was read a second time; but on the 8th inst., in consequence of observations by the Chancellor of the Exchequer, it was thought desirable, previous to moving the third reading, to ask the chancellor if he intended to offer any opposition to the bill, and the reply being unsatisfactory, a postponement for a short period was agreed upon, leading to the belief that, unless fresh efforts be made, the further operations of the association will be prevented.

This then is the position of the Art-Union, a position that has excited great surprise and regret; further efforts will of course be made, and the effect remains to be seen.

When the Government two years ago first interfered in this respect, public meetings it will be remembered were held, and petitions and memorials from all parts of the country were presented. After duly considering all that was then said upon the subject, the legislature advisedly admitted the principle and appointed a committee, *not* to ascertain if it were *desirable* that Art-Unions should be maintained, but, in their own words, to consider "the most expedient and practicable means to place them on a safe and permanent basis." Further, the premier is understood to have stated, to a deputation of artists, who waited upon him to shew the injurious and distressing effect the discontinuance of Art-Unions would have on a large body of persons, that it was not to be considered that Government were opposed to Art-Unions, and that they would support such a bill to legalize them permanently as Mr. Wyse might bring in.

The question of principle was therefore even then considered settled, and when the select committee were found to have considered all that had been stated adverse, and that in their admirable report they had not urged a single objection to such associations, the matter even as regarded details, appeared to be at rest.

The objection raised by the Chancellor of the Exchequer is, that Art-Unions encourage gambling,—the law having decided that lotteries were illegal, he could see no reason why Art-Unions should be excepted. Can it be seriously believed by any that Art-Unions encourage the spirit or practice of gambling? "It can hardly be supposed," say the select committee, strengthened by the opinion of Sir Fitzroy Kelly, "that societies with the organization and purposes of Art-Unions, could have been intended to be included amongst those prohibited by the enactors of the laws against lotteries. They did not exist at the time; they are instituted for very different purposes than the encouragement or gratification of a propensity to gambling. The inducement offered, and the motives acting on subscribers, are not confined to the chance of obtaining a prize, but depend also on the certainty of receiving an engraving; they are conjoined with a desire to encourage art, and if followed by the extension of the higher objects of the society, will every day more and more take that direction."

This point was fully, and, as it appears to your committee, satisfactorily combatted on a previous occasion.* If the allegation that they encourage a spirit of gambling were true in any degree, we should find subscribers increasing the number of their chances, whereas with some few exceptions, even fewer now than at first, and those all in cases where suspicion of evil motives cannot attach (our royal president amongst them), the subscription is universally of one guinea.

As may be expected the position of the association is viewed with much apprehension by a large body of artists; representations have been made to the committee and may be believed, that the discontinuance of Art-Unions would cause an amount of inconvenience and even distress throughout the kingdom that can only be estimated by those who have inquired fully into the subject.

This, however, namely the welfare of any particular body of men, important as it is in this case, and at all times fully dwelt on by your committee, is not the chief ground on which they rest their claim for national support. The Art-Union of London was established to extend a knowledge and love of art throughout all classes of society, and affects the highest interests of the community as well as the arts and manufactures of the kingdom. By placing specimens of good art within the reach of all, making the eye familiar with forms of beauty, the latter must necessarily be benefitted. The great end of art, however, is to develop the mind, to refine and exalt it. By means of these associations its sphere will be enlarged immeasurably, and on this high ground, therefore, it is that they should be aided.

The elevation of art is but the means; the elevation of mind is the end.

The operation of our association is to advance art by the improvement of public taste, and to advance civilization by the improvement of art. "Unless the public at large," says the parliamentary report, "sympathise in art, and feel it to be an enjoyment, we shall never attain any thing national in art, or have a public to appeal to." And again:—"Until the public at large be familarized with the best characteristics of art, until it shall become as communicable to all classes as music, we can hardly hope for that public sensibility to its excellencies which must be the ground, cause, and guarantee of any progress deserving the name of national."

To the fact that this society has already much improved public taste, has encouraged meritorious artists, and brought them forward more rapidly than other means would have done, and generally effected good, Mr. Eastlake bears ample testimony in his evidence. We may confidently assert, that most of those who will be the leading artists of England ten or fifteen years hence, will owe something to the Art-Union of London. In the class of history-painting it can hardly be denied that a great improvement is visible in our exhibitions, and must be ascribed to this association. Private patronage has increased, public enjoyments have been afforded: instead of injuring the print-publishers, as was asserted, Mr. Dominic Colnaghi proves that the reverse is the case; electrotypists, printers, carvers, frame-makers, and others have all been benefitted. And against this catalogue of advantages resulting from the association, there is nothing to be urged, after an existence of ten years, but a fear on the part of a very few individuals that something disadvantageous may possibly result.

Some have spoken of the evil of making good art too cheap; of the error committed by sending throughout the country 20,000 records of a noble action, or beautiful appearance of nature, instead of 500 into the portfolios of refined and wealthy collectors Surely this is a regret which will not be responded to in the present day;—a regret that belongs to a time gone by in England never again to be revived.

The wealthy collector still purchases, prizes, and locks up a costly missal, &c., a volume of a rare edition (nor is he to be discouraged). But this is not admitted as a reason why the press should not send its thousand copies of holy truths, a moralist's reflections, or poet's visions, into every nook and corner of the world, to soothe and elevate the mind of the worker, and charm him from his sorrows, or (better still) enable him to overcome them.

In a commercial point of view, one of 10,000 copies of a print is less valuable than one of 500, but it is not so in the eyes of those who will estimate its value by the amount of pleasure it may afford, the good it may effect, and this surely is the more elevated point from which to view it.

Good art cannot be too cheap; the great aim should be to make cheap art good.

It has been urged, that the purchase of low-priced pictures by the Art Union is injurious to high art, and tends to increase the number of inferior works in our exhibitions. The desire already mentioned, to imbue with a love of art, and offer intellectual and elevating pleasure, to as large a body of persons as possible, renders it necessary that the number of probable advantages should bear a sufficient proportion to the number of subscribers, to induce those to join who on other and higher grounds might refuse to do so. The first inquiry is, how to obtain a large number of subscribers in order that art may be encouraged. The question is not simply, how the subscriptions may be best *expended*, with a view to this, but how they may best be obtained and best expended. The gradual increase of the number of large prizes is kept in view by the committee. Still they cannot admit that none but high priced works should be encouraged. A small picture may display talent and give pleasure equally with a large one. A sketch or model which embodies an idea or shews taste, is none the less valuable, in the proper sense of the word, because it may be obtained for a few pounds. A reference to the biography of artists will show how important to their progress were the small sums they received for their earlier works, and that but for this encouragement, greater things, which afterwards did honour to their country, must have remained unattempted.

* The lotteries declared by the legislature to be illegal, include "two parties having opposite interests; the schemers themselves, on the one hand, the public on the other." "It is the absence of the conflicting interest of schemers, and of the public, and therefore the absence of any necessity for legislative protection, which renders the statute inapplicable in the case of Art-Unions."—*Sir Fitzroy Kelly.*

The committee would reject the assertion, that because the chance of sale for first or less important works is increased, greater efforts will not be made, as a calumny against British artists, even if it were not fully disproved by facts.

Interest the people in the fine arts, and encourage the artist, not merely by providing a market for his picture, but by public sympathy and appreciation, and art can hardly fail to advance.

As regards the selection of pictures by the prizeholders themselves, your committee see no reason to doubt the ultimate advantage of the course now pursued.

Apart from the fact (and it is not unimportant), that this privilege increases the number of subscribers, it is considered that the prizeholder in making his selection, if not conversant with art, is led to inquire into the subject, and to take the opinion of friends: he goes into picture-galleries where, perhaps, he had never been before, and his art-education is commenced. Even if an indifferent picture be chosen in some few cases, to the exclusion of a better, the error is soon pointed out to him by his friends, his judgment is improved, and he learns to admire justly. Every man is the centre of a circle; the knowledge that he gains spreads throughout that circle, and thus the general improvement is advanced. The fact that the aggregate selection has been better each succeeding year than the last is undeniable.

In conclusion, the committee earnestly intreat the prizeholders of to-day to make such a choice as shall further justify their view; and they venture to refer to observations under this head which have appeared in former reports. Strong in their opinion of the great value of the Art-Union of London, and determined to use every legitimate means in their power to ensure its continuance, they venture to augur for it many years of increasing usefulness. GEORGE GODWIN, } Hon.
LEWIS POCOCK, } Secs.

The report was received with loud applause.

Lord Monteagle then rose, and after moving the adoption of the report, as taking a just view of the question, his lordship, at considerable length and with much eloquence and power, spoke of the vast advantages which were diffused by Art-Unions, not only amongst artists and their families, but also throughout the entire range of society. It was not merely the body he was addressing, large as it was, that would be effected by the stoppage of Art-Unions, it was not merely all England, but the whole extent of the British dominions throughout the world. His lordship then went into the question of the legality of Art-Unions, and expressed his surprise that after the House of Lords, with the assistance of his Royal Highness in the chair, had unanimously declared it to be their opinion, that the principle involved in lotteries had no reference or similarity to Art-Unions, the Governmentshould have come to the determination of placing them in the same category with lotteries and gambling speculations. If it were so, he for one would not have supported it, and he ventured to say there was not one gentleman holding office in the society who would; but he denied entirely that it was so. The mere presence of their royal chairman denied it. The truth of this denial had been admitted by the House of Lords when they unanimously passed the Bill he, Lord Monteagle, had had the good fortune to bring in. If it were wrong now, it was wrong then, and the Government having admitted the principle, had no right at this time to turn round and say Art-Unions were illegal. He did not question the right of Government to watch their proceedings closely, and see that no unfair advantage was taken, and this power Mr. Wyse's Bill gave them, but he did think after the favourable report of the committee of the House of Commons, and the actual results of Art-Unions had been seen, that no interference would have been attempted. He trusted that for the sake of a large body of meritorious persons, for the sake of the best interests of society generally, that the opposition would pass away, and Art-Unions be legally established on a permanent basis. (Loud cheers.)

Mr. Thos. Wyse, M.P., seconded the motion in an admirable address, wherein the honourable gentleman reprobated in justly strong terms, the desire to restrict the enjoyments of art to the wealthy few, instead of opening them, free as the air, to all. Who would venture to say, that music should be confined to the chamber of the great; it was the solace and delight of thousands; and why should not painting and why should not sculpture be so also? The speaker then shewed the advantages which had resulted from the establishment of Art-Unions (the spread of taste, the increase of private patronage, and the advancement of art), and with an assurance that no efforts should be wanting on his part to obtain a successful issue, resumed his seat amidst great applause.

The motion being carried, Sir James Lushington moved a vote of thanks to the committee, which was seconded by Mr. F. Y. Hurlstone, with some strong expressions of the opinion he entertained of their services.

A vote of thanks to the honorary secretaries, moved by Mr. Serjeant Thompson and seconded by Lord Monteagle, having been passed,

His Royal Highness said that, as his presence was no longer needed, he had merely to observe, before vacating the chair, that his exertions in favour of the Art-Union of London should never relax; and (continued his Royal Highness) if it please God to spare me till next year, I hope to meet you again under circumstances more encouraging than the present. I hope you may *all* be successful, and I bid you adieu with a strong hope that we shall be enabled to continue in our course.

Mr. B. Bond Cabbell, F.R.S., was then called to the chair, and Miss Ward and Miss Weigall having consented to draw the tickets, the distribution commenced. At the close, thanks were voted by acclamation to the scrutineers, the ladies, and Mr. Bunn for his great kindness in again granting the society the use of his theatre; after which the immense meeting separated.

The following is a correct list of all the prizeholders, with the exception of those to whom the lithographs were awarded: this was not prepared in time for our present issue:—

Entitled each to a Work of Art of the Value of Three Hundred Pounds.

Bladon, F. J., 15, Regent street
Fardinando, T., West Ham

Two Hundred Pounds.

Brittan, J., Birkenhead
Dudley, J., Crescent place, Mornington crescent

One Hundred and Fifty Pounds.

Davie, C., Yarmouth
Elliott, J. C., Chapel Brompton, Northampton
Moffitt, W., St. Ann's lane, City
Vale, S., Greyfriar green, Coventry

One Hundred Pounds.

Betts, E. L., Tavistock square
Clubb, Miss, Atherstone
Evenden, Mrs., Eaton house, Tunbridge
King., W., Dalham, Newmarket
Pyne, Mrs. J. B., York cottage, Walham Green
Robinson, D. L., Frederickton, N.B.

Eighty Pounds.

Abbott, H. Bridge street, Christchurch
Cockshot, W., Clitheroe
Giberne, J., Gray's-inn square
Green, J. W., Hackney road
Heitland, A. A., Norfolk
Hudson, P., Regent street, Cambridge
Logan, Capt. J. H., Junior United Service Club
Mackarthy, D., Cork
Skelton, Miss, 42, Marlborough street
Willisford, Rev. F. T. B., Honiton

Seventy Pounds.

Attwood, A., Gracechurch street
Baker, C., Dodge hill
Cooper, J. B., Rumford street, Liverpool
Gardner, E., Stamford hill
Gibbs, C., Darnley road, Gravesend
Jordan, H. E., Reading
Miller, H., Winckley square, Preston
O'Callaghan, Miss, Caracas, West Indies
Venning, F., 17, Mortimer street
Wilson, J., Brixton
Wood, Mrs. Mary, Reigate
Wright, F., Wellington terrace, St. John's Wood

Sixty Pounds.

Broderip, W. J., Raymond Buildings
Belgrave, Miss, Preston hall
Cleaver, H. A., Croydon
Douglas, J. W., Grevile terrace, Coburg road
Denny, W., Tralee
Hardcastle, E., Hampstead
Lancaster, G., jun., Thirsk
M'Farquhar, J. L., Kensington-gardens terrace
Mansbendel, F., Bread street
Morris, Mrs., Kensington
Morison, K., Euston Railway Station
Scales, T., River street
Seton, R., Brunswick terrace, Barnsbury
Vousden, W., High street, Clapham

Fifty Pounds.

Birch, H. J., Kensington
Bloomfield, Dr., David place, Poplar
Chitty, E., Guildford
Green, H., Fakenham
Greig, G., White Cross, Walthamstow
Hall, Joseph, Bloomfield, Stafford
Hayne, Mrs., Portland place
Henderson, J., Edgeware
Kingsle, C. J., Fairford, Glocestershire
Mackay, H., Bank of Ceylon, Broad street
Price, Jas., Bank of England
Rice, R., Lymington
Stedall, H. J., Croydon
Tucker, C., Preston street, Faversham
Van Voorst, J., Paternoster row
Youell, E. P., Great Yarmouth

Forty Pounds.

St. Aubyn, Rev. R. J., Putney
Brook, R., Greenhead, Huddersfield
Brown, J., George street, Bryanston square
Chapman, R., 53, Drury lane
Cole, E. W., Stonehouse
Edminston, C., 69, Strand
England, R., 18, Stanhope street, Hampstead road
Gibbon, M., Macclesfield
Hiley, Rev. S., Queen's Head, Halifax
Holmes, H., Wilton street
Hughes, T., Trinity place, Halifax
Jack, A., St. John's
Lakeman, H., 20, Crimscott street, Bermondsey
Lloyd, A., Bruton street
Lukis, F. C., Guernsey
Mc Intosh, L. J., Lambeth
Martin, J., Berkeley square
Mitchell, C., Preston brook, Warrington
Morris, H., Kennington terrace
Morris, W., Neath
Musgrave, W., Mount Preston, Leeds
Pochin, Rev. W. H., Northwich, Manchester
Ratcliff, C., Much Park street, Coventry
Robins, G., Bedford street, Covent Garden
Smyth, Rev. W., Louth

Thirty Pounds.

Abethell, R., H.M. Dockyard, Pembroke
Bennet, Rev. E. L., Long Sutton
Birdsworth, W. C., Lytham
Coombs, J., 20, Mercer street, Long Acre
Cracknell, C., Edgeware road
Collman, L. W., Halfmoon street
Eastwood, J., Belvedere road, Lambeth
Faulkner, F., Bath
Frosdycke, W., Lime street
Goter and Gow, Hungerford Wharf
Gardner, H., Bold street, Liverpool
Harvey, J., Newcastle
Jones, E., Saffron Walden
Kesterton, E., Long Acre
Lough, F., 66, London Wall
Longstaff, J., Back road, St. George's-in-the-East
Myatt, J., Camberwell
Quier, J., Adam street, Adelphi
Roche, Mrs., Cork
Reed, F. W. C., Wigton
Stirling, Robert, 2, Chester place, Kennington
Sanders, J., Bromsgrove
Turquand, B., Montreal
Wingfield, F. M., Arundel
Yea, Major, Kildare

Twenty-five Pounds.

Beard, G., Carey street
Bristow, Mrs., Piccadilly
Bristow, J. S., Camberwell
Brittan, J. Castlelow, Dorset
Browne, G. F., Diss, Norfolk
Buckley, J., Llanelly
Chapman, Mrs., Oxford
Copps, F. M., St. Paul's churchyard
Corke, Captain, Cowes
Denman, Hon. Mrs., Torrington square
Devonshire, J., 9, Sutherland square, Walworth
Fox, W., Percival street, Manchester
Farrow, J., Life Guards
Goodeve, F., Newroad house, Gosport
Gyfford, S., 35, Little Tower street
Horsfall, J., Leeds
Hughes, J., Peter's hill, Doctors' Commons
James, C., Stratford, Sals
Le Neve, D., Mercantile Bank, St. Helier, Jersey
Martin, E., Morgan house, Ham Common

Marcey, W. N., Bewdley
Mecklenburg Strelitz, H.R.H. the Duchess of
Neeve, D. D., Postmaster, Fleetwood
Page, E., Marlborough place, St. John's Wood
Pearce, J., Weymouth
Rogers, J. R., Lewisham
Sargeant, J., Little Park street, Coventry
Seward, M., Dover
Shepherd, T., Beverley park, York
Stunbridge, J. W., Hoxton
Staples, Mrs., Sutton-on-Stoke, Kent
Stewart, J., Burrowstoneness, N. B.
Stutterd, J. Banbury
Styan, H. S., 21, Harper street, Bloomsbury
Waddington, T., 177, Cheatwood lane, Manchester
Wedd, Mrs. M., Royston

Twenty Pounds.

Agar, W. T., Elm Lodge, Kentish Town
Baker, T., Paragon, New Kent road
Bent, J., Liverpool
Brown, Mrs. J., Hampton street, Walworth
Brown, J. W., Brixton hill
Bevan, Mrs., Bristol
Brent, J., Trowbridge
Cribb, W., 34, King street, Covent Garden
Clarke, A. T., Nairn, N.B.
Cook, W., War Office
Chandler, D. D., Mark lane
Durham, J., North Crescent, Bedford square
Flood, C., Edgeware road
Franklyn, T., Maidstone
Frearson, J., Eaton square
Greensill, T., Lincoln's-inn Fields
Hammond, W. O., Wingham, Kent
Jackson, J., Kendal
Killick, J. E., St. James's street
Lucas, W. J., Montpelier square, Brompton
Mitchell, J., Old Bond street
Murton, W., 451, Strand
Parott, E., 50, Blackfriars road
Ray, R., Sun Fire Office
Rixs, B. J., Bank, Norfolk
Stone, G., 35, Spital square
Stent, W., 261, Oxford street
Sturt, R., Camberwell green
Strickley, Mrs., Milton Abbey, Dorset
Sweeting, W., Abbotsbury, Dorset
Thorn, S., 17, Berners street
Topham, S., 14, York place, Leeds
Towgood, S., 64, Chancery lane
Watson, W., Gordon street, Gordon square
Wathen, J. J., 47, Bedford square
Wilkinson, J., Birkenhead

Fifteen Pounds.

Ayde, Lt., Colombo
Anstruther, P., Travellers' Club
Arrowsmith, P. R., Bolton
Baxter, Rev. W., Cheltenham
Bayes, W., Winchester place, New road
Berry, J. A., Chancery lane
Bird, G. M., Richmond terrace, Brighton
Bonter, John, Church street, Hackney
Cox, Col., Isle of Wight
Daniel, Miss, Esher
Davids, J., Cowes
Field, F., South Audley street
Gibson, H. G., Stockton
Halsey, Mrs., Hall, Great Berkhampsted
Hayward, Miss, St. Dunstan's hill
Hearn, T., Buckingham
Hill, W., 61, Bishopsgate street
Hodgkinson, T., Piccadilly.
Kesteven, T. T., Wolverhampton
Macaulay, A. Jr., Stornaway, N.B.
Marsh, J., Dudley
Moscrop, J., Bolton street, Bury
Norman, C., Stanhope street, May Fair
Oates, Miss, Oxton, Notts
Otgen, J., 16, Charles street, Hampstead road
Oxley, H., Staple Inn
Painter, Wrexham
Shaw, J., Kennington terrace, Kennington lane
Shorter, R. M., 92, Bishopsgate street
Smith, Mrs., 196, Regent street
Strange, J. H., Gresham street
Thompson, E. P., Manchester
Watts, J., 106, Edgeware road
West, W. T., Clapham
Weston, Jas., 31, Fenchurch street
Williamson, Mrs., 56, York street, Lambeth
Whittingham, T., Ely
Wood, W., 18, Church street, Shoreditch
Wood, W. J., Stroud
Young, W. H., 317, High Holborn

Ten Pounds.

Bagwell, J., Clonmell
Barchard, Miss E., Wandsworth
Beadle, J., 33, Henrietta street, Covent garden
Bicknell, E., Clapham rise
Bradshaw, J., St. James street, Nottingham
Brimacombe, W. H., Cornwall
Cabbell, B. B. Esq.
Dew, W., Swanton
Harrington, T. M., Halifax, N.S.
Holland, Dr., 16, Queen street, May Fair
Hughes, W., Leeson street, Dublin
Hutt, J., Guildhall buildings
Greenhalgh, J., Mansfield
Jones, Miss, York place, City road
King, J. R., Hanover buildings
McKenzie, J., 9, Ben Lomond place, Stockwell
Keay, G., East-India House
Langley, T., Halifax, N.S.
Lea, A., 111, Drummond street
Moore, G., Pelham crescent, Brompton
Marling, S. S., Stroud
Prescott, Miss, 22, Chester street
Price, E., Abergavenny
Purvis, A., North Audley street
Reynolds, Lt., Hove, Plymouth
Sams, W. R., St. James's street
Smith, J., 49, Long Acre
Southwell, W. C., Swaffham
Whitehead, G., Broom grove, Sheffield
Wilson, Miss C., Marine Parade, Dover

Entitled each to a Bronze from Mr. J. H. Foley's "Youth at a Stream."

Barber, J., Regent square
Black, Miss, St. John's Wood
Boddington, H. J., Rose Villa, Fulham
Buttemer, A., Copthall court
Cumming, R. J., Holloway
Davies, Mrs. J., Longlands
Fulton, H., Argyle street, Glasgow
Gill, J., Eye
Hadley, A., Windsor terrace
Hanbury, R. H., Spitalfields' Brewery (Cameo)
Harvey, W., 14, Barton street, Westminster
Herring, Mrs. Col., Uttoxeter
Lee, W. H., Montreal
McCallum, A., Camden town
Murphy, W., 1, Inn's quay, Dublin
Peake, J. C., Southampton
Reddish, W. D., Swineshead
Smith, G., Whitechapel Distillery
Smith, S., Ashburn
Taylor, J., Windsor Castle
Temperley, J. P., Bolton

Entitled each to a Silver Medal of Sir Christopher Wren.

Barnard, C. W., Inland Office, General Post Office
Bartrum, J. S., 41, Gay street, Bath
Brereton, Rev. C. D., Massingham, Norfolk
Bromley, J. W., 1, South square, Gray's Inn
Burnett, G. R., Vauxhall
Carlton, T., Sydenhill Hill
Clarke, Ed., 86, Cheapside
Cobbold, John, Ipswich
Collard, Mrs., 32, Castle street, Cavendish square
Copeland, Aldn., 37, Lincoln's-inn Fields
Chatelain, Le Chevr., 27, Grafton street, Euston square
Foulgar, A., Walthamstow
Freeman, N. W., Northampton
Hanson, Sl., 15, Trinity square
Henderson, Jas., H.M. Dockyard, Portsmouth
Higginbotham, W., Park street, Macclesfield
Jackson, R., 19, Great Russell street, Covent garden
Jameson, Hon. K. S., Toronto
Judkin, Rev. T. J., 48, Euston square
Knight, J., Leicester
Leith, Capt., (R.N.), Glassel, by Aberdeen
Nice, —, Stafford street, Edgeware road
Partridge, W., Tiverton, Devon
Ramsay, Professor, College, Glasgow
Sargenson, W. S., 5, Pall Mall
Turner, Rev. S. B., Halesworth, Suffolk
Tart, Jas., Load street, Bewdley
Varco, W. B., 38, Mincing Lane
Wood, S., 7, Ann's place, Margaret street, Clerkenwell
Woollams, W., 12, Thayer street

Entitled each to a Porcelain Statuette of "Narcissus."

Abbott, C. J., 36, Gower street
Aldridge, I., Throop, Christchurch
Amphlett, R. P., 32, Wimpole street
Aston, G., 7, Dorset place, Clapham road
Atkinson, Miss G. L., 120, Jermyn street
Bruce, I., Hyde, Stroud
Butler, C., Hobart Town
Caldwell, S. M., per Peck and Co., Liverpool
Cuxon, —, 228, Tottenham-court-road
Day, J., Prunsted cottage, Hemsworth, Hants
Elwell, H., Merchantly, Birmingham
Fisher, Geo., Cambridge
Foster, C. F., Mill lane, Cambridge
Foxton, I. G., Port Philip, per Norton and Co., St. Mary Axe
Glover, Mrs., 2, America street, Bridge street, Borough
Greame, Rev. M., 22, Bryanston street
Grey, Lady Charlotte, 7, Seamore place
Griffinhoofe, Miss, Arksden, Newport
Greenfell, P., Hyde-park square
Grantham, E., Addiscombe, Croydon
Hamilton, A., 127½, Cheapside
Harper, Dr., Darlington
Harrison John, 3, Grosvenor gate
Hooper, Geo., Wootton Bassett
Hurd, Jas., Frome
Hyde, Miss Jane, Templenos, Fermoy
James, J. K., 13, Stratton street, Piccadilly
Kennedy, J. B., Belfast
Kent, T., 8, Trinity square, Borough
Large, C. S., 12, Great Queen street, Lincoln's Inn
Lewis, Lewis, 4, Rye terrace, Peckham
Lee, J., 384, High street, Cheltenham
Macalister, A., Calside, Paisley
Moule, F., 15, Golden square
Pearson, T., 40, Argyle square, New road
Perigal, Ed., Admiralty, Somerset House
Pewtress, S., 30, Gracechurch street
Pidgeon, C., Reading
Prescote, J., Banbury
Prothero, Mrs., 4, St. James's square
Rayne, W. R., Hexham, Northumberland
Simpson, J., Runcorn, Warrington
Smith, W., Duke street, Huntley, Aberdeenshire
Tomson, R., The Elms, Ramsgate
Thornton, H., 3, Montpelier street, Brompton
Talman, F. H., Beckenham
Twining, Chas., Halifax, N. S.
Wilkinson, Rev. J. F., Clewer green, Windsor
Willby, S., 7, Chapel street, Belgrave square
Whitton, R., Lincoln

SPANISH ARCHITECTURE.*

Among the infinite specimens of the splendid fifteenth century may be distinguished the Gothic cathedral of Seville, begun in 1401, whose founder's project, of building 'one that should have no equal,' has been fully accomplished. Then follow the spires of Burgos Cathedral, 1442; the convents of Miraflores, 1454; of the Parral, at Segovia, 1459; of San Pablo, 1463, and San Gregorio, 1488, both at Valladolid; the Convent of Oña, 1470; of San Esteban, at Salamanca; of San Juan de los Reyes, at Toledo, 1485; and the grand chapels of the Condestable, at Burgos, of the Lunas, at Toledo, and of the Catholic kings at Granada. These and others were built chiefly by Juan de Olotzaga, Henrique de-Egas, Pedro Lopez, Gil de Hontanon, Martin de Gainza, Diego de Riano, Guillermo Boffy, Diego de Siloe, Pedro de Gumiel, Pedro Blay, Juan de Arandia, and many others, who challenge competition with any tramontane competitors. Nor were distinguished aliens wanting to aid this glorious company. Mendoza summoned Egas from Brussels and Juan from Cologne; Ximenez brought another Juan from Brussels and Francisco from Antwerp; while both employed Moorish artisans for ceiling and surface decorations, and foreigners, chiefly Flemings, for painted glass—an art in which the Spaniard, a poor chemist, has never excelled. The names of those who wrought the grandest windows clearly denote their imported origin, *e.g.* Pedro *Frances*, Vasco de Troya, *Troyes*, Christobal *Aleman*, Alberto and Nicolas de *Olanda*, Arnao de *Flandres*, Jorge de *Borgona*. The finest specimens range from 1418 to 1560, and are to be found in the cathedrals of Toledo, Seville, Leon, Burgos, and Barcelona. These windows are matchless in form and colour; their authors seem to have been inspired by the gorgeous patterns of Moorish ornament that they beheld in the harlequinades of porcelain diapry and wood-work, which glitter like bright enamels on the pages of an illuminated Koran. At mid-day the sun of Spain streams through emeralds and topazes, dazzling the sight, tinting sombre crocket and pier with rainbow hues, and rescuing from shadowy backgrounds tomb, statue, and screen, on which its life-conferring beam alights—

'the rubied shrine,
And golden glow of sacerdotal pomp.'†

Yet never are these magical lanterns more impressive than just when the sun has set and night is coming on apace. Then, while the darkening aisles are shrouded, these transparent paintings shine doubly forth, enhanced by their black frames. Thus the 'last beam of day,' like the first ray of the morn, brings into the house of God a light which enlightens eye

* From the "Quarterly."—Continued from p. 202, *ante*.
† Lord Robertson's "Leaves," p. 20.

and heart, being hallowed by its translation through subjects of sacred writ. And well did this truly Christian invention, which was unknown to pagan art, become the Gothic cathedral; well did this handmaid of a new revelation chime in where all around re-echoed to the voice of revelation; where carved wood and stone, molten brass, painted canvas and tablet, addressed the mind of the illiterate through the faithful sight, and lessons were taught to those who, although unable to read, could see and feel.

The Spanish sepulchral architecture of this period is unrivalled. Much of it was raised by prince and prelate during their lives. They well knew that here, as in the East, the curtains of death and oblivion fall simultaneously; and much did the fine arts owe to this desire of Christian burial, and of some remembrance, some *non omnis moriar*. Thus chapels were erected in cathedrals, and convents were expressly endowed, at whose altars masses might be perpetually celebrated for the repose of the founder, whose ashes rested near. In the scanty population of those times no hygeian scruples disunited the dead from the living; no cemetery companies were needed, as now, when churchyards with a gorged maw vomit forth putridity and pestilence. The truly Christian tombs then erected are free from all pagan and classical alloy; the crowned monarch, the mitred prelate, the helmeted crusader—all lie stretched alike on the levelling bed of death—their business finished on earth. The clasped hands, now that sceptre, crozier, and sword are laid aside, are raised in prayer; every thing breathes a sorrow mixed with hope, and confidence in a life to come. The inscriptions are simple—a name, a date, a brief ejaculation for mercy towards the departed soul. There is no blazoning forth of human titles and merits, which do but enhance the victory of death, who has crept such garlands for his hollow brow. In after times these monuments partook of the Cinque Cento classical tastes; whose Roman togas and weeping genii were again succeeded by the degradation of the jack-boots and full-bottomed wigs of Louis XIV."

"The sixteenth century opened with new prospects, and a wider field for Spanish ambition, intellect, and enterprise. The revival of the Cinque Cento arabesque was all but the resurrection of Paganism: it cast, like a head of Janus, one eye before and one behind, for the symbols of Bacchus and Venus disputed with those of Christ and the Virgin in the very holy of holies."

"The twilight which preceded this new style was as short and beautiful as that which ushers in the rising sun of Castile. It was marked by a fusion of the Gothic in all its florid maturity with the delicate arabesque that Raphael had disinterred from the baths of Titus, and which found a kindred soil in semi-Arab Spain. Thus the glorious end of the Gothic rivalled its brilliant youth, when it intermingled its crockets and pinnacles with Moorish forms and ornaments. Gothic architecture was not destined to know corruption, like the classical. Worthy of its Christian prerogative it died the death of a martyr full of hope; it had progressed steadily in power and beauty, and now set in one blaze of radiance, giving way to a successor full of pomp and promise.

"The princely heir to such departed greatness came recommended to the Spaniard by many ties and sympathies:—Roman in birth, chivalrous and ostentatious in character, he was welcomed by a people whose boast was implicit adherence to the Vatican, and whose besetting sin is external display. Hence the rapidity with which the *arabesque* spread over the Peninsula, and the variety of phrases by which it is known. It was first called the *Græco-Romano*, from being a revival of the practice of those nations, and because the earliest Spanish work on the subject was entitled, 'Medidas del *Romano*.' This now rare volume was first published at Toledo, in 1526, by Diego de Sagredo, and contains engraved admeasurements, working plans and details taken from the edifices of classical antiquity, with rules and extracts from Vitruvius."

"The arabesque style, too brilliant to be long-lived, arose a fashion, and passed away like a meteor. It died with Charles V., whose Spanish chivalry was mingled with a Flemish, German, and Italian element. Philip II., his successor, an old Castilian to the backbone, serious and bigoted in creed, pure and refined in taste, soon pruned an art which bordered on meretriciousness and paganism. The builder of the old colourless Escorial took refuge in the chaste Doric, the favourite order of his great architect Herrera, who, like his contemporary Palladio, gave his name to his style and fixed an epoch. While the Italian revelled in the beautiful Corinthian, the Spaniard courted a Spartan simplicity: his cathedral at Valladolid (1585), and still more his masterpiece, the chapel of the Escurial (1563), are unrivalled triumphs of majestic breadth, unadorned solemnity, and architectural proportion."

"Then licence succeeded to rule, and everything became a lie; the age was one of gold in metal, but of lead in art, and never was religion more crusted over with tinsel ceremonials, or more stripped of realities; never was the temple more prostituted by Pagan, than by bunglers who, calling themselves artists, made up with barbaric ornament their want of sentiment and design.

The terms by which Spaniards denounce this degraded style are derived from José *Churriguera* of Salamanca, who, with Pedro de Ribera, is an heresiarch no less hateful to the Roman classicist of the Peninsula than Luther is to their Roman Catholics. The master, as is usual in heresies, was outheroded by his disciples, Narciso Tomé, Geronimo, Barbas, Simon Gavilan, and others—no ragionam de loro. They peopled churches with abortions, which, once their priests' pride, like bigotry, is now their disgrace. From these at least England was saved by her Protestantism, where Wren, a late reflection of Herrera, was imitating, if he could not rival, his classical style. The Churrigueristes were cursed with a depraved *invention*, which seldom succeeds in an art so fixed as is architecture. Stone and iron, wood and solid substances were now tortured, in defiance of material and propriety, into sculptured pictures of spirits of the air, sunbeams, and etherial transparencies; forests of Sorian pine were carved into fricassees of flying angels, and daubed with gold leaf. Madrid, although deficient in fine Roman, Moorish, Gothic, and Cinque Cento art, is rich in this Rococo, which came well devised for a fungus town that sprouted out of the decay of the older capitals. A pet specimen is the façade of the hospital de San Fernando at Madrid, erected by Ribera in 1726, which certainly entitles both inventor and admirer to an admission into Bedlam. Another gem is the Trasparente in the Toledan Cathedral, constructed by Tomé, in 1733, and then considered the eighth wonder of the world.

As the court set the fashion, scarcely an edifice in Spain escaped these harpies, who were worthily succeeded by Royal Academicians. These, with their chairs, chains, and centralisation, were the inventions of Philip V., who came, according to Cean-Bermudez, himself an R.A., to crush ignorance and false taste with a strong arm. He created an artistical inquisition, which watched over architectural heresies, and whose approval was requisite before any new edifice could be erected. Thus the intellect of the nation was fettered by conventionalities, and every opening closed against private judgment and individual mind. Coldly correct and classically dull, these retrospective censors endeavoured to resuscitate an alien artificial style, which neither affected the Spaniard at large by associations with the past, nor by intrinsic excellence, nor by conformance with existing wants, creed, and social habits; hence the soulless, savourless, piles of commonplace, the feeble veneerings of the ideas of other ages and men, that weigh upon the Peninsula, and bear the mark of the beast. The apostles of this learned eclectic mediocrity was Ventura Rodriguez, the Mengs of brick and mortar. To him, the 'restorer of Spanish art,' succeeded Juan de Villa-nueva, who fixed, says his friend Cean-Bermudez, 'its most brilliant epoch.' Few, however, who glance at the heavy *Museo* of Madrid will agree in this eulogium. 'Tous les genres sont bons, hors le genre ennuyeux." If these bores in building be right, then your Berruguete, your Herrera was a blockhead—'rien, pas même académicien.'

These pedants not only prevented the restoration of the Gothic and national styles, as occurred with us, where Anglo-Saxon energy has shaken off the foreign incubus as the lion does a reptile from his mane, but encouraged the mutilation of many of the grandest works of better men and periods. Churches and cathedrals, wherever the clergy were rich and tasteless, were remodelled and 'beautified:' Grecian façades were stuck on to Gothic fronts, until insides and outsides were alike shorn of unity and propriety — witness the incongruities which disfigure the ancient cathedrals of Lugo, Pamplona, Gerona, Badajoz, Valencia.

The first modern building in Spain is the royal palace at Madrid, which was erected for Philip V. by Sachetti, an architect of Turin. It is altogether Italian in its merits and demerits, and as perfectly un-Spanish as are the two summer residences of the Bourbon; that at La Granja being the work of Juvara, a Sicilian—the other at Aranjuez done by Bonavia, a Lombard. Philip V. presided at both, and there is no mistake in their ultra-French character.

"It results from what we have shewn, that the best period of Spanish architecture proper began with the thirteenth century and closed with the sixteenth. During that interval the economical condition of the country was favourable to costly works, in which the moral and ornamental principle prevailed over the utilitarian; power and wealth were centered in the hands of the few, who were enabled to raise great works out of their *surplus*—the sole source, says the pithy proverb, of such undertakings, *obra de lo que sobra*—since, where property is subdivided among middling classes, a provision for absolute necessities consumes a limited income. Then building for base lucre and profit was scorned by rich kings, prelates, and princes, who erected palaces and cathedrals, but permitted no 'unhandsome' cotton-mill to come betwixt the wind and their nobility. Thus the primates of Toledo ennobled their single province with more fine art than all the twenty-nine and more United States can club together. Nor has Spain, since church and state have been republicanized and impoverished, raised anything that will survive. Her institutions of old, and their erections have been pulled down; her age of cathedrals has passed away, but that of railways has not commenced, except on paper. The Peninsula is now strewed with ruins, the fruits of a double visitation, when the toe of the Spanish liberal trod on the heel of the Gallic invader. The religious zeal of our reformation and puritanic outbreak has indeed in like manner twice ravaged England, but the blows were dealt at intervals. Time again, the great healer, has mantled our scars with ivy and shed a poetry and picturesqueness over the ruins. In Spain, the raw wounds gape, bleeding in the hideousness of recent murder."

"It is to the cathedrals, the collegiate and parish churches, that the student of Spanish architecture must chiefly turn; of the former some 80 yet remain, the latter must be counted by ten thousands.

"These metropolitan cathedrals offer a mother's example and model to the daughter parish-churches. They do not lie dead and idle as tombs. The door of these houses of God is open, as his ear and mercy to all and always. There is no tariff of fees hung up to scare the poor; native and stranger, Romanist and Protestant, enter alike, free as the air and light of heaven; hearty and wide is the portal's welcome which invites the saint and repels not the sinner. Here when the sudden still voice is heard, the warning may be realized at once; to-day, now, and in the place where prayer is offered up the best. There is no risk of sanding life with good intentions: no need of putting off to a more convenient season, when greedy vergers, the tax-gatherers of

'Uxorious Canons and prolific Deans,'

will creep out of their spider-holes and unlock —the price of admittance having been first paid—their spiked gratings. None here deny a gratuitous glance to rich man or pauper, whether coming to bow down in penitence, or to elevate the mind with the glory and magnificence of religious architecture. So says the 'Spanish Red Book,'—and we hope the new Dean of Westminster will read its sermon in full, on some drizzling day when he can steal a moment from his Album Græcum.

HESTON CHURCH, MIDDLESEX.



HESTON CHURCH, MIDDLESEX.

The parish of Heston is in the hundred of Isleworth, and about one mile and a half from Hounslow.* It has long been noted for producing fine wheat. Camden says, that before his time it furnished the royal table with bread, and Norden confirms it, by noting a report that Queen Elizabeth had "the manchets for her highness's own diet," from this place.

Osterley-park, once in the possession of Sir Thomas Gresham, is in the parish. It was here that Gresham entertained Queen Elizabeth, and shewed her Majesty how much could be done in a short time by energy and a desire to stand well in royal favour. The queen, every one remembers, found fault with the court, and thought it would be better if formed into two. When the royal lady arose in the morning, lo! the thing was done. Nor was much wonder expressed, because as was then said, he who could build a 'change, could of course soon change a building; while others reflecting on some differences in Gresham's family, affirmed that a house was easier divided than united.

The mansion was completely rebuilt in 1760 under Robert Adam, the architect, for Mr. Francis Child, and remains nearly as he left it. It is now occupied by the Earl and Countess of Jersey.

The parish church, dedicated to St. Leonard, is an interesting old structure, and is well worth a visit. It does not belong to the best period of Gothic architecture, and has been much injured by Messrs. Economy and Compo; nevertheless, it preserves an appearance of antiquity, and has, moreover, several points of considerable interest.

The accompanying engraving is from a drawing kindly made for us by Mr. Valentine Bartholomew, whose exquisite works as a flower painter are well known.†

The church consists of nave and aisles, and a large chancel also with aisles, or what has been called a double chancel, with a small chapel on the south side of it. The chancel of the impropriator, the Bishop of London, is on the north; that of the vicar, with the communion-table, is in the centre. There is a square tower of stone at the west end, about 90 feet high, with a stair's-turret of unusually large size, which when seen from a short distance, gives the tower a domestic rather than an ecclesiastical character.

The west and south entrances have each a curious wooden porch, shewn in the engraving; at the corresponding north entrance a robing-room is now formed. On the south side of the west door there is a stoup, or basin for holy water, within a pointed niche, with a square label over it. The interior of the church is low; the nave and aisles are divided by short columns, chiefly octagonal,* and plain pointed arches; the columns in the chancel are more lofty and the arches flatter. The font at the west end, where there is a gallery for the organ, is large, and has a carved cover. The pulpit is against the chancel arch, on the south side.

Amongst the sepulchral memorials is a white marble monument, in memory of Robert Child, Esq., who died in 1782, consisting of two boy-figures, with an inverted torch, tripods, and snake. It was designed by Robert Adam, executed by Van Gelder, and is good of its sort, though the sort is not good. Sir Joseph Banks, president of the Royal Society, and his lady, are interred here. Strange to say, there is neither monument nor inscription to mark the spot.

As regards the age of the structure, there are few parts earlier than the end of the fourteenth or beginning of the fifteenth century.†

At the entrance to the churchyard is a lich-gate, to rest the corpse under. The shed is of wood, tiled, and is seen on the left-hand side of the engraving. The gate is about nine feet long, turns on a centre, and is kept shut by means of a cord, which is attached to a heavy stone, and passes from the gate round a wheel above.

* The living is a vicarage in the archdeaconcy of Middlesex, diocese of London, and in the patronage of the Bishop of London. Its annual value is estimated at 654*l*. The present incumbent is the Rev. H. S. Trimmer (son of the well known Mrs. Trimmer), who was admitted in the year 1804, and to whom we are indebted for polite attention.

† In the "Ecclesiastical Topography," published by Woodburn, St. Martin's-lane, 1807, is a copper plate engraving, quarto size, of the north-west view of the church.

* Two on the south side are round.

† The living was appropriated, and a vicarage endowed and confirmed, *inter alia*, to St. Walerick, in Picardy, by King Henry the Third, in the 54th year of his reign, 1270, and Edmund de Wastell presented to it in Edward the Third's time, Feb. 16, 1355.

ST. GEORGE'S, BLOOMSBURY: STUDY OF DESIGN.

SIR,—Do you know of such a thing as a published plan and elevation of St. George's, Bloomsbury? — the finest exterior— putting St. Paul's out of the question—of all our metropolitan churches. I care not who says to the contrary, nor for the opinions that have been "booked" against it by Ralph and Walpole, the latter speaking of it like a puppy, the other like a dull blockhead. Yet admirable as it is, that subject is not given either in the "Vitruvius Britannicus," which by-the-bye contains a great deal of tasteless lumber, nor in the "Public Buildings of London," though for specimens of the kind the latter publication seems to have been greatly distressed when it picked up such a sad one as the church at Poplar, whereas St. George's, Bloomsbury, is unequivocally the finest modern church in all London, the most original and masterly in its conception, and treated with the gusto of a true artist. What a fine combination of masses does it present! and what dignity of *pose* does the whole acquire from the edifice being elevated as it is above the street! There is, indeed, one sad drawback upon the portico, for its character is most barbarously marred by the doors and windows within it, which, however, I am unwilling to impute to the architect himself, and therefore attribute to the *insistance* of the parishioners and churchwardens. Pity therefore, that the parishioners of the present day do not purify the portico of those deformities, and substitute for them a single magnificent doorway.

I trust the Parthenon fever is now abated. Truly, it well becomes us to affect such outrageous admiration of the Parthenon, who are building a national museum which will not have an atom of sculpture or ornament of any kind, the mere columns excepted, on its exterior. It is greatly to be wished that our architects would bestow more study on their own designs, instead of bestowing so much of a very fruitless kind, on matters unimportant and doubtful, and in searching for a grain of wheat, perhaps a rotten one after all, in a bushel of chaff. Let architects leave that to learned triflers and idlers, for it most assuredly is not the way for them to obtain proficiency in design. Were they accustomed to examine their own designs with a hundredth part of the attention they bestow on points of mere historical curiosity, it would be much better for themselves and for their art. We should not then behold so many crude, unlicked things turned out by them as we now do. We have at least one striking example of the success attending the kind of study here alluded to, for careful elaboration of his designs is the great secret of Barry's superiority; and superior his system of design may well be, since in comparison with it, that of some others *is*, and that of Nash *was* mere slobbering. Their ideas seem to be not only brought forth with pain, but actually conceived in agony. Now don't make any wry faces; I am saucy, and I know it. If I speak the truth, wholesome yet unwelcome, you and your readers must excuse the bluntness with which it is expressed. BUDOWNIK.

SEASONING OAK.

SIR,—Observing in THE BUILDER of the 18th instant, an inquiry respecting the quickest and best means of seasoning and drying oak, I have to acquaint you that the late Brigadier-General Sir Samuel Bentham bestowed much time and attention on a systematic, scientific investigation of this important subject. He in consequence officially suggested a variety of experiments; and caused several to be made under his direction, the result of which he communicated officially. He also contrived and proposed seasoning-houses for timber of various kinds. The greater number of these official documents were afterwards printed and published; but as they are now out of print, I subjoin the particulars that seem most likely to answer R. S.'s purpose.

Extract from Sir Samuel's letter to the Navy Board, 6th March, 1812:—

"By exposing block-shells to the smoke of burning wood, they became in the course of two or three days, well seasoned in every respect, hard, bright coloured, and as it were polished. But it was found that in a very short time the acid with which the shells were thus impregnated, very rapidly corroded the iron pins which passed through them.

"In Russia many small articles, such as the parts of wheels, wheel carriages, and sledges, are prepared in this manner; so are wheels, at least in some parts of America; and sabots and other small articles in France."

How far this mode may be objectionable to R. S. on account of the danger of corrosion of nails, or other iron or metal work, if such be used in his manufactured articles, he will best judge himself.

Another mode of speedily drying and seasoning wood is by means of artificial heat.

Extract from the above-mentioned letter:—

"From all the opportunities I have had of examining the state of timber so prepared by artificial heat, the due seasoning without cracking has appeared to depend on the ventilation happening to be *constant*, but *very slow*, joined to such a due regulation of the heat as that the *interior* of the timber should dry, and keep pace in its contraction, with the outer circles."

"The only instance in which I have seen a building and apparatus constructed purposely for the seasoning of timber by artificial heat, and in which the requisite attention was paid to the admission of enough, and not too much air, during the operation, was at the great cotton manufactory of Messrs. Strutt, at Belper, near Derby, where planks and deals were well seasoned without injury; the planks in the course of three weeks, and deals in a proportionably shorter time."

These, and many other particulars as to what had hitherto been done with a view to the due seasoning and preservation of timber, were as a preparatory introduction to a plan and description of a seasoning-house, for seasoning at once, the whole of the timber and plank that enters into the construction of a first-rate, namely about 3,000 loads. The *saving* in interest of money, that would have been effected by each such seasoning-house, would have amounted to from 17,478*l.* to 23,304*l.* pounds a year, clear of all expenses. The construction of seasoning-houses on the same principle on a smaller scale, would be productive of a proportionate money saving, independently of the inappreciable advantage of obtaining wood of all descriptions in a perfectly dry and seasoned state. M. S. B.

P.S. On looking over French books, I find that in case of need, for filling up the pores of wood previously to varnishing, use is made of wax, gum-lac, tripoli, charcoal, olive oil, and very fine whiting.

BURNETT'S PATENT FOR THE PRESERVATION OF TIMBER.

THE preservation of timber from premature decay is a subject which affects so large a number of our readers, that we are bound to give the widest publicity to every invention that appears likely to effect that object. The various testimonials we have received in favour of Sir William Burnett's process, and the time that has elapsed since the experiments were first made, lead us to entertain a very favourable opinion as to its efficacy, at all events for a long period of time. The effects ascribed to it are, that it hardens and improves its texture. It enters into permanent chemical combination with the ligneous fibre; and does not come to the surface of the wood by efflorescence, like other crystallizable salts; and no amount of washing or boiling in water will remove the chemical compound so formed. It preserves wood and other articles from the adherence of animal and vegetable parasites, and also from the attacks of insects; and from *wet* and *dry* rot. Further, it renders wood uninflammable, when used of a certain strength.

The basis of his process is chloride of zinc, or, as it is more commonly called, the muriate of zinc, which seems to have a peculiar affinity to woody fibre, entering into intimate union with its component particles, and forming as it were a new mineralized substance. There is a chemical combination of the metallic base, not merely a mechanical alteration of the position of matter which might again be disunited. There is no decomposition produced, but the fibre of the wood appears to be permanently pervaded by the zinc, and the atoms of which they are formed enter into a new and fixed arrangement.

The cost is about 14s. per load.

CONSTRUCTION OF RAILWAY VIADUCTS.

SIR,—The subject alluded to by the correspondent of the *Manchester Guardian*, and copied in your journal of Saturday last, has, I am sorry to say, a much more extensive ramification than his observations would lead us to believe; it is so difficult to find an arch perfectly impervious to moisture, that it may be considered the exception, not the rule. There cannot be a doubt of the injurious tendency of water filtering through arches, more particularly those composed of small rectangular substances like bricks; the voissours of the arch of a stone bridge being generally the whole depth, and wrought to the radius of the arch, require only sufficient mortar to fill up the little inequalities or interstices, and does not depend so much upon the quality as induration of this mortar. If bricks were generally moulded to the radii of the arches they are intended to compose, much stronger work would result from their uses, and I conceive there would not be any difficulty in moulding bricks to any shape that may be required.*

I do not know whether any attempt was made to prevent the water from filtering through the arches of the viaducts alluded to, although it is usual in such cases. It was the practice with many engineers of the old schools and even some of the present day, to cover the arches of bridges with a layer of "puddle" (a material composed of tempered clay mixed with sand and gravel), from 1 to 2 feet thick, according to the magnitude of the work, with vertical openings or drains through the abutments or piers, covered with a grating, to convey the water away; this material in dry weather is liable to crack with the heat of the atmosphere which destroys its efficacy; the water would, of course, penetrate through the fissures to the brickwork or masonry.

The "puddle walls" of canals frequently fail from this same cause, as any one may see if they will give themselves the trouble to inspect the canal works of this country, although they have a much thicker covering to protect them than the arches of a bridge or viaduct.

The water that escapes from canals, frequently forms a source of profit to the agriculturist, by irrigating his land at the expense of the canal companies.

Asphalte of good quality, is an effectual remedy for covering the arches of bridges, &c., so as to render them impervious to moisture; but whether it is durable in its nature, time alone will determine.

Sir J. Macneill, C.E., in his specifications for bridges, stipulates for the arches of bridges, &c., to be covered with coal-tar and sand, 2 inches thick; this is to be boiled and mixed together, and laid on hot.

I have used a material for a similar purpose composed of tar, pitch, and sand, in proportion of nine gallons of tar and pitch to half a peck of sand.

This was boiled and thoroughly mixed together, and laid on in a hot and fluid state one inch thick, which rendered the arches perfectly water-proof.

I am surprised that any railway company or engineer should suffer such an evil to exist, when the remedy is so simple and the cost so trifling; surely, it reflects on the mode of management of the one, and the professional ability of the other. I am, Sir, &c.

Merthyr Tydfil, April 20, 1846. B. B.

BRITISH MUSEUM LIBRARY.—The Lords of the Treasury have expressed their intention to recommend to Parliament an annual grant for some years to come of 10,000*l.*, for the purchase of books of all descriptions. The sum granted for the last ten years has been little more than one-fourth of that sum annually. The great deficiencies in the library are in the departments of the fine arts, law, philosophy, and history. Within the last few months we have had occasion to direct attention to more than one omission in the fine arts department.

ANOTHER MODERN ICONOCLAST.—A person named Thomas Hulme was charged last week before the Liverpool magistrates with having deliberately disfigured a carved Ionic capital in St. George's Hall; the prisoner pleaded drunkenness, and was ordered to pay 10s. and costs.

* This is done by Hitch, of Ware, and some other makers,

THE WATER-COLOUR SOCIETIES.

We had written a long notice of the two very interesting exhibitions of paintings in water colour, opened on Monday last to the public, but our space being much trenched on by the length at which we thought it desirable to report the proceedings of the Art-Union of London, we are compelled to substitute a few brief general observations. The Old Society remains supreme in landscape; any thing better in this department than some of those now exhibited, can scarcely be imagined. No. 118, for example, "The Range of the High Alps, taken from the road between Como and Lecco," by J. D. Harding, is perfectly beautiful. Mr. Copley Fielding has a number of fine works, amongst which may be pointed out, No. 29, "Bolton Abbey." The same subject is given by Mr. De Wint in No. 84, one of his rough true transcripts of nature.

No. 157, "Tanfield, Yorkshire," by H. Gastineau, is an admirable work, though the subject is hardly worthy of the skill bestowed on it. Cattermole has an extraordinary work, No. 66, "The Unwelcomed Return," shewing his great power over the material, but it is less appreciated by us than some of his smaller drawings in the same exhibition. Prout's "Hotel de Ville d'Oudenarde, Flanders" (204), and the "Hotel de Ville at Louvain" (196), are charming specimens of his style.

No. 180, "Irish Reapers meeting their Friends after harvesting in England" by Alfred Fripp, is a work of very high merit. S. Rayner has great skill in depicting the ragged and picturesque; "The Shrine" (128), and "The White Horse Inn, Edinburgh," are good specimens. No. 97, "Our Saviour carressing little children," by J. M. Wright, is chiefly noticeable for its intention. One of the most covetable pictures in the gallery is No. 309, "Prayer," by Hunt— a small work full of deep feeling. Joseph Nash has a faithful view of "The interior of Lincoln's-inn Hall on the occasion of the Queen's visit" (24), and David Cox several excellent works. C. Bentley, Oakley, Frederick Taylor, and Valentine Bartholomew each exhibit good specimens of their art. At

THE NEW SOCIETY,

landscapes form the exception, rather than the staple. The class is higher than that of the old society, though the members may not all be so high in their class.

H. Warren has a fine picture (228) on the often-repeated subject: "Alfred reproved by the Swineherd's Wife for allowing the cakes to burn," though it will scarcely be liked by so many as some of his former pictures were. The figure of Alfred is almost grand, and the management of the light from the back admirable. L. Haghe has several beautiful works, but none of such character as those he has heretofore exhibited. 62, "Rubens painting the Chapeau de Paille" is the most important. No. 184, "Interior of the Brewers' Corporation-room at Antwerp" is a piece of wonderful workmanship. Edward Corbould has coloured with great skill his Art-Union cartoon, "The welcome of the Boy King Henry VI." (166), but has hardly overcome the difficulty which the original sepia threw in his way.

E. H. Wehnert is rapidly taking a high place in his profession. The principal picture he exhibits on this occasion (100) "Wickliff defying the Mendicant Friars," displays much thought and power, but is somewhat marred by the flutter imparted to it by the lines of the drapery. No. 48, by the same artist, "George Fox, founder of the Society of Friends," will be appreciated by all. No. 120, by John Absolon, "The Count and Rosina" (from "Barber of Seville,") deserves notice. Nor must we omit warm commendation of No. 83, by F. W. Topham "Mavourneen! Mavourneen!" a nice subject admirably treated. E. Duncan maintains his reputation well; No. 91, "The Worms Head, South Wales," deservedly occupies one of the most prominent positions. Amongst the works exhibited may be pointed out (113), by A. Penley, "Two days after the Wreck;" No. 202, by G. Howse "At Frankfort on the Maine;" two or three landscapes by the indefatigable secretary, J. Fahey; some flowers by Mrs. Margetts. J. J. Jenkins has several clever things; and C. H. Weigall has taken a higher flight than usual in No. 302, "Richard the Second's Appeal to the mob after the death of Wat Tyler."

Two new members, W. Lee, and Miss Fanny Steers, bid fair to be valuable acquisitions. We have neither space nor inclination to find fault, and will say no more now than this, that when any of our readers want a pleasant occupation for an hour, they will find it in the gallery of either Society of Painters in Water Colours.

NOTES IN THE PROVINCES.

On Thursday, the 23rd ult., the ceremony of consecrating St. Catherine's Church, Bearwood, Berks, was performed by the Bishop of Oxford. The edifice is of the decorated Gothic style, designed by Mr. W. Good, jun., and executed by Mr. G. Baker. It consists of a nave and chancel; the former measuring 60 feet by 28½ feet, and the latter 20 feet by 18 feet. The west end is adorned by a tower of three stories, rising to the height of nearly 90 feet. The window in the organ gallery, which forms the lower story of the tower, and both the windows in the chancel, are filled with stained glass, by Mr. Wales, of Newcastle. The floor, both of the nave and the chancel, is paved with encaustic tiles. The height of the nave to the apex of the roof, which is open, is 48 feet. The cost of the erection, the endowment, &c., has been little short of 9,000*l.*, towards which Mr. John Walter, jun., contributed the rent-charge on his own property, and a pecuniary gift, amounting to about 2,500*l.* It is said that the builder, Mr. Baker, refused to accept any profit upon his work.——The *Manchester Courier* has lately been warmly advocating the erection of a cathedral in that town. It says:—"A cathedral might easily be built on a grand scale by merely a shilling subscription levied from the population of the proposed diocese. Let us return in this respect to the principle which exercised emulation in our forefathers. Propose even to the poorest man that he shall subscribe his shilling (by instalments if necessary) towards the building and endowment of a cathedral worthy of the town. Let his name be enrolled along with the munificent giver on parchment, and be deposited in the chest of the cathedral chapter-house. Could there be a stronger inducement to a pious poor churchman?"——At a meeting, held last week, of the Incorporated Society for Promoting the Enlargement, building, and Repairing of Churches and Chapels, grants were awarded for building five new churches at the following places, viz.:—Pansworth, Norfolk; Staplefield-common, parish of Cuckfield; a new district lately formed in Liverpool by the Ecclesiastical Commissioners; Cefn Nen, parish of Landwrog, near Carnarvon; and Tunstall, near Catterick, Yorkshire. Grants were also awarded towards the rebuilding of four existing churches, upon an enlarged scale, at Brimington, near Chesterfield; Weybridge, Surrey; Whitworth, near Rochdale; and Broad Chalk, near Salisbury.— A Gothic church is being erected at Fordington, near Dorchester. A local paper says the porch, which is formed of Ham-Hill stone (so are the cornices all round) is substantial, but light and neatly carved. The belfry is also similarly sculptured, and well secured. The interior is constructed after the ancient abbey style; the whole is lighted up by windows appropriately constructed to render the new temple of worship airy and cheerful. It will accommodate four hundred persons.——On Monday week, the Town Hall of Cashell fell with a frightful crash at the time while a public meeting was being held. Upwards of 100 persons were more or less injured thereby. Two have since died, two others are considered to be in a hopeless state, and forty-seven remain in the hospital. Further particulars of the casualty have not yet transpired.——On the 14th ult., the new parish church of Cowesby, near Thirsk, Yorkshire, was consecrated by the Bishop of Ripon. It is a Norman edifice of stone, with a tower and spire, and is calculated to accommodate one hundred persons. It has open benches of oak, the altar floor is laid with black and red tiles, the reading-desk and pulpit are both of white stone, from the Huddlestone quarries, and the roof, which has a pitch of 60 degrees, is covered with strong iron coloured slate from the Brignal quarry.—— A Gothic monument has lately been erected in the chancel of St. Saviour's church, York, to the memory of its late rector, the Rev. John Graham. The base is of English marble, highly polished. The upper part is of Normandy stone, elaborately carved, and surmounted by pinnacles with finials; the height of the whole being about 10 feet. The sculpture is by Waudby and Sons, of York and Hull, after a design by Mr. Sharpe.—— About fifty men are engaged in the works of the new Breakwater at Harwich, and 100 more will be added shortly. Some disappointment has been felt in consequence of the "first stone" of the structure having been laid without ceremony.——The long agitated question of a park at Weymouth, is in a fair way of being brought to a settlement, as the lessees and those renting under them were all served last week with chancery notices, to shew cause why the covenants of the original lease have not been carried out.——Last Thursday week, the foundation of a new meeting-house, for the Primitive Methodists, was laid in Limekiln-lane, Tranmere, Birkenhead, by Mr. Jobbling. Mr. E. Gerard, of Chester, gave 50*l.* towards the building. The edifice is to accommodate 200 persons, and the estimated cost is 300*l.* Messrs. Henshaw and Kemp are the architects and builders.*——The Duke of Devonshire has offered to the Chesterfield town council, as a free gift, the town-hall, in Chesterfield, and adjacent land, with additional buildings for the erection of a market-house, which would also prove a source of great convenience to the inhabitants for various public uses. The council have consequently empowered an architect to inspect the mass of buildings now on the proposed site, for the purpose of making plans, specifications, &c., which will be laid before the council at their next quarterly meeting.—— Last week a bricklayer, named William Mason, prematurely removed the props from a cellar arch under a new house in Hamilton-square, Birkenhead, and the mortar not being set, an immense weight of bricks fell upon him. He was taken out alive, but died in an hour from the injuries he had received.——Yesterday week the opening of the spacious dock at Ely, constructed by Messrs. Grissell and Peto, was celebrated. It has been since sold to the Eastern Counties Railway Company. It is capable, we understand, of accommodating eighteen or twenty vessels of 70 or 80 tons burden, and has a very convenient wharf, with side-rails on the next side of the main line of railway.——The Congregational Dissenters of Birmingham are about to erect a new chapel there, the cost of which is estimated at 4,000*l.* Towards this sum nearly 3,000*l.* is already subscribed.——The ladies of Bedford have it in contemplation to hold two bazaars in the course of this summer, for the purpose of raising sums in aid of the funds for rebuilding St. Cuthbert's, and enlarging St. Peter's churches.——The works of the Somerset Lunatic Asylum are now in a state of forwardness, the right wing and the centre are built, and the floors are being laid.——The works in connection with the restoration of Romsey Abbey Church, having been suspended for want of means, the Hon. and Rev. Gerard T. Noel, a few days since, received from a gentleman and his sister, total strangers to himself and the place, the handsome donation of 125*l.*, and from other sources subscriptions to the amount of nearly 50*l.* Many gentlemen in the neighbourhood who have previously subscribed, have also kindly expressed their intention of again adding to the fund.

The late Accident at Courrelles, Paris.—The nineteen workmen who were buried by the falling in of the tunnel at Courrelles, near Paris, were liberated on Easter Monday. The gully that was cut to reach them was about 120 feet in length, rather more than 3½ feet wide, and nearly five feet high. Twelve men were constantly at work, relieved every three hours. When rescued, the poor fellows had been thus buried alive for ten days. By means of a water course, which with some difficulty was kept open, air and food were supplied to them.

* We shall have something to say before long, on those who act thus in two capacities.

NEW HOUSES OF PARLIAMENT.

In the House of Lords a few nights since, the Marquis of Clanricarde, in moving for the discharge of an order of the day for an adjourned debate on the report of the select committee appointed to superintend the building of the Houses of Parliament, referred to a public statement of Mr. Barry, that the period at which their lordships would be put in possession of their new house would depend upon circumstances. His lordship expressed himself satisfied, that it might be completed by the commencement of the next session if due diligence were used. His lordship also referred to a rumour that, notwithstanding the compact which had been entered into with their lordships, that their house should be the first part of the building completed, it had been actually ordered that fifteen new committee-rooms should be first prepared for the use of the House of Commons.*

Viscount Canning denied that the House of Commons had directed the preparation of the rooms in question, but explained the urgent necessity that had arisen for their completion. There were nineteen rooms facing the river, which would shortly be completed, four of which would be at the service of their lordships. His lordship denied that the delay which had occurred had arisen from a squabble between Mr. Barry and Dr. Reid; it originated from the grave and deliberate consideration of the safety of submitting a building, which covered some eight or nine acres, to one uniform system of ventilation. Feeling, then, the apprehension which under such circumstances they ought to feel, her Majesty's Government had resolved to seek the assistance of three gentlemen whose position in society and whose professional acquirements would qualify them to form a sound opinion, and such an one as would enable the Government to act with safety. They had selected those three gentlemen, and given them instructions, which were as follows:—

"To consider and report how far it is practicable, and if practicable, whether it would be advisable, that such system should be extended to the whole building, including all subordinate offices and private residences contained therein, or whether the application of the system should be restricted to such portion as comprises the two houses of Parliament, their corridors, &c., or to a still more limited portion. To consider and to report whether there would be advantage in applying the system, so far as its application shall be deemed advisable, to different divisions of the building, separately and independently of each other. To ascertain and to report how far Dr. Reid's system of warming and ventilation is compatible, or can be made compatible, with rendering the building or the portions thereof to which it is applied, fireproof. And, according to the opinions which may be formed on the points abovementioned, to ascertain and to report how far such plans and information in regard to the building have been supplied to Dr. Reid, as are sufficient to enable him to furnish to the architect corresponding plans and information in regard to ventilation, or, if further information should be considered requisite for either party, to what extent and in what manner it should be furnished."

The gentleman to whom those instructions had been addressed were Mr. Hardwick, the architect of the new dining hall and library at Lincoln's-inn; Professor Graham, the professor of chemistry at the University of London; and Mr. George Stephenson, the engineer, a gentleman who, apart from his general scientific reputation, had given much attention to the subject of ventilation. At the first blush such a proceeding as this might be open to the objection that it involved unnecessary delay, but he asssured the House that the course adopted had not been resolved upon without mature and anxious deliberation. They hoped that in the course of a few days answers would be obtained, and if those answers should be at variance with the arrangements previously made, the particulars should, without any delay, be laid before Parliament.

Several noble lords, and among them Lords Brougham, Campbell, and Redesdale, expressed themselves in terms of unqualified approval of the course pursued.

* These rooms have since been opened.

The evidence given by Mr. Barry and Dr. Reid has been published, and has given an additional and heavy blow to the doctor's system.

FISHMONGERS' AND POULTERERS' ALMSHOUSES.

We have received a letter signed "W. H. Woodman," Reading, a competitor, containing an explanation of the fact stated by us, that a person was engaged in tracing one of the competition plans at the time of our visit. The tone of the letter is neither wise nor satisfactory, and might have provoked observations not gratifying to the writer of it. We nevertheless gladly extract the material part of it, being happy to find the committee cleared of a serious imputation. W. H. W., says—"In common with others, I received a printed letter from Mr. Hubbard, the hon. solicitor, requiring a guarantee from a respectable builder that my design could be executed within the stipulated sum, and having only rough originals of my plans in my possession, I wished for more accurate drawings to submit to a builder for him to estimate from, and I requested as a favour I might be allowed to make rough tracings of my plans, which was granted, as it would have been, no doubt, to any other competitor similarly circumstanced; and I had also to shew the committee how a building, according to my plans, could be enlarged if required, for which purpose I was obliged to have the exact situation of the windows, &c., as my plans are of a peculiar form."

The circumstance that he had the permission of the solicitor may have led the attendant to reply to us, as he certainly did, that the party engaged in tracing the plan was "from the committee."

REMUNERATION OF ARCHITECTS.

Sir,—It appears to me that the architects, or more properly the writers who complain in your journal, are themselves to blame. If their time and talents be valuable, why do they give them away, except from a desire to be generous. If the younger architects think it advisable to work for no remuneration in order as they may think, to make a connection, let them by all means do so, but they must not complain. I am inclined to think that many architects, especially the younger ones, indulge in the well known but very unprofitable sport of throwing a sprat to catch a herring; and in a true (cockney) sportsmanlike spirit, they throw the sprat again and again. At length they discover that what they considered sport is absolute toil, and, in disgust, they exclaim against all and every thing but the correct one. I will illustrate this sport:—

"My friend A. is about to build a church."

Architect.—"Oh, indeed; he has large landed estates I believe (*aside*) very suitable for building purposes."

"He has; I'll introduce you to him."

Our promising architect thinks of patronage, per centage, clerks' salaries, &c. &c. The looked for introduction duly comes to pass, and the architect at length arranges to submit a few designs of churches that he has (or has desired to have) superintended. Home he hurries, engages draughtsmen, fags hard, tells his friends what a good job he has, and away the drawings are sent to A. A few days after, he reads in your journal, perhaps, that on "—— the first stone of —— church was laid, and"—What then? why the exclamation follows, "My time and talents have been employed, and not remunerated; how shameful."

There are no professional men so officious in giving their opinions, so anxious to give their services unasked and unrequired, as the younger architects—generous over much in giving advice, no doubt hoping "that it may lead to something."—I am, Sir, yours, &c.,

April 27th, 1846. Alpha.

Smoke Prohibition.—Sir Henry De la Beche, and Dr. Lyon Playfair have made their report on this subject. We shall take an early opportunity to refer to it.

Fonthill Abbey.—The public are for the present excluded from the abbey grounds in consequence of the alterations and repairs in progress.

INSTITUTION OF CIVIL ENGINEERS.

April 21st.—Sir John Rennie, president, in the chair. The discussion was continued upon the improvement of rivers. Mr. Bald gave at great length his views on the works of the Clyde, and particularly drew attention to the tidal flow, that no obstructions should be given to it; he entered into considerable detail regarding the deepening and improving of the river Clyde, the number of shoals which had been cut through or dredged up, and the stone boulders which had been removed from the bed of the channel between the years 1839 to 1845. Particular attention was drawn to the necessity of the removal of all obstacles which impeded the tidal flow from the ocean, into the higher channels and recesses of the Clyde. Reference was made to the effect of similar works on British and foreign rivers, and also to the opinions given in the reports of the several engineers who had been consulted. He particularly drew attention to the restriction of the capacity of the channel on the north side of New Shot Isle, which he contended would have the effect of diminishing the tidal flow, and causing the present south channel to be silted up. The whole details were given, of the plans adopted during the last six years for deepening the Clyde from Port Glasgow to Glasgow harbour. The observations concluded that in 1755 Smeaton found the Clyde on the Hunt shoal could only float vessels drawing 3 feet 3 inches up to Glasgow harbour, while the present navigation had been so improved, that ships drawing 17 feet 9 inches of water sail up to Glasgow, and a case was mentioned of a ship drawing 19 feet having ascended the Clyde last summer.

Tuesday, April 28th, 1846. Sir John Rennie, president, in the chair. The discussion upon the improvement of the Clyde navigation was renewed by a statement from Mr. Atherton, formerly resident engineer of the Clyde, under Mr. Telford. He gave a brief exposition of the past history of the Clyde navigation from the time when the only craft on the river was a few herring-boats, and the water was suffered to overflow a wide extent on either side of the channel, converting it into an extensive morass. He then gave the various projects for improving the navigation; Smeaton's design for a lock on the main channel, which fortunately was never executed. To Rennie, it appeared to be universally admitted, must be attributed the credit of propounding the general principle of the Clyde improvements which were commenced under him, and were so successfully continued by Telford and others. Rennie's principle was, that the whole surface waters of the river should be brought within definite limits; that in the lower parts, these limits should be very spacious, but gradually and equally diminishing upwards, not by sudden *intakes*, but by gradual convergence of the restricted width. By this principle, the current of the land-flood being concentrated, their power of augmenting the depth of the channel would have full opportunity of acting beneficially. It was also expected, that the rising tidal waters, entering between the widely-extended limits of the lower districts, would expend their momentum as they ascended the converging channel in raising the height of the tidal wave, and produce an effect analogous to the extraordinary elevation attained by the tides in the Severn, in consequence of the gradual convergence of the shores of the Bristol Channel. Thus the land-floods and the sea tides were to combine in producing useful effects, the velocity of the former in deepening the channel at low water; the latter in preserving or continuing the surface of high water even to Glasgow at the Estuary level. The difficulty was in commencing the works without funds; they were, however, begun in an economical manner, by running out jetties of fascines of wood and stone, from the opposite sides of the river, so as to bring the channel within certain limits.

The effect of these jetties was to commence the deepening of the channel by increasing the scour. Owing to the increase of manufactures and of the iron and coal trade, at Glasgow, shipping began to frequent the river; the port dues were kept low; and an annual revenue commenced. Greater exertions were made to increase the facilities for admitting ships of

greater draught. Telford followed in Rennie's footsteps by uniting by stone dykes longitudinally the extremities of the projecting jetties; steam dredging boats were employed to cut away the shoals, and diving-bells to remove the rocks which impeded the free current of the stream. Walker followed the same course, and the result was, that the depth of water was so increased, that instead of only being capable of receiving fishing boats of a draught of water of under six feet, vessels drawing seventeen feet were tugged by steamers to Glasgow Quays, and the annual revenue of the port at present exceeded 50,000*l.* The speaker proceeded to comment with eulogy upon the proceedings of the Clyde trustees and their engineers, and dissented from the views of the Tidal Harbour Commission in their recommendation of opening up the river for the free admission of the tidal waters, so as to cause them to act by reflux; which, it was contended by the speakers generally, would not be so effective as continuing to improve the channel, and persevering in the same course which had hitherto proved so effectual. Some discussion ensued as to the propriety of some measures adopted in certain parts of the river; but it appeared generally admitted, that the works so wisely conceived had been very ably conducted, and that the results were to render the Clyde a model for works under similar circumstances.

YORKSHIRE ARCHITECTURAL SOCIETY.

On Thursday, the 16th inst., the Yorkshire Architectural Society held its quarterly meeting in York, which was more numerously attended than usual. The Hon. and Rev. W. Howard, rector of Whiston, near Rotherham, took the chair, which was afterwards filled by the Ven. Archdeacon R. J. Wilberforce.

The Rev. Joshua Fawcett, one of the hon. secretaries, read the minutes of the last meeting, after which the committee proceeded to pass several resolutions dependent thereon. The following grants were made:—5*l.* towards encaustic tiles in Lund Church; 5*l.* for carved work in the chancel of Martin Church; 5*l.* towards a font for Cottingwith Church; 20*l.* towards restoring the nave roof of the parish church of Bradford, &c.

The Hon. and Rev. W. Howard gave notice, that at the next meeting he should move for a grant towards the erection of a chapel in connection with the Training and Yeoman's Schools, York. The question of the chapel seemed to meet with unanimous approval, and we trust will receive that measure of support to which it is so justly entitled.

The committee passed a vote, offering the society's room for the use of the Archæological Institute of Great Britain and Ireland, at their next meeting in York in July, and also fixed the period of its own meeting cotemporaneous with that of the Institute.

After the business of the committee had been transacted, a paper on "The Church of Bolton Perry," was read by Mr. Robert Sharp, architect. It was illustrated by some beautiful drawings. Thanks having been presented to Mr. Sharp, and the Ven. Archdeacon Wilberforce for his kindness in taking the chair, the meeting separated.

LIST OF NEW PATENTS

RELATING TO ARCHITECTURE, ENGINEERING, &c GRANTED FOR ENGLAND.

Furnished by Mr. A. Prince, of the Office for Patents of Inventions, Lincoln's-inn Fields, London.

[SIX MONTHS FOR ENROLMENT.]

John Samuel Templeton, of Sussex-place, Kensington, artist, for improvements in propelling carriages on railways, and improvements in propelling vessels. Feb. 27.

William Nairne, of Millhaugh, Perth, North Britain, flax spinner, for a new mode or new modes of propelling carriages along railways. March 11.

George Hinton Bovill, Millwall, and Robert Griffith, Havre, France, engineers, for improvements in apparatus applicable to the working of atmospheric and other railways, canals and mines, and in improvements in transmitting gas for the purpose of lighting railways and other places. March 11.

John Benfield, of Birmingham, Warwick, organ-builder, for certain improvements in signals and communications on railways, and between railway-engines, carriages, and trains, which are also applicable to other localities. March 11.

Henry Austin, 10, Walbrook, London, civil-engineer, and Joseph Quick, Summer-street, Southwark, Surrey, engineer, for improvements in the construction of railways, railway-carriages, and conveyances. March 11.

John Haskins Gandell, and John Brunton, of Birkenhead, Cheshire, civil-engineers, for an improvement in the construction of, and in the mode of opening and closing of moveable bridges or arches for the purpose of carrying railways, tramways, or other roads across canals, locks, docks, or other open cuttings. March 25.

Thomas Pope, of Kilbrooke, Kent, gentleman, for improvements in apparatus for moving railway carriages on to railways, and in machinery for lifting and moving heavy bodies. March 25.

Louis Serbat, of Saint Soulve, in the department of the Nord, in France, chemist, for a new method of constructing the roofs of houses, buildings, sheds, and all other erections. March 25.

Edwin Cotterill, of Birmingham, manufacturer, for certain improvements in articles applied to windows, doors, and shutters, part of which has been communicated to him by a certain foreigner residing abroad. March 25.

John Ainslie, of Alperton, in the county of Middlesex, brick and tile manufacturer, for improvements in the arrangements for the manufacture of bricks, tiles, and other similar articles from clay and other plastic substances, and in the machinery or apparatus for the manufacture of bricks. March 31.

New Books.

Tables and Rules for facilitating the Calculation of Earth-work, Land Curves, and Gradients required in the formation of Railways, &c. By J. B. Huntington, C.E. London: Weale, 1846.

The labour of preparing this book, small as it is, must have been immense, and can be estimated rightly only by those who are engaged in the operations of which it treats.

The portion of the work devoted to the calculation of earthwork contains tables for all bases, between base 20 and base 36 inclusive, adapted to ten different slopes. The tables are followed by an essay on the Prismoidal Formula, and a full explanation of the use of the tables, with a digest of all the rules derived from the essay. Tables for calculating areas of land and areas of slopes are next given, accompanied by an explanation. Then follow a set of tables for calculating offsets to curves, and an explanation of its use, together with a short table to find the radii of curves, and rules relating to curves. Next to this comes a table of distances, and then a table of gradients, with the necessary explanation and forms of use. The work concludes with an essay on the power required on inclines, in which all the circumstances of friction, atmospheric resistance, gravity, loss of power round curves and by the action of the wind, are separately considered.

It will be found of the greatest service by all who are employed in setting out railways, calculating earthwork, or studying the science of civil engineering.

Correspondence.

TRAVELLING STUDENTSHIPS AT THE ACADEMY.

Sir,—I know for a fact that the successful competitor for the gold medal made application to the council to be permitted to become a candidate for the travelling studentship in architecture, and was refused, and still the painters, according to your statement, can overlook his claim, and elect one of their own body.—I am, Sir, yours, &c.,

A Subscriber.

Egg-shaped Sewers.—A correspondent has forwarded to us several statements of evils resulting from trapping, and decreasing the size of sewers. We will inquire into the facts.

Miscellanea.

Obstruction of Light.—Some time since we noticed the case of Roe *v.* the Marchioness of Westmeath, for having raised a wall adjoining her house some 20 feet, and thereby diminished the light of the plaintiff's house on the opposite side of the street. The verdict was for the plaintiff. Last week a motion was made for a new trial, upon the ground that the general law affecting the obstruction of light was qualified by the fact of the houses in question being situate on opposite sides of a street in the metropolis, and that the charge of Mr. Justice Erle upon this point amounted to a misdirection. Lord Denman said that the charge of Mr. Justice Erle upon the point was quite correct. The general principal upon the subject was, that one must use one's own property in such a manner as not to injure the property of another, and neither the metropolitan situation of the buildings, nor the intervention of a public highway between them, appeared to constitute any exception to that rule. The application for a new trial was therefore refused.

Railway Capital.—We learn from a statement made by the premier a few nights since, that in 1844, there were 37 railway bills, with a capital of 13,981,000*l.*, and authorised to raise by loan, 4,007,000*l.*; in 1845, there was 118 bills, the capital 45,844,000*l.*, loans 14,644,000*l.*; and the total, up to the 11th of April last, were—English, 369 bills, capital 184,700,000*l.*, loans 58,000,000*l.*; Scotch, 107 bills, capital 28,500,000*l.*, loans 9,500,000*l.*; and Irish bills 43, capital 18,102,000*l.*, and loans 5,000,000*l.*—making a grand total of 519 bills, with a capital of 231,302,000*l.*, and empowered to raise afterwards by way of loan the sum of 72,781,000*l.*, making a total of capital and loans to be raised by bills pending this session, of 304,000,000*l.*

Royal Exchange.—The merchants were much pleased on Tuesday to perceive symptoms of the removal of the asphalte, which has hitherto acted somewhat like a sponge, after rain, to retain the wet until the hour of 'Change. The Gresham Committee is about to restore the Dutch pebbles with which the old Exchange was paved, and which have, fortunately, been preserved.—*Globe.*

City Improvements.—The city authorities have determined, that a corner of Charlotte-row, in the Poultry, where a house stood a little while ago, and where another is being built, shall be purchased (the extent is six feet), in order to improve the neighbourhood of the Mansion House. The sum to be given for the six feet of corner, which will of course, be rounded, is 800*l.*

Thames Improvements. — Mr. Young, the secretary of the treasury, has given notice of his intention to introduce two bills, one of them relating to the new Royal-park at Battersea, the other to the construction of an embankment on the north shore of the river from Battersea-bridge to Vauxhall-bridge. It is much to be feared that the session will be allowed to pass away without any effectual steps being taken.

Railway Levelling.—An ordnance surveyor, named Jean Baptist Crachienne, last week, in giving evidence before the Bail Court, stated that any man can acquire the knowledge of levelling in ten minutes! that he had received as much as 10*l.* per mile, and that he could level from seven to eight miles per day. Mr. Justice Coleridge remarked, that it was somewhat heavy pay for work so easily learned!

Welch Slates.—Whilst Valentia slates, from Kerry, are used for roofing in the new palace at Westminster, Welch slates are being used in the construction of a Romish cathedral within forty miles of Valentia.

New Club House.—It is stated that the Army and Navy Club have lately determined upon building for themselves, a more suitable and convenient building than that in which they are at present lodged.

Strike in the Building Trades.—The differences between men and masters are unfortunately, not yet healed, indeed a satisfactory termination of the dispute seems as distant as ever.

Warwickshire Antiquities. — Mr. M. H. Bloxam last week, read a paper before the Warwickshire Natural History and Archæological Society upon the ecclesiastical antiquities and sepulchral monuments in that county.

FISHMONGERS AND POULTERERS' ALMSHOUSES.—At the moment of going to press, a letter from Mr. Recknell, the secretary, reached us, to the same effect as the communication upon the subject which appears in another part of the journal. We learn from it that the selected designs are by (1) Messrs. Mee and Webb, (2) Mr. Woodman, and (3) Mr. Elmslie. Further, that the committee were assisted in coming to a decision by Mr. George Smith, of Mercers' Hall, and other architects.

ARTISTS AND ART-UNIONS.—On Monday evening last a meeting of artists was held at Willis's rooms, St. James's, to agree upon a petition to Parliament to legalize art-unions permanently. Sir W. C. Ross, R.A., was in the chair, and the meeting was very numerously attended.

HUNTINGDON.—The new church at Huntingdon, erected by Lady Olivia B. Sparrow, under Mr. W. G. Habershon, architect, is just completed, and will be consecrated on Saturday next, May 2nd.

MEETINGS OF SCIENTIFIC BODIES

During the ensuing Week.

MONDAY, May 4.—British Architects, 76, Grosvernor-street, 8 P.M. Anniversary; Chemical (Society of Arts), Adelphi, 8 P.M.

TUESDAY, 5.—Civil Engineers, 25, Great George-street, 8 P.M.; Linnean, Soho-square, 8 P.M.

WEDNESDAY, 6.—Society of Arts, Adelphi, 8 P.M.; Geological, Somerset House, 8½ P.M.; British Archæological Association (Western Literary Institution, Leicester-square), 8½ P.M.

THURSDAY, 7.—Royal, Somerset House, 8½ P.M.; Antiquaries, Somerset House, 8 P.M.; Royal Society of Literature, 4, St. Martins-place, 4 P.M.

FRIDAY, 8.—Royal Institution, Albemarle-street, 8½ P.M.; Philological (London Library, 12, St. James's-square,) 8 P.M.

NOTICES OF CONTRACTS.

[We are compelled, by the interference of the Stamp Office, to omit the names of the parties to whom tenders, &c. are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent Garden.]

For supplying the Commercial Gas Light and Coke Company, Stepney, with from 150 to 200 tons of cast-iron socket pipes from 1½ inch to 6 inch.

For the supply of three luggage locomotive engines and tenders to the Huddersfield and Manchester Railway and Canal Company.

For lighting the public lamps within the City of London, with gas for one year.

For the construction of an iron roof to retort houses and other buildings for the Sutton, Southcoates, and Drypool Gas Company, Hull. Also for excavating and building a tank with brick 62 feet by 18 feet deep, and various other works.

For the execution of works in connection with the restoration of Worksop Church.

For the erection of the new town-hall council rooms, market house, &c., in the borough of Dorchester.

For supplying the Government stores at Deptford with staves and iron hoops.

For supplying the Dublin and Belfast Junction Railway with carriages.

For the execution of works on the Ely and Huntingdon Railway.

For the execution of works on the London and Blackwall Extension Railway.

For building a sewer along Upper Gower-street, to the New Road, St. Pancras, being in length about 950 feet.

For the construction of the masonry, &c., of the Conway Bridge, for the Chester and Holyhead Railway Company.

For the execution of works on the London and Blackwall Extension Railway.

For the execution of works on the Syston and Peterborough branch of the Midland Railway. They are divided into two contracts. The lengths respectively are 4 miles 60 chains, including a tunnel of 750 yards, and 9 miles 40 chains.

For the construction of the various stations and other buildings from Cowton to Richmond, Yorkshire, for the Great North of England Railway Company.

COMPETITION.

A premium of twenty guineas is offered for the most approved design, comprising plans, sections, and elevations for an hotel, to be built at Rugby, Warwickshire (?)

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At the Sheaf Inn, Bewdley: 181 oak timber trees now growing. They are of great length.

On the Titherley Estate, near Salisbury: a large quantity of capital oak and ash timber trees with lop, top, and bark.

At Barking, Essex: 35 capital oak, 60 fine elm, and 12 excellent ash timber trees.

At Paddington, near Chester: above 400 oak and 300 ash timber trees now growing. They are of large dimensions and of excellent quality.

At Woodford, Essex: 20,000 feet of oak and teak boarding, in useful lengths, &c.

At Wheatley, near Doncaster: a large quantity of larch trees of good dimensions.

At Stradbroke, Suffolk: 73 ash timbers, varying in size from 20 to 50 feet, and very clean; also 3 capital elms.

At Weybrook, Derby: 110 capital clean oak timber trees, large elms, and 50 excellent ash timbers.

TO CORRESPONDENTS.

"Professor Willis's Lectures."—We are compelled to postpone our notice of the second lecture till next week.

Rev. R. Burgess, on Triumphal Arches."—Much against our will, this too, through accident, must be kept back till our next.

"Juvenis," and *"A Young Architect."*—Rickman's "Attempt to Discriminate," &c., and "Parker's Glossary of Architecture."

"A. B. C."—There is no such work. Let him study Mr. Hosking's "Treatise on Architecture," and the books last named, and he will get a general view of the subject.

"R. O."—Information on the use of concrete for foundations will be found in the last volume of THE BUILDER. For fuller particulars see essay in "Transactions of Institute of Architects," part I. Tredgold's "Carpentry" gives tables of scantlings.

"A. Brown."—We cannot advise as to emigration.

"Lover of Fair Play" (Compensation), shall appear.

"J. J. S."—We shall be glad to receive the dimensions kindly offered.

"J. R." (Brighton), must pardon our accidental silence.

"Velocity of Running Water."—Reply to "Constant Reader" next week.

"A. J. G." says nothing new.

"Brick-making."—A correspondent asks what machines there are in use for making bricks, drain-tiles, and pan-tiles. How many of each can be made in an hour by the most approved machine, and what is the probable cost of the machines.

"Amicus."—We shall be glad to hear from him when the church is consecrated

"X. Y. Z."—A clerk of the works is paid for by the employer, irrespective of the architect's commission of 5 per cent.

"Forester."—The landlord should have been consulted previously. He may refuse payment.

"G. W."—The parliamentary report on choice of stones, is, we believe, out of print.

"X. Y."—For contents of party-wall, measure from the *outside* face of the two external walls.

"G. W. R."—Tredgold makes the safe practical permanent load, to that which produces fracture, as 1 to 3 and one-third, but it is usual to load a beam to only one-fourth of its ultimate strength.

"E. S."—We will endeavour to visit the manufacturer.

Next Week.—"G. F. J." (York), "W. D.," "Rev. J. F.," "Dr. Guthrie."

Received.—"Humanitas," "R. T."

ADVERTISEMENTS.

BRICK MACHINE.

JONES'S PATENT MACHINE is acknowledged by old-experienced workmen to turn out far superior Bricks to what can possibly be done by hand. Expedition and cheapness guaranteed. They are moulded stiffer, put in the walls at once to dry, and will bear two high a day. So that nearly double the quantity is in process of drying, and consequently less covering required. Contracts for brick-making, by machines, entered into, and licenses granted.—Apply to EDW. JONES, Queen's Wharf, King's-road, Camden Town.

PAVING, 2s. 9d. PER SQUARE YARD Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27s. 6d. per ton.

TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorized CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Aiphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced. I. FARRELL, Secretary.
Stangate near Westminster Seyssel Asphalte Company.
Bridge, Jan., 1845.

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

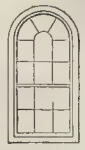
Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

BUILDERS and the PUBLIC about putting in NEW WINDOWS or altering old ones, should inspect HERRING'S new PATENT SASH, before they go to any expense, which is universally being adopted in town and country.—Exhibited daily at the Patentees, 14, Kingsgate-street, Holborn, also at JOHNSON and PASK'S, Sash-makers.

PATENT WINDOW BLINDS.

TYLOR and PACE manufacture every description of WINDOW BLINDS entirely upon their own premises, by the aid of steam machinery, insuring the best materials and workmanship, at the lowest cost. Patent metallic gauze and perforated Zinc Blinds, in mahogany frames, at 1s. 8d. per square foot; ditto, in metal frames, 1s. 2d. per square foot. A large and choice assortment of Transparencies, mounted, from 19s.; Holland Blinds, on plain or spring rollers, Outside Shades, Venetian and Sun Blinds of every description.
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SHOP FRONTS, SASHES AND FRAMES, DOORS, &c MADE FOR THE TRADE.



JOHNSON & PASK,
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Beg to state that they continue to make Sashes, glazed complete, at 10½d. per foot; also, Shop Fronts to any design, and with the best British plate-glass. Every description of joinery on the lowest terms, and of the best materials and workmanship.

A full list of prices forwarded by return of post to any part of the country.

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ONE WORD with you, and Take Notice, should you want SASHES and FRAMES, go to that Noted Cheap Sash and Frame Manufacturer to the Trade,



R. BOOTH,
No. 5, GIBSON-STREET,
LAMBETH,



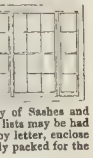
Where you can have Sashes and Frames made and glazed at 1s. 2d. per foot supr.; Shop-fronts of every description; greenhouses, doors, and shop-fittings manufactured equally cheap.—For further particulars apply as above (prepaid), inclosing a postage-stamp. Country orders punctually attended to. Terms for Cash only.
N.B. The Cheapest House in London for all kinds of fittings.

TO BUILDERS AND CARPENTERS.

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Sash Maker and Joiner to the trade, 121, Bunhill-row, returns thanks for the liberal patronage awarded him, and begs to announce he has devoted a portion of his extensive premises to the sale of ready-made Doors, of which he has upwards of 400 always on view, and a variety of Sashes and Frames on the lowest scale of prices. Full lists may be had on application at the counting-house; if by letter, enclose postage stamp.—N.B. Glazed goods securely packed for the country.



PAINTED GLASS.

THE Subscribers, who have been appointed to furnish the PAINTED GLASS for the WINDOWS of the HOUSE OF LORDS, are ready to prepare Designs adapted to every style of Ecclesiastical or Domestic Architecture, and to execute Work, to any extent, within the shortest possible period.
BALLANTINE and ALLAN, 42, George-street, Edinburgh.

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CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

FOREIGN SHEET GLASS, TILES, &c. —The cheapest, stoutest, and best quality imported and sold at C. JARVIS'S old-established WINDOW GLASS WAREHOUSE, 38, Great Castle-street, a few doors from Regent-street. Crown Glass from 50s. per crate. Squares cut to size equally low in price. Sashes glazed on the lowest terms. Country orders forwarded with reference will meet with prompt attention. The largest discount allowed off all descriptions of glass for ready money only.

SASHES primed, glazed, and sent to any part of London at 6d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.

FOREIGN SHEET 5d. per foot.
BRITISH CROWN 5d. per foot.

Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Shew-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.

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VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.

For complete lists priced.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

FOREIGN SHEET GLASS, in Cases as imported.

	Common.	Second.	Best.
Under 1 ft. 0 in. superficial	3½	4	5
1 ft. 0 in. „ 3 ft. 0 in. „	4	4½	5½
3 ft. 0 in. „ 4 ft. 6 in. „		5	6
4 ft. 6 in. „ 6 ft. 0 in. „	4½	5½	7
6 ft. 0 in. „ 9 ft. 0 in. „	4½	6	8

THOS. MILLINGTON has always a large stock in hand, and receives weekly large supplies: T. M. is nearly the only real importer.—Address, Thos. Millington, 87, Bishopsgate-street Without, London. Dealer in all kinds of Plate, Sheet, and coloured Window Glass. Manufacturers of Paints, Varnishes, and Colours.

An immense stock of Varnish, very old, &c.
Fine Oak Varnish, 10s. per imp. gal.
Fine Carriage..... 12s.
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No charge for cans if taken in quantities of 6 gallons.

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Best Patent Cut Clasp.

3d.	4d.	6d.	10d.	20d.
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Best Sheet Cut Floor Brads 10s. per cwt.
Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Steves, 3d. per inch. Registers, 6d., 7d., 8d. per inch.
Self-acting Kitchen Ranges with Oven and Back Boiler.
Wrought Bars and Bright Fittings.

3 ft., 3l. 3s.	3 ft. 6 in., 3l. 12s. 6d.	4 ft., 4l.

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R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3l. 6s.	3l. 12s.	3l. 16s.	4l.	4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5l.	5l. 15s.	6l. 5s.	6l. 10s.	7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 3½d., and 4d. do.
Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.
Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

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THESE RANGES are especially suited to Hotels, Clubs, and large Private Families, since they combine the most complete facility for roasting even the largest joints with great economy of fuel and perfect simplicity of management. They are manufactured by

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and have been erected by them in the kitchens of many of the nobility and gentry; amongst others are those of the Earl Fortescue, Earl of Liverpool, Lord Foley, Sir Edward Baker, Bart., Mrs. Drummond, Edward Elice, Esq., M.P., W. Marshall, Esq., M.P., J. Attwood, Esq., M.P., H. A. Herbert, Esq., T. M. Goodlake, Esq., R. Marsham, Esq., Rev. Mr. Barnard, Rev. Mr. St. Aubyn, &c., &c., and also at the Reform Club House.

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BUILDINGS HEATED by HOT WATER on the most secure and efficient principles.—MANUFACTORY and SHOW ROOMS, 19, Wigmore-street, Cavendish-square, London.

WROUGHT-IRON BACK BOILERS for RANGES, and Boilers for Steam and Hot Water purposes of every description, made and repaired on a short notice. Wrought-iron Patent Welded Tubing for Hot Water, Steam, or Gas, with the requisite fittings constantly on hand. Composition Pipe of extraordinary long lengths for interior fittings, affording a great saving in joints—at WALBY'S DEPOT, 59, Greek-street, Soho, six doors from the square.—N.B. A quantity of Back Boilers, &c., various sizes, kept in stock.

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F. A. TIDDEMAN, Purfleet Wharf, Earl-street, Blackfriars, keeps an assortment of Stocks, or Mouth-pieces; Plates, Furnace-bars, Top and Fall Pieces, Stoppers, Chimney Heads, Outside, and Ashpit, Doors and Frames, Boilers and Frames, Lamps, &c. &c.; all of the best description, at very moderate prices. —CAST-IRON UPSETS.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 168, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

IRON BRIDGES, PIERS, &c.

*** For the Numerical Explanation of DREDGE'S PRINCIPLE, see the "Mechanics' Magazine," No. 1172.

THIS system removes from the Arch to the horizonal line the horizontal force of the whole Bridge, which makes the roadway as powerful as the arch itself, and the arch, with half the material, more than double its original power. The pressure on the key-stone of the arch is the horizontal force of the Bridge, which acts directly on that point as a dead load of self-destruction; and it has thrown down, within the last eighteen months, nearly sixty arches of Viaducts and Bridges.

EXAMPLE:—The Menai Bridge, whose depth is 1-14th of its length, and the suspended weight 800 tons, its horizontal force is 2,800 tons of self-destruction on the centre; hence it would require but a small portion of the material and cost of that bridge to construct one over the Menai Straits on this plan, that would possess far greater power and stability than the present structure.

This principle has been fully tested nearly ten years, by the consrtuction of fifteen public bridges for the Government and others in Great Britain. It is also established in India.

Bath, 3rd April, 1846.

CHAS. GOODWIN, Plaster of Paris and Hair Manufacturer, 67, Great Guildford-street, Borough, is enabled to supply Plaster, Hair, &c., at the following reduced prices:—Coarse Plaster per ton 2l. 10s., Fine 3l. 10s., Hair 8l. to 10l. cash, at Manufactory. C. G. can also supply Architectural Ornaments of every description in a most superior style.

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PLUMBERS' BRASS WORK, WATER-CLOSET PUMPS, &c.—These articles require the greatest attention and care in the manufacture, and will be found superior and cheaper than any other manufactory. Best Pan Water Closets, 32s.; 2½ Lift Pumps and Planks, 4l. 10s. 0d.; 3-inch Pumps, 5l. 10s. 0d.; 2-inch Bib Ball and Stop Cocks, 2s. 4d. each, and every article in this branch equally low. Every article warranted.—Address, THOS. MILLINGTON, 67, Bishopsgate-street.

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THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

REDUCTION IN THE PRICE OF BUNNETT AND CORPE'S PATENT REVOLVING IRON SHUTTERS.

THE validity of this Patent being completely established, the Patentees have much pleasure in stating that the very extensive demand, and the employment of improved machinery in the manufacture, have given them an opportunity (of which they gratefully avail themselves) of making a considerable reduction in the price of this well-known and tried invention, thereby rendering them the cheapest as well as the best iron shutters in use. Every improvement suggested by practical skill and most extensive application has been adopted, and no effective REVOLVING IRON SHUTTER can be constructed without infringing B. and C.'s patent. The worm and wheel, as patented by them, being the only safe, durable, and efficient mode of raising and lowering such shutters, these shutters can be applied horizontally, either above or below the window, or vertically, as introduced by BUNNETT and CORPE, in some of the largest establishments: they are made with bent or corrugated laths, if required.

BUNNETT and CORPE also manufacture

REVOLVING WOOD SHUTTERS,

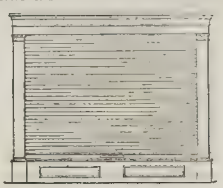
with their patent raising machinery, or with counterbalance weights, and with proper metallic hinges, without which no shutters can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop Fronts fitted in a superior manner with Iron Shutters, Patent Brass or Zinc Sashes, Moulded Engraved Stall Board Plates, best Plate Glass, and internal Brass Fittings of all kinds, on the most advantageous terms. Estimates given and contracts taken in Town or Country.—All kinds of metal works executed to any design. Metal Drawing, Rolling, and Stamping for the Trade. OFFICE, 26, LOMBARD-STREET, LONDON. WORKS, at DEPTFORD, KENT.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.

PATENT SAFETY IRON SLIDING SHUTTERS.





The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 118, Old Street, London; or at the Licensees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using BENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licenses Granted.

RAIN WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from ½ in. to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, and No. 6, Bankside, Southwark.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 20s. per gallon.

STEPHENS'S LIQUID OAK, MAHOGANY, ROSE, and SATIN WOOD STAINS, for Staining various sorts of Inferior Woods, so as to give them the appearance and character of the more costly and ornamental kinds; also for reviving the natural colour of Wood Carvings and Panellings, and other ornamental Wood Work, when such has become faded from age or other causes.

IN THE BUILDING AND DECORATING NEW CHURCHES, where it is desirable to give to the cheaper kind of Woods the appearance of Antique Oak, or to make Deal assume the character of Oak Panelling, whereby the effect of the more costly may be produced by the use of a cheaper material, these Stains will be found more effective than any means hitherto employed.

IN OLD MANSIONS AND HALLS, where the Wood Carvings and Panellings have faded, the applications of these Stains will be found to revive and bring back the rich natural colour, and which colour may be varied from the lighter to the deeper shades of the most Antique Oak.

The BIRCH WOOD, which has a fine natural grain, with little colour, is particularly suited to the application of these Stains; and the appearance which it assumes after Staining is so near that of the natural wood, that is is only when the grain and colour of the latter is particularly fine that it is preferred. Beech, Birch, Elm, Ash, and other Woods, English and Foreign, receive the Stains and produce various imitations.

For the exposed Timbers of the inside of the ROOFS of CHURCHES, for which north country Timbers and Deals are generally used, by brushing them over with the Stain, which operation is very rapidly, and of course economically, effected, the appearance of an Oaken Roof will be produced. For colouring the backs of the Seats, Pews, the fronts of Galleries, the Pulpit, &c., it is equally advantageous.

Prepared by HENRY STEPHENS, and may be obtained at 54, Stamford-street; at the Office of "The Builder," 2, York-street, Covent-garden, and in Manchester, at CRAKE'S MARBLE WORKS, Garratt-bridge, Davidstreet, at which places specimens of their application may be seen.

HOLBORN AND FINSBURY SEWERS, MIDDLESEX.

THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persons about to Purchase or Rent Houses or Property, or take Land for Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Persons to apply for at the above Office.

By the Court,
STABLE and LUSH, Clerks.

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDDLESEX, No. 1, Greek-street, Soho-square.

TO BUILDERS and Others interested in buildings or in ground for building upon, within the district under the jurisdiction of this Court, drained by watercourses falling into the river Thames, between the city of London and the parish of Fulham.

The Commissioners hereby give notice, that by an Act of the 47th Geo. III. (chap. 7, local) it is required that, previously to the making of any new sewer in any street, lane, or public way, or in any part intended to become a street, lane, or public way, or to carry or drain off water from any ouse, building, yard, or ground, into any sewer under their management, or within their jurisdiction, a notice in writing shall be given to them, or to their clerk at their office, and that such new sewer or sewers shall be constructed and made in such manner and form as shall be directed by the said Commissioners, and not otherwise.

And, in order to prevent the serious evils and inconveniences that must arise from ground proposed to be built upon being excavated at too great a depth, the Commissioners have directed that, upon application being made at this office previously to the excavation of such ground, information shall be given as to the lowest depth at which the same can be drained.

And the Commissioners do also give notice that, whenever the lower floors or pavements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any sewers, or drains into sewers, to be made for the service of such buildings.

It is recommended to all persons about to purchase or take houses, or other premises, to ascertain whether such premises have separate and distinct drains into common sewers.

All petitions must be delivered at this office at least three clear days before they are presented to the Commissioners; and all such petitions will be called on in the order of their application, and the names of any party not present when called on to support the application will be struck out, and the proceedings must in consequence be commenced de novo.

All communications made with any sewer without leave of the Commissioners will be cut off, and the parties making the same will subject themselves to a fine.

The provisions of the Metropolitan Buildings Act (7 and 8 Victoria, c. 84) do not supersede the authority of the Commissioners of Sewers in the above respects, but their powers are expressly reserved, and their regulations made subservient to the purposes of that Act. The execution of such works, under the superintendence of the district surveyor alone, cannot therefore warrant the making of any sewers or drains within this commission, nor relieve the parties making them from the penalties above mentioned.

By order of the Court,
LEWIS C. HERTSLET, Clerk.

The Builder.

No. CLXX.

SATURDAY, MAY 9, 1846.

THE present exhibition of the Royal Academy is unquestionably superior to anything seen there for several years past. The younger artists, aided and encouraged by liberal purchases last year, have striven to do better things, and the older and more established favourites, pressed on by rising competitors, have put forth their strength, and worthily shewn their right to the position they occupy. There are many pictures of singularly great merit, and very few which can be called bad.

This remark, we are sorry however, to say, does not apply to the architectural room, where, mixed with Medoras, Chevy Chases, and flaunting portraits in oil, appear about one hundred architectural drawings, many of which are representations of ancient buildings and time-honoured localities, such as "View of the Acropolis, at Athens," by F. C. Penrose (1155), "Temple of Theseus" (1158), and "Ruins of the Propylæa at Athens" (1350), by G. P. Kennedy (who has recently returned from Greece); "The Roman Forum" (1269), and "Ruins of the Parthenon" (1305), by F. Arundale, and "South Porch of North Welsham Church," by J. K. Colling, given in THE BUILDER a short time ago.

The only academician who exhibits is Mr. Cockerell, and the subject of his drawing will perhaps surprise many. It is a design for the sculpture of the pediment of St. George's Hall, at Liverpool, now erecting under the direction of Mr. Elmes. Britannia in the centre, with Neptune at her feet, is holding out the olive-branch to Mercury and the four quarters of the globe, one of whom, Africa, does homage for the liberty she and her children owe to her protection. On her right are her own productions: agriculture, sciences, domestic happiness, the plough, and the loom. The catalogue says, it is "composed upon the Greek system of the Parthenon and other examples, in entire statues, with symmetry of parts, and eurythmy of lines and quantities." It is very admirably arranged (no one has given more consideration to the architectural application of Greek sculpture than Mr. Cockerell has), and promises to produce a very satisfactory effect if carried into execution.

The most striking drawing in the room is by T. Allom (No. 1319), a design for improving the property on the banks of the Thames between London and Blackfriars bridges, with a view to a line of communication from them to the Houses of Parliament, thereby obtaining a good promenade and carriage way, and a frontage for shops and buildings. The execution of this drawing is quite marvellous. Mr. Allom also exhibits, besides others, a perspective view of the design for the Choristers' School, Magdalene College, Oxford, to which a premium was awarded (1247): an excellent design, not inferior to that adopted. J. M. Derick (the successful candidate for the last-named matter, if we remember rightly), exhibits a design for restoring Eton College Chapel, exemplified apparently by three drawings, 1288, 1290, and 1296. By some strange accident, two of these drawings are ascribed in the catalogue to Mr. John Shaw, one of the umpires appointed by the college, to decide on the drawings submitted in competition by a limited number of architects: Mr. Shaw's connection with the college makes it desirable that the mistake should be pointed out.

Mr. Cottingham exhibits a view of the garden front of Clifton Hall, Notts, as proposed to be completed (1306): a showy design in the style of the *Renaissance*.

Sharpe and Paley (a new and worthy conjunction, it would seem) exhibit views of Capernwray Hall, near Lancaster, and Knowsley Church, Lancashire. T. L. Donaldson has a view of Lambourn-place, Lambourn, Berks (1326), and the elevation of a design for an insurance office (1325), being an attempt to adapt the cinque cento style to the street architecture of the metropolis. D. Mocatta has several nice designs for villa residences, 1162, 1163, 1274, and 1292. E. B. Lamb has several clever designs, always appropriate and in good taste: J. Thomson, "Views of the Church of St. Margaret Leigh-de-la-Mere, Wilts," remarkable for its bell turret, and G. Tattersall several large drawings, amongst which may be noticed "Stables and Riding-house now erecting at Lady Kirk, Berwickshire." (1357.)

No. 1246, "Elevation of the new Theatre to be erected by Mr. Buckstone and a company of proprietors on the east side of Leicester-square," by F. C. J. Parkinson, is an indifferent transcript of the Haymarket theatre. The portico, consisting of four pairs of coupled Corinthian columns, and entablature, has the appearance of an after addition, and while all the main lines of the building are horizontal, all the openings have semi-circular heads. It is desirable that this theatre be made an ornament to the locality, and we hope as there is yet time, that the architect will be led to revise the designs.

Miss Peacock's "Pencil Views of Orleans Cathedral" (1165), and the "Church of St. Ouen" (1172) ought scarcely to,—but gallantry defends her. There is no such protector, however, for the drawing, 1230, called "Design for a Cathedral Church," by O. Jordon. Echo justly replies, Oh! Jordon.

1174. "One of the designs submitted to the grand jury of the county of Clare, for the Ennis Courts," by G. F. Jones, has claims for originality of treatment: the style is Italian, with campanili.

1217 is the "Lord Warden's Hotel and Pilot-house, now erecting at the South-Eastern Terminus, Dover," by S. Beazley. An effective feature is obtained by setting back the external wall of the house on the first floor and substituting columns.

No. 1226 purports to be "Hall of Commerce, her Majesty's Customs and Excise, recently erected from the designs of J. M. Clark," but says not where. The style is Tuscan, the materials brick and stone, and the result not ineffective.

1309 is the design for a National Record Office, by A. Johnson, to which the gold medal of the Academy was awarded, in December, 1845.

J. W. Papworth gives a perspective "View of a Design for a Metropolitan Public Building" (1320), displaying considerable skill.

There are drawings of several early pointed churches, amongst which may be mentioned "The New Congregational Church at Holloway," by J. T. Emmett (1166), "Church at East Crompton" (1289), by J. Clarke, and "St. James's Church, Seacroft," by T. Hellyer (1295).

ON TRIUMPHAL ARCHES.

BY THE REV. RICHARD BURGESS, B.D.*

I do not think we can properly assign the triumphal arch to any class of ancient edifices; the arch in Grecian architecture is, I believe, an accident: it does not belong to it: except in the case of a triumph, there was no idea connected with it above a common gateway. In ecclesiastical architecture it became most important, giving almost the very name and character to the style. In the Roman edifices the architects seem glad to be rid of it, a "fornix" was the most dignified appellation they chose to give it, and it was only when it rose to be a monument of martial glory that the name of *arcus* succeeded. Another feature in the triumphal arch was that it had no use; it stood across a frequented way with about the same detriment to the litters that moved along the narrow streets of Rome as Temple-bar is to the omnibuses; but it had a quality which that venerable relic of the Knights Templars can hardly boast of, it was at least ornamental; as the Roman passed by he could read upon its well sculptured bas-reliefs and medallions the exploits of successful armies; and if the constant sight of those enkindled a generous ardour in his breast, the arch of triumph might even have its use. You will, however, understand what I mean when I say it cannot be well classified. Temples, porticoes, theatres, basilicas, thermæ, all had their specific uses, and were all formed on general architectural principles with respect to those uses: the arch was an expedient for introducing trophies and history on marble, and the architectural design was subservient to the sculptor; but in the *placing* of the triumphal arch there was reason and consistency. The object of it was to receive the conqueror in state, coming home from his distant province, and while he was supposed to be passing under it, Victory crowned his head with her laurels. The Roman conqueror never moved in triumph but along the Via Triumphalis, it would therefore be an evident inconsistency to place a triumphal arch any where but across the way which led to the capitol, where the triumph ended in expensive sacrifices, and in depositing the treasures which the victor had collected, and hence we find no example of an arch of triumph made as an entrance to an ordinary building or to a palace. There was *regard* paid by the ancient Greeks and Romans to classical propriety, for it is not enough that you produce a perfect specimen of art unless it be so exhibited as to shew its aptness for the purpose designed.

> "Æmilium circa ludum faber unus et unguis
> Exprimet, et mollis imitabitur ære capillos,
> Infelix operis summa: quia ponere totum
> Nesciet,"

Having said thus much for the purpose of explaining the origin and meaning of triumphal arches, I shall now enumerate those that exist in Italy, and those we know to have existed, in chronological order.

1. The Arch of Drusus, or the Via Appia.
2. ,, [of Augustus, at Susa]; peculiar.
3. ,, of *Tiberius*, at the foot of the Clivus; (no vestiges remaining).
4. The Arcus Novus, or of Claudius, on the Via Flaminia; no remains standing.
5. The Arches of Trajan [at Ancona and Beneventum]; peculiar.
6. ,, of Titus, via Sacra Summa.
7. The Arch of Verus; all lost.
8. ,, of M. Aurelius; taken down, but some bas-reliefs remaining.
9. ,, of Septimus Severus.
10. ,, of Constantine.
1. ,, of Gordian; Via Flaminia.

Of those arches, omitting several others of less renown, only five will merit any description; but they almost all have an historical interest. Previous, however, to such description and historical account, it may be desirable to look at a triumphal procession, and see how, in those days, "the conquering hero came." The object of our modern great captains is to escape being seen; and, perhaps, nothing would so much annoy them as to be followed by a noisy train of applauders. The great object of ambition of the Roman general was to be seen in

* Read at the Institute of British Architects, 20th April, 1846.

his triumphal entry into the city. If the senate decreed a triumph, the happiness and glory of the hero were complete; and so eager were the first men of the age to gain this honour, that if they were denied a triumph into Rome, they accepted a minor distinction, and took their procession upon the Alban Mount. The triumphal way may still be traced, ascending to the site of the Temple of Jupiter Latialis; and we can still read the letters N. V.; *i.e. Numinis Via*, upon the ancient basaltic pavement. After the emperors had concentrated all the power of the senate and people in themselves, they still chose to exhibit themselves to the admiring citizens in a car of triumph. We have a description of one of these processions left us by Vopiscus; it refers to the triumph of the Emperor Aurelian. It probably exceeded many others in magnificence and painful interest, but the description will answer for them all. "The procession," says Gibbon, "was opened by twenty elephants, four royal tigers, and above two hundred of the most curious animals from various countries; they were followed by 1,600 gladiators, devoted to the cruel amusement of the amphitheatre. In the gorgeous train were displayed the wealth, the arms, and ensigns of the conquered nations, together with the magnificent plate and wardrobe of Queen Zenobia; ambassadors from remote parts of the earth, remarkable for their rich and singular costume," and the Queen of Palmyra herself in golden fetters, followed in the conqueror's wake. Crowns of gold and presents from grateful cities were exhibited to the multitudes, and a mournful train of captives, with heads downcast, attended the triumphal car. The conqueror was drawn by stags, or horses, or elephants, according to his taste, or with reference to the productions of the climate where his victories had been won. The most illustrious of the senators, the people, and the army closed the procession, and the acclamations of the multitudes rent the air with the shouts of victory. There were priests and ministers of the gods to perfume the air with aromatic scents, and to mingle their pompous solemnities with the jokes and jibes of the populace; sets of trumpeters and pipers enlivened the whole length of the slow-moving line; drums and tambourines and gingling standards stunned the ears of the gathering crowds, banners were reared on high, and on them were inscribed the names of the conquered tribes; on others were enrolled the number of pitched battles and victories, the number of cities stormed, and of strongholds captured, and other details of the war; so that all might know without any further inquiry, what the conqueror had achieved and what were his pretensions. St. Paul taking up this latter idea, turns it to the illustration of the peaceful triumphs of the cross, when he says "Now thanks be unto God which always causeth us to triumph in Christ, and maketh manifest the Savour of his knowledge by us in every place." But the most painful circumstance attending those imperial shows was the unrelenting cruelty which they mingled with the delirious joy: the chiefs or kings of the conquered tribes were compelled to follow on foot the car of triumph, and hence the phrase "to be led captive:" at a fixed place the procession stood still for a few moments, this was to allow time for the captives, who were led aside on arriving at the foot of the capitol, to be put to death in the Mamertine prison; an inhuman shout announced that the foe was prostrate, and then "the car climbed the capitol," the spoils were deposited in the shrine of Great Jove, and the sacrifices were offered with all the apparatus of a heathen ceremony. Orosius enumerates 320 such triumphs as these before Rome fell, and in every one of them a prince or a ruler with other chief captives, were put to death; the conqueror was supposed to be honoured by the sacrifice of human life, and he whose hopes of a heavenly triumph were none, eagerly seized the vain pomp and glory of the world as a substitute. "Alas! the lofty city, and alas! the trebly hundred triumphs." Whatever may be our victories, at least we have done with the insolence of conquest, and the successful general who best knows how to use his victory with moderation, gains the most splendid triumph in the hearts and affections of a free and religious people. The triumph is, as Paul saith, in the cross, for Christianity has unrivetted the fetters of the captive when there is no longer any need he should wear them for the public safety.

In order to concentrate our subject upon the triumphal arches in Rome itself, I shall begin by disposing of the monuments I have enumerated in other parts of Italy: and with reference to the observations already made upon the proper positions for arches of triumph, I shall shew that those of Augustus and Trajan were not of that character, but were monuments or records of facts. The arch of Augustus exists at the ancient city of Susa, which is situated on the Minor Dora stream, at the Italian foot of the Mont Cenis: the road across which it stood was the Via Cottiana, leading from the Cottian Alps to Turin, and it was characteristically called the Gate of Italy. The dominions of King Donnus were reduced to the form of a Roman province in the time of Augustus, and his son Cotius was allowed to succeed his father with the title of prefect; he erected this arch to the honour of his patron, and on the inscription we find no less than fourteen Alpine tribes, over which the prefecture of Julius Cotius extended; the arch is built of marble, its ornaments are much injured and some have been taken away; they are not properly of a triumphal description, for the arch, as I have said, must be regarded rather as a monument in honour of Augustus, than as a record of his victories. Augustus having obtained real power, was not anxious for any conspicuous displays of it; the arch of Susa was a monument of peace, and if it was erected on any occasion it was probably when the emperor was returning from visiting the provinces of the Transalpine Gaul, and it may be likened in character to those rustic efforts which are sometimes made, to bring our beloved Victoria under an arched bower, whenever she can find a few miles of legitimate road unconnected with either the broad or the narrow gauge.

The arch at Ancona occupies a position which may seem at first sight, to militate against our theory, for certainly an arch on a pier can in no wise be considered as made for a triumphal procession; but we learn from the inscription still legible upon it, that it was an honorary, and not a triumphal monument. It was erected to Trajan on the occasion of completing the port of Ancona. The senate and the Roman people returned the emperor solemn thanks for having facilitated the entry into Italy. The arch was erected in the nineteenth year of Trajan's reign, A.D. 116. It is of small dimensions, built of white marble, and consists of but one opening, which is only nine feet ten inches in width, and, therefore, not intended for a carriage way. It has no enrichment on the marble except the capitals and key-stone: all the mouldings are plain. It bears so much resemblance to the Arch of Titus in its general disposition, that I shall not detain you with attempting any further description, except to remark that, owing to the elevation of the mole or causeway, which has occasioned the arch to be built on a basement, it has an extraordinary height when viewed from the bay; in other respects its proportions are conformable to general principles. On the top, as we learn from a medal, were placed the statues of Trajan, of his wife, Plotina, and of his sister Marciana; but whereas in a triumphal arch the statue of the emperor would have been equestrian, or seated in a car, we find here it was not so, but a simple statue, shewing it to be a civil monument. I have been anxious to establish the distinction between what I would designate triumphal and honorary arches; and the propriety of position is this, that where they are triumphal, they are placed over the Viæ on which the procession moved; and where honorary, they are erected where the works or deeds were done which they profess to commemorate; in all other positions they are gateways, and such were the arches of Gallienus, and of the consuls Dolabella and Silanus, now existing at Rome, to which we may add the small arch of the Goldsmiths, erected in honour of Septimus Severus and his sons; it served as a passage into the Forum Boarium.* The Quadriform Arch was nothing more than a shelter in a quadrivium, or open space, under which the merchants might expose their wares. Domitian took a great fancy to erect arches of this description, and he went on filling up the clear spaces in the streets of Rome until there was found inscribed upon them one morning in Greek characters ἀρκει, which means, that is enough; but the play upon the Latin word, so happily rendered, had more effect in stopping the rage for four-fronted arches than all the petitions of the Roman people. We are now prepared for considering the arches still existing at Rome, over which Time, with his fifteen or eighteen centuries, has not yet triumphed.

According to the Regionary of Sextus Rufus, three arches of triumph stood across the Appian Way, in the immediate vicinity of the city. Of those, only one, in a mutilated state, remains, and this is supposed to be the arch of Drusus. The victories which the young hero gained in Germany, and his arduous conquests in the Rhœtian Alps raised him to the honour of a triumph before he was thirty years of age, and to the more durable honour of being sung in one of the most celebrated odes of the Venusian poet:—

> "Videre Rhœti bella sub Alpibus
> Drusum gerentem et Vindelici," &c.

I shall attempt no other description of what this arch once was, than that which is taken from a medal extant, an original coin now existing at Rome, and I would warn all numismatic gentlemen, if there be any present, against the impressions given by Bellori and Donatus, which are decidedly erroneous. The medal, it will be observed, represents the mode in which the arch was topped, an equestrian statue placed between two Roman standards. Of course those ornaments have long ceased to exist, and the arch itself is so disfigured by Caracalla's aqueducts, that Piranesi doubted whether such a broken down and patched concern could ever have been the triumphal arch of Drusus. If, however, we yield this point, we shall lose the satisfaction of reading Horace at the foot of this time-worn monument, our medal will become useless, and two beautiful columns of African marble must be pressed into the ignoble service of an aqueduct. I prefer, therefore, to leave the name undisturbed, and consider this as the oldest triumph arch remaining at Rome.

The next in chronological order is unquestionably that which it professes to be, and is one of the most interesting monuments which time has spared, the *Arch of Titus*. I need hardly remind you that this illustrious monument was erected in honour of the Vespasian family, at the termination of the war in Judea, by which the sacred predictions were fulfilled, and Zion was ploughed as a field. It was towards the end of the month of April, A.D. 71, when Titus came within sight of Rome, and began to move in such a procession as I have described, through the streets to the capitol. The last general of the Jews, Simon, son of Gioras, was in the train of the captives, and when he had arrived near the site, afterwards occupied by this arch, a rope was put about his neck, and he was led away to the place of execution. Among the spoils that were carried in procession appeared the precious objects taken out of the Temple of Jerusalem; there was the golden table weighing many talents, the candlestick with its seven lychni, made also of pure gold, a copy of the law, and the trumpets of silver with which the jubilee was proclaimed. And the great interest which attaches to the arch consists in still finding all these objects faithfully represented on the two large reliefs on the inner flanks; this arch with its ornaments would alone deserve a dissertation. The learned Reland has written a whole volume upon those spoils of the Jerusalem temple which the bas-reliefs so clearly illustrate; on the right flank (facing the Capitoline Hill) appears the emperor in his car, drawn by four horses, and preceded by Romans wearing laurel on their brows, and on the other flank we see the representation of the candlestick, and other things enumerated by Josephus. The original design was given to Moses (Exod. xxv. 31), and the resemblance is yet sufficiently striking to identify it with the scriptural description; the table and the two trumpets answer also to the Mosaic account, but the drawings of these objects are so familiar to every one who takes the least interest in antiquity and art, that I need not encumber my paper with any written description. Eighteen centuries ago the artist had the very utensils taken from the sacred temple

* The Arch of Trajan, at Beneventum, standing over the Via Appia, is properly an arch of triumph.

before him, and although they were not the identical objects made by Moses according to the pattern showed him on the Mount, we can have no doubt of their being faithful copies of those which the Jews made from the originals; therefore, standing by this arch, we seem to be carried back to the age of Moses, when the things of a worldly sanctuary were made to represent the good things to come of the glorious dispensation under which we live. The inscription, originally put upon the frieze in the seventy-first year of the Christian era, still exists, and puts an end to all controversy as to the authenticity of this monument. In the middle of the vault is represented the Apotheosis of Titus, and on the entablature we have victims led to the sacrifice, and the River Jordan personified by the figure of an old man carried in procession on a ferculum. The arch has suffered much on the north elevation; it was restored and propped up by Pius VII., whose architect has imitated the original construction; the south elevation is more perfect, and enables us to judge of it as a whole. From the confined space in which it stood, it has no archetti, but is, as I have said, a single arch, and needs no other description. Our distinguished countrymen, Taylor and Cressy, have remarked an inventive faculty in the ornaments, which, they say, shews the architect to have been one of great merit. The history of the spoils which Vespasian deposited in the neighbouring Temple of Peace, is not uninteresting. After having crossed the Mediterranean, and remained for seventy years at Carthage, they were rescued out of the hands of the Vandals by Belisarius; and when they had made another procession through the streets of Constantinople, the candlestick and the table were again deposited in a Christian church at Jerusalem, and we hardly lose sight of them until the year 614, when Chosroes, King of Persia, having made the conquest of Syria, carried off those sacred spoils, and they have never been heard of since. But although the objects themselves are irrecoverably lost, we have a remarkable example of the triumph of art; we see how it may be made subservient to transmitting important truths to posterity, even more accurately than the perishable MS. which records the facts of history; but I think there is something providential in the preservation of this monument. Why was it not demolished when the feudal wars of middle-aged Rome made a fortress of the ancient edifice, and the Frangipani built the massive tower which overtops the sacred edifice?

> "The Goths, the Christian, time, war, flood, and fire
> Have dealt upon the seven-hilled city's pride;
> She saw her glories, star by star expire,
> And up the steep barbarian monarchs ride,
> Where the car climb'd the Capitol, far and wide,
> Temple and tower, went down, nor left a site."

But this arch remains spared by the ravages of time to authenticate the history of the end of the Jewish economy, and the bringing in of a better covenant.

I have yet the two most *conspicuous* arches remaining at Rome to bring before you, and they are both interesting as monuments of the history of art as well of the annals of the empire. The one erected in honour of Septimus Severus and his two sons, Antoninus and Geta, comes first in the order of time, but the Arch of Constantine, both for its architectural design and its ornaments, must take precedence in the epoch of the arts. The Arch of Septimus Severus stands at the foot of the Capitoline Hill at the western angle of the forum; it is constructed of white marble and has three openings communicating with each other by lateral arches. All we know of this arch is to be gathered from the inscription and a medal; from the former, we learn the principal victories gained by the emperor in the titles of Arabicus, Adiabenicus, Parthicus, and by a near inspection of the fourth line, it has been discovered that the words "optimis fortissimisque principibus" have been written over an erasure of the name and titles of Geta. After Caracalla had put his brother to death, the obsequious senate pretending to spare the ruffian feelings, that he might not be affected by the sight of the name of Geta, had it erased from all the public monuments. From the medal, we learn that the arch was erected in the year which answers to A.D. 203, and that on the top of the arch was placed a triumphal car with two persons seated within it representing, no doubt, Septimus Severus, and his son, Caracella; by the side of the car were seen two soldiers on foot, and at the extremities two equestrian statues. These decorations heightened the splendour of the monument, but the disproportion of the heavy attic betrays the period of the decline of science and art. This arch is decorated with four fluted columns on each front of that order called Composite: the columns are detached from the building, and placed on pedestals, having pilasters behind them; between those pilasters are bas-reliefs, bad in design and ill-executed, but as historical monuments they are interesting. Taking Herodian in our hands, who recounts the victories and expeditions of the emperor, we may explain the subjects of the sculpture: but it must be confessed that the engravings of Santo Bartoli, with the illustrations of Suaresio, are now absolutely necessary for tracing the events recorded of the emperor's expeditions; it would require me at least one quarter of an hour to describe those bas-reliefs, which yet exist in a corroded state on each face of the arch, but a minute description of that sort is not tolerable except the engravings could be exhibited at the same time. I should have to enumerate the usual subjects seen on triumphal arches and columns, the emperor haranguing his legions in the military cloak, the storming of walled towns, the passage of rivers, the visiting of the camp, the chaining of prisoners, the barbarians imploring for mercy, the action of the battering ram, the submission of the vanquished kings; and if in the present case we add the names of the rivers Tigris and Euphrates, and of the cities of Nisibis and Ctesiphon, capital of the Parthians, and of Babylon;—the grouping of the characters and localities may be easily imagined, and thus I spare you the infliction of a quarter of an hour's sermon on stones. The vicissitudes through which the monuments of Rome have passed, form not the least curious part of their history. Against the western flank of this arch was placed the end of a church dedicated to Saints Sergius and Bacchus; it was pulled down when Charles V. visited Rome. The arch was also made a private dwelling of, and as late as 1803 the two smaller arches were turned into shops. Owing to the rapid accumulation of soil from the hill pressing from above, this arch has been three times excavated within as many centuries; it was first done under the inspection of Michael Angelo, and in 1803 by Pope Pius VII.; finally a few years ago again by the present pontiff. There is nothing more striking in examining the relics of imperial Rome than to witness the rapid decline of art. Taking the age of the Antonines as the point of departure from chaste style and architectural beauty, in something less than fifty years we degenerate into an arch like this. A professedly Ionic entablature, in defiance of Vitruvius, less than a quarter of the height of the column, a bold cornice with a puny frieze, the upper member of the architrave, as Milizia remarks, out of proportion with the lower one, when it really ought to be the larger of the two. The columns, including the subplinth, ten diameters, the pedestals, exceeding in height all other examples, and yet with all these defects in proportion, we have an elaborate increase of ornament, as if the gorgeous East had showered on her kings barbaric pearls and gold. This, however, is a remarkable feature in the decline of art or the want of science, to make up for the deficiency in architectural result by frittering away the building in meretricious ornament; real genius despises such expedients, and we have lived to see it soar above them in the Fitz-William Museum, at Cambridge, while we drop the tributary tear of this Royal Institute upon the ashes of our ill-fated Apollodorus!

Let me now move across the Roman forum, and down the Via Sacra, to the more chaste monument which goes under the name of the Arch of Constantine. It is certain, that neither an architect nor a sculptor could be found in the age of Constantine, capable of designing and decorating such an arch as this. A single glance at the elevation will be enough to take us back from the age of Severus to that of Trajan, or his successor; and as to the bas-reliefs, they are known to represent the actions of Trajan. The general opinion is, that Constantine took this arch as it stood, and made it a monument for himself, altering the inscription so as to make it more conformable to Christian language, and adding a few bas-reliefs, which are at once discerned to be the productions of an age when the art of sculpture was almost lost. It is one of the instances where a conversion from heathenism has evidently been attended with no advantage. I cannot adopt the opinion which some have advanced, that the architectural design of this arch was stolen, as well as the ornaments, for it is the misfortune of poor or decayed genius, that it will not condescend to copy and adopt another's excellence, unless the imitation can be concealed under some appearance of originality. But there is a direct proof of this arch having been adopted, and not erected, by Constantine. In the inscription it is called, "Arcum triumphis insignem," which intimates clearly enough, that triumphs had already passed under it. The occasion on which the first Christian emperor appropriated to himself this monument was his victory over his rival, Maxentius, at the Melvian Bridge, A.D. 326. The battle is immortalised, if the frescos last, by the pencil of Raffael, in the Vatican. The masons which Constantine has employed to perpetuate his fame have made abortive attempts at representing their master's dominion over the eastern and western empires. We see the chariots of the rising and the setting sun; in the latter case, we tremble lest Phæton should fall headlong out of his car, and never rise again in the beauty of the rosy morning. The rude hand of the same artist has carved out two oblong reliefs, representing the assault of a fortified town, probably Verona, and the triumph of Crispus, the son of the emperor. Having disposed of all that belongs to Constantine, we may now consider the arch as pertaining to the golden age of art at Rome. Taking the south elevation, we are presented with three openings, the centre arch displaying its superiority in height, by an elevation of 38 feet nearly, compared with 25 feet; four Corinthian columns, with shafts of yellow antique marble fluted and cabled, and of beautiful workmanship, stand upon as many lofty pedestals; above the soffits of the smaller arches are four medallions, including the acts of Trajan, and the usual figures of glories or victories fly over the rise of the arches; the columns are 91 inches diameter, the entablature a quarter of the height of the column, the cornice is one block in height, and finely executed, except at the angles and returns over the salient columns; the Attic is above half the height of the order, and is decorated with eight statues (taking both sides) of Dacian prisoners, of Phrygian marble called pavonazetto. The superb bas-reliefs, which represent the various exploits of Trajan, are twenty in number; ten are placed in the Attic, two under the centre arch, and eight circular ones over the two small arches; of the four in the attic on the south side between the statues, 1. represents Trajan declaring Parthamaspates, King of the Parthians; 2. The discovery of a conspiracy of Decebalus against Trajan; 3. The Emperor's harangue; 4. A sacrifice called the suovetaurilia. The four on the north side of the Attic represent: 1. The triumphal entry of Trajan into Rome; 2. The Via Appia repaired; 3. The emperor feeding the hungry Italians; 4. Parthemasiris supplicating Trajan to restore to him his father's kingdom, Armenia. The eight circles represent Trajan in the chase, in his rural sacrifices, and a variety of other subjects. This is a summary of the works of art still existing in good preservation upon this splendid arch; its polished and valuable materials have tempted the hands of the spoiler to throw off the dignity of rank and sacred character. Clement VIII. took away one of the columns to support an altar in the Lateran Church, one of his successors put another in its place, but of white marble, as it now stands; such peculations as these may be pardoned under the head of pious frauds; but it was a more serious affair when it was announced one morning, in the year 1526, to Pope Clement XII., that the Dacian captives, along with many other fine statues in Rome, were found without their heads. His holiness, says Benedetto Varchi, "montò in tanta colera che commandò che chiunche fosse colui che tagliate l'avesse (the Cardinal de Medici excepted), dovesse essere

subitamente senza altro processo appiecato per la gola." The unfortunate culprit was no other than Lorenzino de Medici, the nephew of the pope himself, who inheriting the taste of his family for the fine arts, thought by this process of decapitation to get away to Florence the heads of the statues first, and buy perhaps, the trunks afterwards. The anger of the pope was with difficulty appeased by the intercession of the cardinal, and Lorenzino was allowed to go away with his head, but stigmatized with the pontificial description of "l'infamia e l'vituperio della casa de Medici." The heads of the poor Dacians are now put on again, through the care of Clement XII., and the new heads on old shoulders are managed so as to beguile the observation of the most skilful Cicerone. Imperfectly as I have treated this subject (finding it extend beyond the limits of one dissertation, if justice is to be done to it), I must now bring my observations to a close. Already, I imagine, you have recurred to the waggish inscription put on Domitian's arches, and said *apκει*; but I cannot part with the subject without at least glancing at those other arches I have already enumerated as once existing on the Via Flaminia. The modern Corso at Rome now holds the direction of that ancient triumphal way, and all the three arches I allude to were placed within the short distance that may now be measured between the Fiano and Sciarra palaces. Two of these arches were destroyed in the sixteenth century by Pope Innocent VIII.; the third was demolished by Pope Alexander VII., and an inscription, written by Fabretti, preserves the memory of it at the end of the Via delle Vite. Some of its bas-reliefs are now in the Campidglio, and it is shewn to have been erected in honour of Marcus Aurelius for some conquests gained over the Britains; the other, as appears from a mutilated inscription, belonged to Claudius, on account of his conquests in Britain, and at the extremities of the empire; the third was the arch of Gordian, and some of its foundation still exists under the church of S. Maria, in Via Lata. Thus it appears, that of the three arches which once stood across the Corso of Rome, two bore the trophies of Britain subdued. But Britain has now subdued empires which reach beyond the utmost limits of the Roman world. Marcus Aurelius and Claudius Cæsar must retire before the euphonious names of Gough and Smith, and the arches of triumph which the "ultimi Brittani" erect, excel in dignity and grandeur those that yet stand on the Via Sacra. They are the moral trophies of moderation in victory, and justice in administration; and on the distant banks of the Sutlege you will see more splendid triumphs than ever moved on the banks of the Tyber. The cheers of the British senate in representing the gratitude of a generous people, are more animating to the Viceroy of India, than were the vulgar shouts of that multitude which followed the car of the master of the Roman world; and it must be confessed, that no triumphs in ancient times were equal in value to the vote of thanks of a unanimous British Parliament. We see no conqueror move through our streets in a gorgeous pageant (the great ambition of the Roman general), but we have our valorous chieftains, who, like Sylla, after having exercised power, can lay down the dictatorial wreath, and take their places as private individuals among their fellow-citizens, or preside at an institute to promote the arts of peace. They have a triumph over the selfishness and ambition of human nature, and I imagine, that the great secret is, that they have a hope which the pagan hero could never attain, viz.: the hope of a crown immortal when this transitory life is ended, and a triumph over the last enemy, which Christianity alone enables them to proclaim.

English Buildings at Cannes.—The chateau which Mr. John Temple Leader, M.P., commenced some time since at Cannes, near that occupied by his friend Lord Brougham, is fast approaching completion. Mr. Woolfield, another Englishman, has just purchased two estates in the neighbourhood of Cannes, not far from the property of Lord Brougham; we are told he intends building a series of elegant villas for the accommodation of some noble lords, also a Protestant chapel.

THE ROYAL SOCIETY'S MACE.

A plague on those who take away our pretty stories. Are we to believe nothing? Are all the anecdotes and associations with which things and places are connected in our mind, and rendered interesting, to be proved false, and violently wrenched away. A plague on those who do it, say we again.

Confining ourselves to our own department, and saying nothing of Nieburh's wholesale demolition of the poetry of Roman history, why should we lose our faith in the Greek maiden's grave and the acanthus, as originating the Corinthian capital, or be forced against our will to acknowledge that cariatides in architecture have nothing whatever to do with Carian women and Athenian conquests? The mace at the Royal Society was invaluable to those who take visitors to the meetings of that ancient and important body. "It was to that," we have heard a score whisper, "Cromwell pointed, when he said 'Take away that bauble:'" and forthwith to the listener, Cromwell and all his times were things better understood and more actual, than they had up to that time been, and the importance of the Society itself was increased in his eyes through getting a clearer notion of its long standing. Why then should Mr. Weld (active secretary as he is) exert his ability to shew that the story is unfounded, that the mace is nothing more than 150 ounces of silver gilt, bought and paid for by Charles II., in 1663? Yet so it is, and though truth is a great thing, we had rather she had been left at the bottom of her well in the present case, and that we might still regard the "bauble" as an actor in an important scene, and a link in the chain of history.

NEWS FROM THE COUNTRY.

The chapel of the Bath Union Workhouse was duly opened for worship on Tuesday sen'night. The building forms a conspicuous object, and is seen, not only from the roads in its vicinity, but from various points in the upper portion of Bath. The style is the early English. It is a plain and substantial structure, with lancet windows, and an open timber roof, from a design furnished by Mr. Manners. The building is lined internally with free stone, instead of being plastered.——We learn from the *Poole Herald*, that Mr. Barry has been surveying the church of Wimborne (Dorset), with a view to extensive renovation; Mr. Barry is, we believe, employed by the Attorney General, with whom, for the present, the fund applicable to these improvements rests.——At Ely Cathedral, another new stained-glass window has been put up in the north transept during the week, the gift of the Rev. E. B. Sparke. The subjects are the Stoning of St. Stephen, and the Conversion of St. Paul. Also, within the last few days, the interior of the great western tower has been thrown open, restoring much beautiful work, and workmen are now employed in removing stone-work, to shew the zig-zag mouldings of the original arches that support the tower.——A stained-glass window, stated to have cost 700*l.*, subjects, the Resurrection and Ascension, has been added to the decorations of Kings' College Chapel, Cambridge, by the Rev. W. A. Carter, Fellow of the College, and Assistant Master at Eton.——Mr. John Silifant, of Coombe, has offered to give a sum of 500*l.* towards the erection of a church at Knowle, about four miles to the west of the town (and within the parish) of Crediton, on condition of the Crediton Church Corporation advancing a sufficient sum to complete the building.——On Monday fortnight, the foundation-stone of a new Wesleyan College, was laid in the parish of Trull. The area of the building, with its lawns and shrubberies, is to extend over a space of about six acres of land. Mr. Wilson, of Bath, is the architect; Mr. Mason, of Exeter, is the contractor, and has undertaken the whole work for little more than 5,000*l.*——During the night of Easter Monday, the sculptured representation of the *Agnus Dei*, "the Lamb of God who taketh away the sins of the world," which forms part of the beautiful west doorway of the church of St. Mary de Crypt, Gloucester, was defaced—its effect destroyed by a quantity of black paint, which had been thrown over it by some miscreant!——At a meeting of subscribers at Leamington, on Thursday, th 23rd ult., for a testimonial of gratitude for the services rendered to the town by Dr. Jephson, towards which a subscription to the amount of several thousand pounds was lately collected, it was determined on appropriating the funds to the purchase of an ornamental piece of ground, near the banks of the river Leam, of considerable extent, to be hereafter designated the Jephson Gardens, and devoted to the use and accommodation of the public, after the plan of the Arboretum at Derby. It was also decided that the "testimonial" should consist of a statue from the chisel of Mr. Peter Hollins, of Birmingham.——It is stated that the decayed old church of St. Benedict, Lincoln, is to be pulled down, the bishop being engaged in an effort to unite that parish with the parish of St. Peter at Arches.——We perceive that the works for the manufacture of glass, on the eastern bank of the river Hull, are in a state of great forwardness; and we are given to understand that they will be in operation at Midsummer. A gentleman visited Hull on Monday, his object being to ascertain if certain glass domes for public buildings in the West Riding could be executed.——The building now erecting on the Lord Mayor's Walk, for the York and Ripon Diocesan Training School, is rapidly approaching to completion. At the meeting of the Ripon Diocesan Board of Education, held last week, it was reported that the cost of erecting, fitting up, and fencing the new Training School at York, would amount to 11,910*l.*——Public baths, on an extensive and economical scale, are about to be erected at Edinburgh. A committee has been formed to carry out the design, and a subscription entered into, which already amounts to upwards of 2,250*l.*——Chiswick new church, on Turnham-green, had a narrow escape a few weeks ago. After evening service, a gentleman perceived fire issuing through the slates of the roof, over the middle aisle, and gave an alarm. By great exertions, and a plentiful supply of water, the flames were subdued. The fire was occasioned by the overheating of a tube which conveys the smoke from a chandelier.

NEW PROPELLING POWER.

Sir,—In opening this day your paper of the 25th, I was struck with the coincidence contained in the paragraph entitled as above, having seen a sketch identical in its nature, by Mr. Wylson, bearing date 6th July, 1845. My object in writing this is partly out of regard for my friend, and partly to throw such further light on the subject as his invention conveys. His object was the acceleration of the mails, the power a monster watch-spring, the machinery confined almost solely to the *drum*, *fusee*, *and chain*. His proposed system was to consist of a sunken and covered channel between the rails of the ordinary railways, deep enough for the letter wagons, and laid with rails for the same. His method of stopping the wagons at the stations, before the chain was run down, was by means of a pair of long springs placed edgeways horizontally, and attached at one of their ends to the sides of the *mail way*, the other end of both capable of being pressed towards each other by means of a wheel and pinion worked by a winch above at one side, so as to gradually contract the channel and stop the vehicle; this contraction to be the standing position of the stopping springs, and the pressure upon them by the wagons on arriving, acting on a signal bell, so that the appointed officers at the respective post stations should remove the proper bags, relock the wagon, wind up the exhausted portion of the chain, and set the vehicle free to proceed on its journey. Should you deem this worthy of insertion—in the cause of science,

I remain, Sir, &c.,
Geo. Fowler Jones, Architect.
Monkgate, York, 28th April, 1846.

Employment in Ireland.—At a meeting of magistrates and rate-payers at Castlebar, on the 23rd ult., a resolution was passed, recommending that the Commissioners of Public Works should commence a building of extensive public utility in each of the separate districts of the county, with a view of providing employment for the population.

GOVERNMENT AND ART-UNIONS.

On Tuesday last a deputation from the Art-Union of London, consisting of H.R.H. the Duke of Cambridge, Lord Monteagle, Mr. Wyse, M.P., Mr. Ewart, M.P., Mr. B. B. Cabbell, Mr. Godwin, and Mr. Lewis Pocock, had an interview with Sir Robert Peel and the Chancellor of the Exchequer in Downing-street, relative to the continuance of these associations. His royal highness opened the matter with great clearness, submitted that the Government ought at once to place Art-Unions on a permanent basis, and handed to the premier the following memorial, with a request that he would favour the deputation with an intimation of his intentions in respect of the Bill now before Parliament:—

Sir,—We, the undersigned members of the committee of management of the Art-Union of London, beg most respectfully to request your attention to the following representations, as to the present position of this society, with reference to the observations of the Chancellor of the Exchequer in the House of Commons; and we do so with the greater confidence, because we do not believe that a government which has continually manifested anxiety to give encouragement to the fine arts in this country, can entertain the purpose of stopping the course of institutions, the sole object of which is to advance the same cause.

The Art-Union of London, since its establishment in 1837, has been the means of expending for the advancement of art, at least 90,000*l.* In the year 1844 an intimation was received that the proceedings of this society rendered its members amenable to the Act of Parliament against lotteries, &c. Communications with Government took place, and eventually a committee was appointed—not to inquire whether art-unions should be permitted to exist—but "to consider the objects, results, and present position of art-unions; how far they are affected by existing laws, and what are the most expedient and practicable means to place them on a safe and permanent basis, and to render them most subservient to the improvement and diffusion of art through the different classes of the community;" and in the mean time a temporary Act of protection was passed, and subsequently renewed.

On the 5th of August last, the committee made their report in favour of these associations, based exclusively on the evidence given before them which also, they published, and stated their grounds for considering them entitled to call on Government for protection.

Great then was our surprise, and great the dismay caused amongst the artists of this country, when the Chancellor of the Exchequer disregarding the recommendations of the select committee, repudiating the principle previously conceded by Government, stated in the House of Commons that he could see nothing in the avowed purposes of Art-Unions, which exempted their members from the charge which the law affixed to the supporters of lotteries.

To you, Sir, then we appeal; respectfully but firmly, we would impress upon you, that without one personal object in view, with no other aim than the extension of a love of art among all classes of the community, and the consequent advancement of the fine arts in this country, relying upon the recognition of the principle of these societies implied by Government in the renewal of the act of indemnity, and assured by the terms of the instructions to the select committee of the House of Commons, we have devoted a very large amount of time and labour to the management of the Art-Union of London, and have made many arrangements in contemplation of its permanent establishment: comprising premiums for painting and sculpture, and commissions to engravers, medallists, and others.

We come to you as fellow-workers with Government in the encouragement of British art, and ask to be protected in the prosecution of our high purpose. We do not ask for impunity in the violation of the law; we do not seek the abrogation or suspension of any Act of Parliament, we ask only for an Act to declare that which a high law officer of the crown has emphatically stated to be true,—namely, that as these societies did not exist at the time of passing the Act against lotteries, they could not be contemplated by it, and that the absence of the conflicting interest of schemers and of the public, and therefore the absence of any necessity for legislative protection, renders the statute inapplicable in their case. We would bring to your notice the circumstance, that in Belgium, where the law against lotteries is particularly severe, a special exemption is made in favour of these societies. But while we ask for such protection, we are at the same time anxious that, in order to guard against its perversion, the legislature should reserve to itself the power of deciding what societies shall be deemed worthy of it.

It appears to us undeniable, that by interesting the people in the fine arts, and encouraging artists, not merely by providing a market for their pictures, but by public sympathy and appreciation, art must be advanced. The operation of the Art-Union of London is to advance art by the improvement of public taste, and to advance civilization by the improvement of art.—(Signed)

Adolphus	R. Dickson, M.D.
Northampton	G. Morant
Monteagle	H. Hayward
J. V. Thompson	B. B. Cabbell
J. S. Gaskoin	Thos. Wyse
R. Morris	W. Ewart
H. Milman	
George Godwin, Lewis Pocock	Hon. Secs.

Sir Robert Peel admitted that he had not been able to read the evidence or look into the subject, but made such remarks as to lead to the impression that his views were not in accordance with those of the deputation. Lord Monteagle addressed himself at some length to the objections which had been hinted at, rather than urged by the premier, and was followed by the rest of the deputation *seriatim*. It is to be feared, however, unless Sir Robert be led by the undeniable statements that were laid before him, to reflect more seriously on the matter than he has yet done, that he will vote with the Chancellor of the Exchequer when the question comes before the House. Mr. Wyse has postponed his bill for a short time longer, and it is to be hoped that advantage will be taken of this delay to forward additional petitions on the subject from all parts of the country.

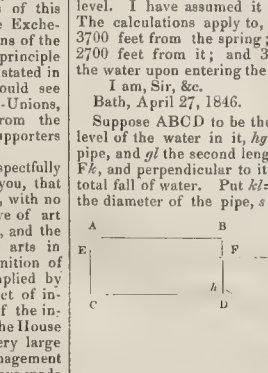
VELOCITY OF RUNNING WATER.

Sir,—I beg to hand the inclosed formula and calculations, in reply to "A Constant Reader's" inquiries. He does not state the depth of water in the reservoir at the summit level. I have assumed it to be 4 feet deep. The calculations apply to, 1st, the velocity at 3700 feet from the spring; 2nd, the velocity, 2700 feet from it; and 3rd, the velocity of the water upon entering the pipe.

I am, Sir, &c. W. D.

Bath, April 27, 1846.

Suppose ABCD to be the reservoir, EF the level of the water in it, *hg* the first length of pipe, and *gl* the second length. Draw the line F*k*, and perpendicular to it *kl*. The *kl* = the total fall of water. Put *kl* = H, *hgl* = L, D = the diameter of the pipe, *s* = the sum of the



squares of the sines of the several bends in the pipes. Then the velocity V would be, according to Langsdorf, found by the theorem.

$$V = \sqrt{\frac{548.HD}{D + \frac{1}{45}L + \frac{1}{6}DS}}$$

where HLD and V are all in inches (Gregory).

To apply this H = (45 + 175 + the depth of water in the reservoir) = 45+175+4 = 224 feet × 12 = 2688 inches. D = 2 inches; L = 3700 × 12 = 44400 inches, and $s = 8 \times \sin.^2 90° + 42 \sin.^2 135° = 8 + 50 \times 5 = 33$. Therefore:

$$V = \sqrt{\left(\frac{548 \times 2688 \times 2}{2 + \frac{44400}{45} + \frac{2 \times 33}{6}}\right)} = 5427 \text{ inches}$$

= 4·52 feet per second nearly; which is the velocity of the water in the pipe when it has arrived at the point *l*, which is 3700 feet from the spring.

Now to apply the formula to the point *g*, where L = 2700 × 12 = 32400 inches, H = 45 + 4 = 49 × 12 = 588 inches, D = 2 inches, and $s = 8 \sin.^2 90° + 42 \sin.^2 135° = 8 + 21 = 29$. Hence

$$V = \sqrt{\left(\frac{548 \times 588 \times 2}{2 + \frac{32400}{45} + \frac{2 \times 29}{6}}\right)} = 29{\cdot}67 = 2\ 47$$

feet per second, the velocity in the pipe at the point *g*, 2700 feet distance from the spring.

If the velocity at the point *h* be required, then L = O and *s* = O; therefore,

V = $\sqrt{548H}$. And since H = 4 feet = 48 in. * V = $\sqrt{548 \times 48}$ = 162·1 = 13·5 feet per second nearly when it leaves the reservoir; so that the water would lose velocity from the winding and friction of the pipes after it leaves the reservoir, and greatest reduction would be at *g*.

Since the foregoing are approximate equations, and D does not enter very largely into their composition, we might, without any great error, demonstrate the required diameter of pipe from the velocity found. Put Q = the quantity of water discharge each second, then

$Q = VD^2 \frac{\pi}{4}$ where

$$D = 2\sqrt{\frac{Q}{V\pi}}$$

Therefore, if the diameter of the pipe be 2 inches at the point *g*, we have

Q = 29·67 × 2² × ·7854 = 93 cubic inches,

nearly the quantity of water that would pass through the pipe in each second of time; therefore,

$$D = 2\sqrt{\frac{93}{54{\cdot}27 \times 3{\cdot}1416}} = 1{\cdot}476 \text{ inches} =$$

the required diameter of pipe at the end, *l*; and, lastly,

$$D = 2\sqrt{\frac{93}{162{\cdot}1 \times 3416}} = {\cdot}85 \text{ inches; nearly}$$

the necessary diameter at *h*.

* Which agrees very nearly with the theorem of Eytelween.

THE STRIKE.

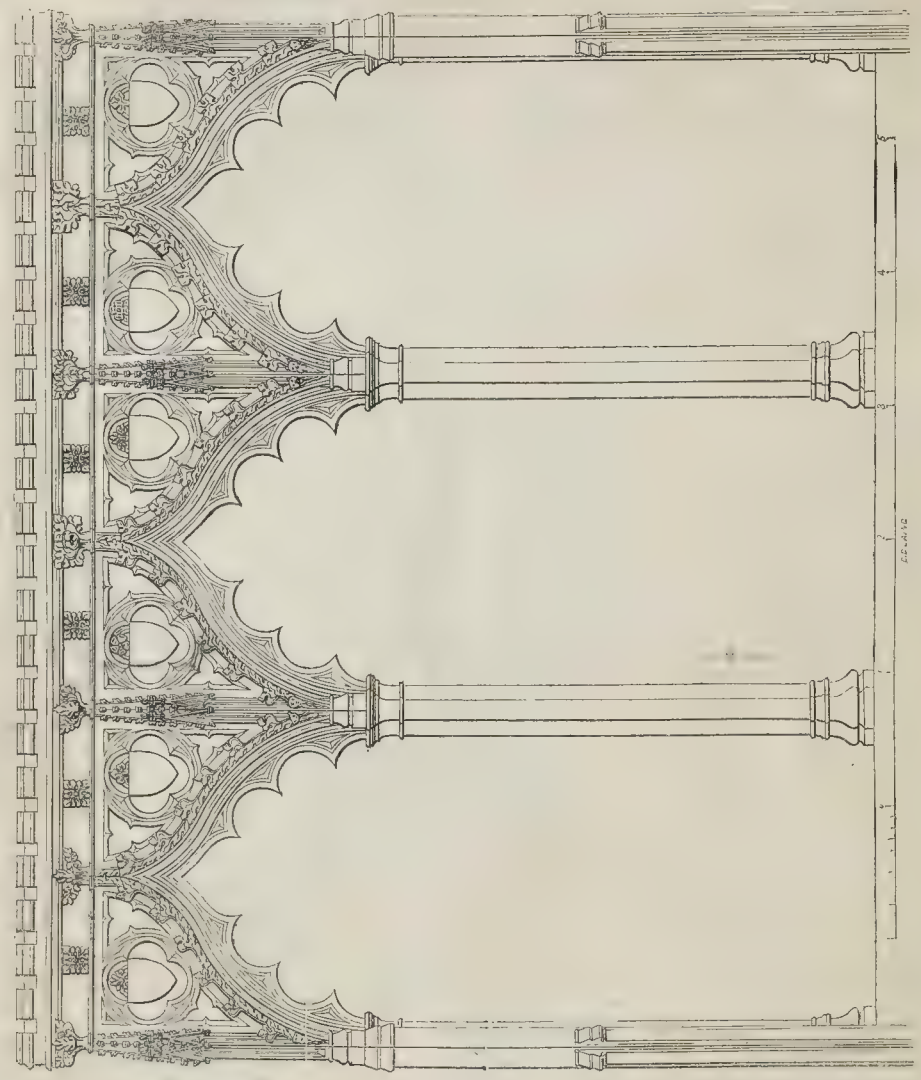
A deputation, consisting of Mr. Bellhouse, Mr. Pauling, and Mr. Livingston, of Manchester; Mr. Tomkinson and Mr. Holme, of Liverpool; Mr. Williams, of Birkenhead; and Mr. Gwyther and Mr. Briggs, of Birmingham, had a long audience with Sir James Graham on Saturday sen'night, on the subject of the strike in the building trades in these and other towns, and on the difficulties which contractors and others have to contend against with the trades' unions now organized throughout the country.

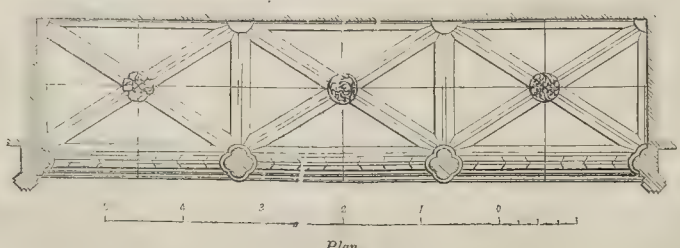
A large meeting of master builders was held in Liverpool last week, when it was proposed to take steps to form a general association of masters, to resist the dictation of the operative unions. Much work has been postponed. The men appear to be more disposed to listen to reason than they were.

Glass Milk Pans.—The repeal of the duty on glass, which led to the employment of this substance for pipes for the conveyance of water, has been succeeded by its use for milk pans, which are not only much more easily cleaned than metal, but may be scalded without any fear of fracture.

Church for Seamen.—We have authority to state, that his royal highness Prince Albert, has graciously signified his intention to lay the foundation-stone of the church for the seamen of the port of London, in Dock-street, on Monday, the 11th inst., at half past 3 o'clock.

SEDILIA: WOODNESBOROUGH CHURCH.





Plan.

SEDILIA FROM WOODNESBOROUGH CHURCH.

The church of Woodnesborough is situated about one mile and a half south-west of Sandwich; it is a plain church of mixed styles, and consists of a nave, chancel, and side aisles; the tower, which is at the west end, is of plain transition Norman, containing nothing worthy of particular remark. The chancel of early decorated work, with a very good east window and north door, and the very rich sedilia shewn in the illustration.

It is much to be regretted that this beautiful composition is so completely covered with whitewash, that its great variety of ornamental detail may be passed by unheeded, unless a very attentive examination is given to it, and this examination it will well repay; after many hours' labour in getting rid of the superfluous covering, I found the ornaments to be as perfect and sharp as though recently cut. The lower part (not shewn in the elevation) is entirely concealed by a modern casing of wood. The illustrations are a front elevation of the sedilia, and a plan shewing the groining.

It may be interesting to some of your readers to know, that near the church is an artificial mount, in which at a short distance from the surface, some Roman remains have been found.

W. Caveler.

BRISTOL.

HEALTH AND BUILDINGS: PROGRESS OF THE CITY.

The fact that the supply of water for domestic and manufacturing purposes, for protection against fire, and for efficiently cleansing the sewers in the city of Bristol, is lamentably deficient, and that any measure which will secure the important advantage of an abundant supply of good and wholesome water to the whole borough is entitled to general support, has been for some time past admitted by the inhabitants. Several proposals to furnish the supply have been made, and two Bills with that end in view are now before Parliament. After various meetings and long discussions, the inhabitants have decided in favour of "the Bristol Water Works Company," in opposition to the "Society of Merchant Venturers," and have prepared petitions in support of it.

It is to be hoped that no time will be lost in carrying out the scheme, that so a deficiency may be supplied that has long been injurious to Bristol.

Building is going on extensively in the suburbs. Tyndall's-park, at the top of Park-street, is doomed, like almost all pretty localities adjacent to large and increasing towns, to the inroads of the architects. A large square, and several mansions are soon to supersede the slopes and pastures now to be found there.

A serious accident took place last week at the New Church, Kingswood, near Bristol. Several persons were painting the ceiling from a plank, when their motions and weight caused the plank to vibrate and give way, and five men fell to a depth of nearly fifty feet, and were dangerously injured.

Speaking of laying the first stone at St. Mary Redcliffe, *The Great Western Advertiser* has the following pertinent remark:—"There were no newspapers to give notice of such a ceremony at the period when Cannynge laid the first stone of *his* restoration. The work then to be carried out was far more extensive even than what has now to be done; it was in fact to rebuild the church, with the exception of the tower and some comparatively small portions; to raise the structure which has now only to be repaired. Clifton was at that time a rural village of a very few small houses; Park-street and Berkeley-square had no existence; the Hotwells and the Hotwell-road were not; St. Michael's, Kingsdown, and Montpelier, were green hills; Redland and Cotham and Horfield were waste lands; Baptist Mills was a bleak marsh; the parishes of St. James, and St. Pauls, and St. Philip, were meadows and grassy slopes; Queen-square was a quagmire, and there were fields and orchards between Redcliffe and the Temple, in the Pithay, and in the now thickly-built parts of the parishes of St. Augustine and St. Michael. Bedminster was a little village, and few of the surrounding villages had any existence, or were at least much more than hamlets. But the work went on, the solid material rose and rose, the eloborate mouldings lengthened upwards, the beautiful carvings were fixed in their places, the airy groinings were set over all, parapets and pinnacles crowned the work externally, the windows were filled in with glass

> "Innumerable of stains and splendid dyes
> As are the tiger-moth's deep-damasked wings,"—

and carven oak, and gilden iron work, and painting, ornamented the interior; and all this was done during the life of Cannynge."

If we could see Bristol in its then state we should regard it as an inconsiderable town; it is a very large city now, has a population probably six times greater; has merchants more wealthy than Cannynge; and many of them. It addresses itself under these altered circumstances, to the second restoration of its "pride and glory." We have drawn a picture of the *first;* some one else twenty years hence may draw a picture of this; it would be premature for us to do so now.

PROFESSOR WILLIS ON ECCLESIASTICAL ARCHITECTURE.

On Tuesday, the 28th ult., Professor Willis delivered his second lecture on architecture. The first part of the course, the professor stated, would treat of ecclesiastical architecture historically considered, and the second of the decoration of churches, in doors, windows, and other details. He had already shewn by reference to pagan temples, that the ritual and the capabilities of mechanism produced the arrangement of the plan, and after that stage stept in the artist. The changes in ritual were now so great, that we required something adapted peculiarly to our wants. In no style of architecture had the devotional sentiment been so well expressed, as in that which prevailed during the middle ages, though he believed that it was quite possible to convey that expression, even with pagan architecture. But, he had shewn that the pagan temples, and he might also have said the Egyptian and the Hindoo, were not adapted for our purpose.

Basilicas of the Roman period had been assumed to be the type of the Christian church, principally from the name itself, which had been adopted probably to express the splendid, or "royal style" of their decorations. He then explained in what features the ancient basilica differed from the later church; his description of the former edifice being drawn from the account in Vitruvius, the remains at Pompeii, and the curious plan of Rome, still preserved in that city. Whilst there was a division into aisles, a gallery in the position of the triforium, and clerestory windows, the gallery was contrived, not for seeing out of, but so that the people in it might not be seen from below; and it went all round, an arrangement not suited to a church. The court of justice, at the end of the ancient building, from which the apse was supposed to have originated, was more frequently divided from, than open to the church, though in Cicero we did find it noticed, that the crowds rushed from the galleries to hear what was going on in the courts. Below the court of justice was a chamber, answering in position to the crypt, probably for the prisoners.—That the ancient basilicas were granted by Constantine, and converted into churches, he considered, with Bingham, was erroneous. There was abundant evidence that Christian churches had been destroyed at times of persecution. The church at Nicomedia was destroyed in the terrible persecution by Diocletian. That the Christians could have copied, he thought was out of the question. He referred to temples in Asia Minor, which had been converted into churches by encircling them with a wall, or by filling up the inter-columns, as not affecting the present question. These buildings explained certain statements of Eusebius.—He next alluded to the opinion, that the early churches were built over the sepulchres of the martyrs, and described the plan of the basilicas of St. Peter and St. Paul. He shewed, that they were built with little consideration for art, their external appearance being unsightly; that the columns were taken from Roman buildings, and that the arches were of small size. He thought that the transept was not found in the ancient basilicas, and originated entirely in Christian symbolism. These early churches approached more nearly to what was probably the true form of the cross, than those of a later period, in which the head, or chancel end, was lengthened, and the transepts were diminished. He pointed out the apse, occupying the middle of one side of the transept, and *the triumphal arch* across the nave in front of it. The altar was not against the wall, but isolated, and the church was turned towards the west, unlike the ancient temples, or the later church. The alteration had probably been intentionally opposed to the Pagan system. The bishop's throne, at the end of the apse, the seats for the presbyters, the canopy of the altar, the raised platform and railing, and the vault beneath, were noticed.

The professor next referred to the church of St. Clement, at Rome, which had been the model of many others. Though the original appearance of these buildings had been much altered by decorations, in the time of Bernini, this example retained its original character. It had no transept in the construction, but a platform was arranged on that plan. In front of that platform was a second, surrounded by a wall about breast high. This was the choir, the place for the singers, and where the gospel and the epistle were read. The bishop's and presbyters' seats were arranged, as in the church previously described.* The lecturer further noticed the vault, beneath the altar, and gave a lucid explanation of the growth of the respect for relics, and its influence upon the arrangement of the church. He shewed that the respect for individuals, extending after death to their bodies, and developing itself in the erection of chapels in the catacombs—the disused stone quarries in which the early Christians found refuge—had spread first to the building of large churches over the graves, afterwards, when churches were built elsewhere, to the removal of the bodies, and at length to the removal of many bodies to the same edifice, and the erection of different altars and chapels. This respect had also led to the dismembering of these bodies, and extended finally to their clothes. Thus we reached the second step in the history of churches; St. Paul's, at Rome, was built for but one altar, whilst in Notre Dame, at Paris, we found a number of chapels, erected to receive the relics, surrounding the building.

STATE OF THINGS AT THE NEW HOUSE OF LORDS.

The following extract from Mr. Barry's evidence before the select committee on the progress of the new Houses of Parliament, will give some idea of the difficulties he has had to contend with, and the cause of the delay for which he alone has been blamed:—

"The new House of Lords, having been advanced as fast as possible, in compliance with your lordships' wishes, was covered with its roof about August, 1844, and about the 11th of October in the same year the gable wall, including the north end of the house, was proposed to be built with openings, as then required by Dr. Reid, of 250 feet area (his original requirement, however, being only 200 feet). In January, 1845, Dr. Reid had reconsidered this, and an arrangement was made to give two openings of 300 feet area. The ventilating channels to be carried through the roof of the house were then arranged by Dr. Reid, and the work was shortly afterwards commenced. In May, 1845, Dr. Reid desired the work to be suspended, wishing again to consider the subject. Repeated applications have since been made for Dr. Reid's decision in this matter, in letters and interviews, without success; Dr. Reid in the meantime requiring first an iron floor, and then a wood floor, immediately above the ceiling of the house. On the 8th of July last the matter was yet undetermined, Dr. Reid then proposing seven different ways for constructing the flues and chambers in the roof of the house; and although the mode preferred by Dr. Reid at that time was assented to, and some further information requested that it might be executed immediately, no particulars up to this time, have been received from Dr. Reid to put the work in hand. As instances, amongst many others, of vacillation and change of plans on the part of Dr. Reid, I might mention that at one time it was intended that the main smoke-flue, which is to receive the smoke from the open fires throughout the building, should

* Our readers may refer to the paper "On Chancel and Sacrarium," noticed page 183.

be immediately above the ceiling of the house, and that the main air-flue should be above the smoke-flue. Subsequently it was proposed that the smoke-flue should be placed in the centre, with a space on each side for lighting purposes, and the remainder for air, all immediately above the ceiling. And now it is proposed that the smoke and air flues should be raised to a higher level, so as to form a chamber between them and the ceiling, for lighting and other purposes, and that the relative position of the smoke and air flues should be transposed; namely, that the main air-flue should be below the main smoke-flue, whereby most serious and extensive alterations in all the arrangements already made will be rendered necessary. So much for the upper part of the house and house lobbies.

Since November, 1844, the following have been some of the propositions made by Dr. Reid at various times. At first the floor of the House was to be entirely perforated, and to have, as I have before stated, a dust-bin of iron under the whole of it, with air-tight trunks and dust doors; then this dust bin was to be of some elastic material, as canvas, oiled silk, &c., but how secured was not decided; then the floor plates were not to be entirely perforated, but some left plain. This proposition was twice altered. For the supply of air to the house, it was first proposed that the walls should be of some perforated material for a height of thirteen feet above the floor, or, to use the doctor's expression, they should be breathing walls. Then the ingress of air was proposed to be restricted, and pass through the panels and skirtings only, at each end of the house. Then it was proposed that the air should issue from a bench or seat against the walls at each end of the house, in conjunction with air fountains, if required, in the form of tables, &c. Then that it should issue only through the ends of the raised seats, and through plates in the floor arranged against the walls, the apertures being protected from persons walking thereon by a railing. And, lastly, in addition to the last proposition, a permanent provision is now proposed to be made for air fountains, the form and situations of which have not yet been settled by Dr. Reid. Thus, no less than eight propositions have been made for the apertures of ingress for fresh air, and no definite instructions, or practical drawings and descriptions, have yet been furnished by Dr. Reid for any one of them.

Do those relate to the House of Lords only?

Yes; the House of Lords only. I might also add, that I have not yet been informed as to the source of heat for the house, nor as to the details of the flues, with the arrangements within them, which are to convey the fresh air into it, or the vitiated air out of it. By the adoption of the arrangements last proposed, with respect both to the ceiling as well as the floor of the house, I think it right to observe, that the privacy of the house will be altogether destroyed, inasmuch as the attendants, workpeople, or others, who will have access to the chambers above and below the house, for the purpose of working the system of ventilation, &c., may hear all that takes place within it, and be themselves heard from the body of the house. I deem it right also to observe, that by the adoption of the last proposition for admitting air through the floor near the wainscoting, and through air fountains, a considerable sacrifice of space will be the consequence, both at the throne as well as at the bar end of the house, which will occasionally be attended with great inconvenience. The ceiling and walls of the house are finished, and the windows glazed, but every thing respecting the warming and ventilating arrangements still remains in uncertainty. In the meantime a great number of the floor plates remain unordered; and until they are cast and fixed, which will take a considerable time, nothing can be done towards fixing any of the wall framing and other joiners' work, the whole of which, with the exception of the throne, is now ready. This is, I believe, a perfectly true account of the state of things as regards the House of Lords."

And a pretty state of things, our readers will agree with us in saying, it is!

BUILDING SOCIETIES.—Government do not intend to remit the stamp duties payable on conveyances in respect of building societies.

ARCHITECTURAL SPIRIT OF THE JOURNALS.

THE *Art-Union* journal of the present month contains an article on the "New Tariff," shewing its effect upon "British Manufactured Art," and a notice of the gallery of pictures at the residence of Sir Robert Peel. To the designs for Gothic furniture, by Professor Heideloff, we cannot give unqualified approval. Several of them are so far at variance with the excellent principle in Gothic design, as to shew a forgetfulness of the material, and the purpose of the particular subject. It must often be so where details are adapted to objects for which they were not intended, and where utility is not the first consideration. Our main object should be to get a chair in which we can "sit at ease," one which we can lift, and which has its tracery of a bulk in some degree proportioned to its size, with carving such as assiduous housemaids are not likely to damage, and which will not make curious havoc in our inexpressibles. We do not assert that the designs under notice are without merit, but object to the unqualified praise with which they are accompanied. A table, a chair, and a carpet seem to require very different treatment. The "Letters on Landscape," of which the third appears in the present number, are clever and instructive. The "Illustrated Tour in the Manufacturing Districts" is continued, with an account of the carpet manufacture at Kidderminster. It would be well if architects could devote more attention to the improvement of design in carpets which play so important a part in the decoration of a room, that it is much to be regretted such erroneous principles are acted upon. The effect of varied surface should be carefully eschewed. All imitations of nature are unsatisfactory, if only, that the material, generally speaking, is insufficient. The decorations of the Alhambra, or the encaustic tiles of the middle ages would be useful as lessons, though we do not recommend that they should be *copied*. In a wall or a ceiling, we should recollect, that our object is not a representation, but an actual production, in which representations may be practised in detail, but cannot fail to be unsatisfactory as the leading motive. A review of M. Sylvestre's "Paléographie Universelle," may be referred to for a good notice of the subject. From Rome, there is an account of the restoration of the column erected in honour of Antoninus Pius, which was 60 feet in height, and 7 feet in diameter. Our readers will be surprised to find complaints of the difficulty of access to museums and collections. The Vatican is not open more than once a week, and taking notes is prohibited in the Museo Gregoriano. This in the metropolis of ART.—As the picture by James Barry, mentioned in a previous number, is to be sold for fifty guineas, a subscription has been commenced towards placing it in the National Gallery. In a review of a new work on colour by Mr. Hay, the application of his theory, already mentioned in our pages, is questioned.

The *Ecclesiologist* gives a paper on Architectural Nomenclature, principally taken from Professor Willis's valuable treatise. The most important change suggested, is that given as follows:—

Pinnacle.—Any spirelet, or small turret, rising above the roof.

Finial.—What in modern parlance is meant by pinnacle.

Crop.—The bunch of foliage at the summit of a finial, called by modern writers finial.

The writer says, "The superior advantage derived in the first instance from our being able to describe small turrets in one word, and in the second, from the restoration of that most expressive term *crop*, makes us willing to hazard the change." The terms, "first," "middle," and "third pointed" recommended in the journal, are displacing the old nomenclature of Rickman. Certain peculiarities in detail, noted in "A Church-walk in Kent" may here be quoted. In the church of S. Mary, of Hunton, the sedilia "appear to rise from east to west," and the piscina is "thrown squinch-wise across the north-east angle" of the chancel. The lich-gate to the church of S. Peter, Boughton, Winchelsea, is "remarkable for an addition on its south side, like a rude chamber, that bears every appearance of being original." Mr. Freeman writes in reply to a paper in the *Ecclesiologist*, and gives his views on symbollism, and the nomenclature of the styles. He prefers the terms "lancet," "geometrical," "flowing," and "perpendicular" to those of "first," "middle," and "third pointed," and thinks that to be consistent, the style of Brixworth Church should be called "first round," and Iffley "second round." The subject of lychnoscopes is concluded from the last number. It had there been shewn, that the west windows of aisles, especially of north aisles, differed in a marked manner from other windows in the church; and it was supposed, that as the plan of the church symbolized the position of the Saviour's body upon the cross, these might represent the wounds in the feet, and if that should be considered probable, that lychnoscopes might indicate the wounds in the side. These pede-windows were frequently of the rose form, which also occurred at the ends of transepts, where they might represent the wounds in the hands. It is then attempted to be proved, that lychnoscopes could not have had an object of utility, and that it was quite consistent with the early system, thus to symbolize minute particulars. The ground plan of a church at Poictiers has the transept intersecting obliquely, which is supposed to symbolize the Saviour's hand, upraised in blessing towards the penitent thief, and depressed in denunciation of the other? Other instances of a similar kind are given, and various objections to the suggested explanation are combated. One argument is, that lychnoscopes are found almost exclusively in the early styles, those which were most symbollical. For lychnoscopes, it is proposed to substitute the term, "vulne-window." A fifth edition of the "Hints on the Practical Study of Ecclesiastical Architecture and Antiquities," is in preparation. We are happy to see that the Camden Society are shewing a greater inclination to avail themselves of the services of architects. Amongst church restorations — 40,000*l.* to 50,000*l.* is to be expended upon St. Patrick's Cathedral, Dublin. The plan of the cathedral is cruciform, with aisles to choir, transept, and nave, with an eastern retro-choir and lady-chapel. The building is at present in a bad state. The restorations are to be complete, and we may mention, that it is "proposed to place the organ in the triforium, in the angle between the choir and the north transept; its diapered pipes being seen outside the arch on both faces." In the church at Preston Basset, Bucks, a piscina and brasses have been cleaned, and an arch and shelf, probably the credence-table, have been discovered. The works at Cologne Cathedral progress satisfactorily.

In the *Gentleman's Magazine* Dr. Bromet recommends that a register of sepulchral brasses, incised slabs, and stained glass be kept by the incumbent of every church, and also suggests that every person, who has made tracings or rubbings, might communicate a list of them to the magazine. It is very desirable that such lists should be made, and Mr. Nichols has already taken the first step in the *Topographer and Genealogist*. Dr. Bromet also communicates the questions to be submitted to the French Architectural Congress, which will meet at Metz on the 15th of June. The subjects are not merely antiquarian, but such as concern in some degree the future practice of architecture. The illustration, this month, is an ancient house at Ilchester, ascribed to the reign of Henry the Sixth. It had a double oriel, and is now destroyed. The paper on polychromy of Gothic architecture, reported from the proceedings of the Society of Antiquaries, will be found interesting and instructive.

The Mechanics' Magazine continues the discussion on Mr. Jopling's system, and gives further information respecting the substance "Gutta Percha," previously described in these pages. We also find "a plan for beautifying gardens and accelerating the growth of plants," by improvements in draining, and the application of electricity to the soil. The subject of "mathematics as a branch of professional study" is continued in the number for April 18th, and contains some valuable suggestions. Great merit is ascribed to the late Mr. Peter Nicholson. Mr. Davies, of Woolwich, contributes some queries respecting the oblique arch, and another number gives a drawing of the new ventilating bed-top. In the last num-

ber, a communication on Mr. Farey's elliptograph and vanishing point, will be read with interest by those who are much engaged in perspective drawing, and Atkins's "equilibrium window sash" is figured and described.

A paper in *Blackwood's Magazine*, describing some of the tricks practised upon collectors of antiquities in Italy, is worth reading attentively by all lovers of art. The *Gardeners' Chronicle* has in its contents, articles on the heating and ventilation of hothouses; and the *Philosophical Magazine*, an article on the introduction of the words *tangent* and *secant*. The *Dublin University Magazine* has a portrait of the president of the Royal Academy.

The journals devoted to subjects religious and ecclesiastical increase in number, and all of them are in some degree directed to architecture. Besides the *Church of England Magazine*, generally illustrated with views of churches, we see that the *Ecclesiastic* has a paper on "Cornwall Churches." *The People's Dictionary of the Bible* has several papers on architectural subjects, treated with ability and scholarship, and is issued at a very low rate. *The Illustrations of Monumental Brasses* by the Cambridge Camden Society, are now completed; there are six numbers.

ROYAL INSTITUTE OF ARCHITECTS.

On Monday evening, the annual general meeting was held to receive the report of the committee, and elect officers for the ensuing year; Mr. Papworth, vice-president in the chair.

The report was of a satisfactory character, and shewed that the finances of the Institute are in a sound state. It embraced one or two points whereon, as we differ entirely from the council in respect of them, we shall take an early opportunity to make some remarks.

Mr. Poynter having found it necessary from the pressure of engagements, to quit the office of honorary secretary, which he has filled with great credit to himself and advantage to the Institute for six years, a vote of warm thanks to him for his exertions was passed by acclamation. As were also, thanks to the president, Lord de Grey, the vice-presidents, the council, Mr. Bailey, hon. secretary, and the foreign secretary.

The following gentlemen were then elected:—Vice-presidents, Messrs. Angell, Barry, and Tite; ordinary members of council, Messrs. Alexander, Ashton, Brandon, Burn, Bellamy, Donaldson, Fowler, Pownall, Shaw, and S. Smirke; hon. secs., Messrs. Bailey and Scoles.

CONSEQUENCES OF DEFECTIVE DRAINAGE.

Mr. Dyce Guthrie has addressed a letter to the *Ayrshire Agriculturist*, drawing attention to the illness and death of various members of a family, in the neighbourhood of Noblehouse, which he shews resulted from defective drainage. Professor Christison, to whom the matter was referred (great alarm having been excited by the mysterious nature of the occurrence), says to Mr. Guthrie in a letter referring to this case:—

"I may mention, that before I saw you, I had come to an opinion, that the most probable cause of the disease at the farm-house of Stevenston, was impregnation of the soil around or under the house through defective drainage; and recommended that the state of the drains should be inquired into. In a report which was requested from me by the crown officers, I stated that such was the most probable view to be taken of the case; and my report had scarcely been delivered, when I received information that three drains in the house had been found so defective, as to be utterly useless for their purpose; that they had been choked up, and had never been cleaned out during several years, ever since the tenant, lately deceased, took the farm; and that an enormous accumulation of filth had been found on proceeding to clear them."

In hundreds of cases the same destructive agency is in operation, and though the effects are not always so immediate and apparent as in this instance, they are none the less sure.

Metropolitan Improvements.—The expense incurred for the Metropolitan Improvement Commission in 1844, was 893*l.* 10s. 4d.

PROGRESS OF ARCHITECTURAL COMPETITION.

Some parties at Rugby have recently advertised for designs for an hotel, with all necessary out-offices and stabling. Plans, sections, and elevations are required, also a specification and estimate: for all which, what think our readers, who have not seen the advertisement, do these gentlemen offer to the one successful candidate? Why the munificent sum of twenty guineas! We blush when we think of the opinion in which professors of architecture must be held, by persons who consider that the offer of this trumpery premium (so far from an adequate reward even were there no risk in the case), will bring them a host of proposals from which to select.

We shall blush still more if they find that opinion borne out by the result. Every architect who submits plans, sections, elevations, specification, and estimate, in reply to such an advertisement, strikes a blow at the respectability of his profession.

We are inundated by letters from architects on the subject of competitions. Why do they not themselves act with the view of enforcing an alteration? So long as they choose to bow themselves to the system, and committees find that, offer what they may—any thing, nothing—there are plenty of candidates for their favour, so long will it endure, and so long the abasement of the profession go on.

Dear Sir,—I beg most cordially to congratulate you on the very rapid strides with which both the knowledge and practice of the most appropriate means of advancing the noble science of architecture, are now progressing towards perfection.

I would allude most particularly in the present instance, to a subject very frequently noticed in your pages by various correspondents, as well as by your own able pen, namely, architectural competition, a subject, Sir, which no person in the present day can possibly view without feelings of the highest respect and admiration.

The candour, the equity, the open and straightforward dealing so constantly brought before us by the gentlemen engaged in those matters as judges, might well form subject matter for a heavy volume, but to paint them in their proper colours, requires greater ability than I possess.

Surely Solon himself could not have devised a more excellent plan than that which calls to the tribunal of selection, those gentlemen, vulgarly styled in the common run of life, farmers, butchers, or tailors, who, as will be clearly evident to all but the wilfully blind, must possess far more accurate judgment as to the merits of the designs submitted to them, than the architects who prepare those designs without the slightest trouble or expense.

I would beg to suggest, Sir, that the principles so admirably exhibited in regard to architecture, might very judiciously be brought into play with good effect, in the various branches of science and literature. I will instance an example which will carry evidence of its utility in even a greater degree than those already named.

As the clergy are such excellent judges of design and practicability in architecture, it is but a natural inference that architects are equally good referees with regard to the sermons of the clergy. Therefore if a sermon is required to be preached before her Majesty, or for any charitable or other purpose needing one specially prepared, let any number, definite or indefinite, be submitted to a committee of our profession, who shall decide as to the preference to be given to any one in particular.

Again, Sir, is the building Act to be revised? Let not Parliament resolve itself into committee on the subject, but rather appoint a board of butchers, who would be far more able to bring the matter to a proper conclusion than perhaps any other body of men, scientific or unscientific. Having thus laid before you these few ideas, trusting you will ever lend a helping hand wherever it may be needed for the good of the profession,

I remain, Sir, &c.,

Egomet.

Health of Towns' Bill.—It seems unlikely that this bill will be brought forward during the present session, notwithstanding Sir James Graham's statement.

COMPENSATION *re* RAILWAYS.

Sir,—For the benefit of your readers, I transmit you an account of two cases of railway compensation, which came before a sheriff's jury in Liverpool on Friday se'nnight, and clearly shew the impossibility of obtaining justice where railway companies are concerned, so completely are juries mixed up in such affairs.

The grand Junction Company having occasion to extend their works at the terminus in Liverpool, served various parties with notice, demanding (under their Act) their property, and offering them very inadequate compensation for it. The two cases in question were heard; the first case was Mr. Gibson's, a sculptor, &c., who claimed 2,445*l.* for property held on lease for two lives, fifty-one and fifty-five years, and twenty-one years after, said lives being worth fourteen years' purchase. It was clearly stated that the property, although producing 114*l.* per annum, was capable, by laying out from 300*l.* to 500*l.*, of being improved, being within fifty yards of the new law courts, &c., to upwards of 200*l.* per annum for attorney's offices, and at a very moderate rental, and although the plaintiff's case was supported by highly respectable surveyors, &c., of long standing, and ably advocated by Mr. Blair, counsel for the claim, yet did this jury give only 810*l.* The plaintiff, in his claim, charged 150*l.* for a tunnel which the company made for their trucks, &c., under his property five years ago, worth to them 50*l.* per annum, but for which plaintiff agreed to take 10*l.* per annum.

Statement of claim.

Property, taking 14 years' purchase upon the improved rental	£2,320	
Deduct amount expended (say)	400	
		1,920
The tunnel		150
Loss of trade, &c., by removal		350
Fixtures		25
Verdict, 810*l.*!		£2,445

The other case was of a Mr. Smith, who had recently erected very complete marble workshops, &c., upon about 256 square yards of land, worth 4*l.* 4s. per yard, and for an adjoining plot the company actually paid a gentleman, who deposed to the fact, 4*l.* 7s. 6d. per yard. Cost of buildings estimated by competent surveyors and builders at 1000*l.* to 1,200*l.*

Value of property upon the same tenure as the last, worth from 130*l.* to 140*l.* per annum	£2,080	
Loss of trade by removal	500	
Removing a large stock of marbles in blocks, slabs, and chimney-pieces, &c.	50	
		2,630

Verdict 1960*l.*!

A man is thus compelled to part with his property against his interest or will, driven to seek a fresh locality, which may produce ruin, by a powerful company who are reaping enormous profits ("for the good of the public no doubt") and to be robbed likewise. Surely it is high time, since it is difficult to find a disinterested jury now-a-days, for the Government to institute competent judges in such matters to arbitrate between parties. I have written this hastily, but the facts are stated.

A Lover of Fair Play who was Present.

Improvement in Paris.—*Galignani* says: "We have already stated that the portion of the Quai d'Orsay which runs between the Pont Royal and the Pont de la Concorde, had been planted with trees, and that the footway had been widened and paved with flag stones. The Quais, from the Hotel de Ville to the Tuileries on one side of the river, and from the Palace of the Institute to the Chamber of Deputies on the other, now form most pleasant and agreeable walks, furnished at intervals with benches, and shaded by trees. When the Quai de Tuileries shall be completed, which it will be very shortly, there will be a splendid promenade from the Pont Marie to the Pont de la Concorde, extending to the length of 3,000 yards.

The new suspension-bridge over the Seine, near the railroad station at Gaillon, was opened a few days ago; all the superior authorities of the department of the Eure being present at the ceremony.

LAW AND PRACTICE OF PATENTS.*

The following remarks from Mr. Prince's useful work may be valuable to some of our readers.

"A very common and dangerous custom as far as regards letters patent exists, and is in very general use:—a man who is poor invents, and another having money, but who does nothing to further the progress of the invention, joins with him, and the patent is obtained and issues in their joint names, and upon the suggestion that they jointly invented, &c. Such a suggestion not only voids the patent upon the ground of fraud and deceit, but it is presumed would subject the party to an indictment for perjury; for a declaration is made that they are the *first* and *true inventors*.

This practice is also bad as regards the property itself, and tends only to defeat its very object; as in the case of an infringement, the patent would be unprotected, for the plea that they did not invent would directly put in issue the question who were the inventors, and if it was proved that one only invented, the grant being joint, the patent would be void, for the patent is an entire thing, and granted upon a falsehood of which both were cognizant, therefore, ignorance could not be urged in extenuation, and would not be allowed (it is conceived) even on a petition to the Privy Council to confirm the patent, for the office of the council is not to encourage frauds, but to confirm useful inventions of which there has been a prior publication, the inventor being in ignorance thereof. Nor could the action be brought for the infringement in the single name of the true inventor; for the defendant would plead the non-joinder of the other person in abatement, and even if advantage was not taken then, the parties at the trial would be defeated on the ground of a variance,"

Persons advancing money in aid of inventions should secure themselves by taking an assignment of the patent obtained in the name of the real inventor, and not destroy the property of both by an over anxiety: the advance is secured by the assignment, and by that mode only.

ARCHITECTURAL AND COLLATERAL FOREIGN WORKS, LATELY PUBLISHED.

FRENCH WORKS.

Catalogue of Patents of Invention—imported or improved, from Jan. 1st to 31st Dec. 1844. By order of the Minister of Commerce. Paris. 8vo.

Gileon, A., Aperçu.—Survey of the different Systems of Railroads. Paris. 8vo. 2s.

Saussaye, De la, Mémoire.—Memoirs on the Antiquities of the Sologne of Blois. Paris. 4to. part I., 7s.

Sounet, H., Recherches.—Researches on the Uniform Movement of Water in closed Tubes and open Canals. Paris. 4to.

Walowski, Code.—Code of Industry explained, containing the Legislation of Patents, the Council of *Prud'Hommes*, insalubrious and incommodious Workshops, &c. Paris. 12mo. 4s.

Guide for Travellers through Monumental France.—Paris. A thick vol. 12mo. with a Monumental Map of France. Paris. 10s.

Renard, F. A., Architecture.—Decimal Architecture, Parallel of the Orders of Architecture, and their principal application, after Palladio, Scamozzi, Philibert De l'Orme, &c.—Established on a Division of the *module* in Harmony with the Decimal System. Paris. Fol. plates, part I.

Sarron, F. V., Arpenteur.—Surveyors' Handbook. Paris. 2 vols. 8vo. plates, 9s.

Duhamel, Memb. of Instit., Cours.—Course of Mechanics at the *Ecole Polytechnique*. Paris. Vol. I, 8vo. plates, 5s. 6d.

Description of Engines and procedures consigned in patents of invention—imported or improved, now expired. By order of the Minister of Commerce. Paris. Vol. LVI. 4to. plates, 15s.

Guenebault, L. J., Dictionnaire.—Iconographic Dictionary of Monuments of Christian Antiquity and the Middle Ages. Paris. 2 vols. 8vo. 20s.

Normand and *Rebout*, Etudes.—Studies on Shades and *Wash*, applied to the orders of architecture. Paris. Gr. in fol. obl. with 15 plates on steel, 18s.

Notice on the Hall of Ancestors of Thoutmés III., in the Temple of Karnac, in the Royal Library of Paris, and the Table of Abydos of the Brit. Mus. Paris. 8vo.

Tripier, Traité.—Treatise, theorical and practical, on making Varnish. Paris. 12mo. 3s. 6d.

Robert, Histoire.—History of the Working Classes, from the Slave to the Producer (*prolétaire*) of our times. Paris. 8vo. each part 4d.; in 80 parts.

Guy, l'Art.—The Art of the Geometrical Surveyor, or Treatise on Practical Geometry. Paris. 12mo. plates, 3s. 6d. Second Edition.

Vingard, Histoire.—History of Labour and the Labouring Classes. Paris. 8vo. each part 4d. To be comprised in 48 parts.

Granuelle and *Jaunez*, Guide.—Stoker's Handbook. Paris. 8vo. atlas, 11s. Third edition.

Calliat, V., Architect, Hôtel.—The Town Hall of Paris. Paris. Fol. 11th and last part (a fine work).

Alboise and *Maquet*, Prisons.—The Prisons of Europe. Bicêtre, la Conciergerie, &c., Tower of London, Spielberg, &c. Paris. 8vo. plates, each vol. 6s.

Clavel, Almanach.—Picturesque Almanack of Freemasonry for 1846. Paris. 16mo. 9d.

Fournel, l'Art.—Art of the "*fumiste*" or Means for preventing the Smoking of Chimneys, Stoves, &c. Paris. 4to. plates.

Carlier, Atlas.—General Atlas of the Light-houses and *Phares* of the Globe. Indian Ocean. Paris. Part I. with 22 plans 9s.

Lechatelier, Engineer of the Corps Royal of Mines. Chemins.—The Railroads of Germany, their Statistics, System of Execution, Plans, Rails, Stations, the Material, Cost of Working, System of Management, Profits, &c. Paris. 8vo. map, 9s.

Deniel, P., Civil Engineer. Construction.—Construction and Management of Railroads in France. Paris. 8vo. 4s.

Dupuyrode, G., Lois.—The Laws of Labour, and of the Working Classes. Paris. 8vo. 4s. 6d.

Legoyt, Livre.—Railway Book of the Lines constructed, in progress, and projected in France and abroad; Construction, Legislation, and Profits. Paris. 12mo.

Vilet, Member of Institute, Monographie.—Monography of the Church of Notre-Dame de Noyon; Plans, Sections, Elevations, and Details. Paris. 4to.

Monument of Carnac and the two colossal stones of Locmariaguer. Paris. 8vo. 1s. 6d.

Chambryron, Essay.—Archæological and Historical Researches on the Church of Notre-Dame de Belville-sur-Saône. Paris. 8vo.

Leblanc, Recherches.—Researches on Confined Air. Paris. 8vo.

* "Law and Practice of Patents and Registration of Designs, with the Pleadings and all the Necessary Forms. By Sidney Billing, Esq., Barrister-at-Law, and Alexander Prince. London: Benning and Co., 1846.

Correspondence.

POSITION OF CHURCHES, EAST AND WEST.

Sir,—Your journal is an authority on matters concerning the science of architecture. It is therefore with regret that I remarked in the number published Saturday the 18th, an extract from the *Hampshire Advertiser* concerning the position of a new church at Sandown, which extract I consider liable to produce erroneous impressions. It says that the custom of placing churches east and west "is not a Catholic custom, but only an English one." In support of this assertion no authorities are produced, and you are led to the conclusion that English *Protestant* churches only ("for placing churches east and west is not a Catholic custom") are built in the proper manner.

It proceeds to say "that there are plenty of places of worship in England built like this church at Sandown, without any regard to the points of the compass." Here we perfectly agree, but for instance it is not necessary to have recourse to "meeting houses," or to "Romish chapels," where perhaps great difficulties both of site and of funds have had to be contended with, for the principal church in the wealthy parish of Marylebone would furnish an example. It is not my intention to point out (as I easily could) any more Protestant infringement of this "English" "not Catholic" custom. I should not be obliged to seek for examples amongst "meeting houses" and "Romish chapels."—I am, Sir, &c.,

20th April, 1846. J. G. H.

*** J. G. H. mistakes the meaning of the word *Catholic*.

TRAINING SCHOOL CHAPEL.

Sir,—Would you, or any of your numerous readers, have the goodness to answer the following query:—

A chapel attached to an institution for training schoolmasters and schoolmistresses, in connection with the Church of England, and a school for the sons of yeomen, is about being built. What is the correct *internal arrangement* necessary for the accommodation of the persons attending such chapel? It has been suggested, the form of a college chapel supplies the best design, viz.: with longitudinal stalls or seats, the schoolmasters and schoolmistresses within the screen; the former at the sides or raised seats, the latter ranged in the centre on the floor, and the sons of yeomen in the ante-chapel, they *not* being, and the former being considered communicants. Any information upon this subject would be esteemed most valuable by your

Constant Reader.

CONSTRUCTION OF KILNS.

Sir,—I should feel obliged if any of your correspondents could inform me, or recommend to me any work, giving information as to, the best plan and form of construction for a kiln, to burn either lime, bricks, or drain tiles with coal, and capable of holding about eight thousand bricks, ten or twelve thousand tiles, and fifty quarters of lime, or less of either and more of the other in proportion; or whether it would be more economical to burn the bricks and tiles alone, without lime.

I am, Sir, &c.,

A Subscriber to your useful Journal.

MODERN BRICKWORK.

Sir,—I was much struck with the truth of Mr. Planché's words, as given in a recent number of The Builder, but did not expect to see them so soon verified, nor in such a place as New Oxford-street, which I should have imagined, being under the hands of the Commissioners of Woods and Forests, would have had a better surveillance, but on passing through the street yesterday, I observed men at work carrying up the foundations for some houses, near Bedford Chapel, the party walls are to all appearance two bricks thick, but the way they are built is this, 4½ inch work is run up on each side, leaving 9 inches space between, and this is filled in with a quantity of small stones, broken bricks, and other rubbish, the two sides being tied together every five or six courses; such work as this is a disgrace to the trade, but where are those persons whose duty it is to see the work properly executed? The mortar is also worthy of notice, the lime being mixed with screened earth or mould dug out for the foundations.

I am, Sir, &c.

April 22. V.

To vouch for the truth of these assertions I give you my name and address.

Miscellanea.

Inspectors of the Royal Palaces.—Since the retirement of Mr. Henry Saunders from the office of Inspector of Royal Palaces, which included those of Buckingham and St. James's, as well as Windsor Castle and the Pavilion at Brighton, entirely new arrangements have taken place, connected with this portion of the Lord Chamberlain's department. It is intended in future to have a resident inspector at each of the four royal residences we have enumerated, and also, we are informed, at Osborne-house, in the Isle of Wight, as soon as the extensive alterations now in progress are completed. Mr. Robert Lyons, who had held the office of secretary to the master of her Majesty's household for upwards of six years, has just been appointed resident inspector at Buckingham Palace. Mr. Roberts (the brother-in-law to the nurse of the Princess Royal) having been appointed inspector at Windsor Castle immediately upon the retirement of Mr. Saunders. The inspectorships of St. James's Palace and the Pavilion at Brighton have not yet been filled up.

Middlesex House of Detention.—The magistrates of the county and a number of guests assembled on Monday at Clerkenwell, to witness the laying of the foundation-stone of the new "House of Detention" by the Marquis of Salisbury, the Custos Rotulorum of the county. At two o'clock they moved in procession from the Session-house to the site of the rising building, preceded by the high-constable; Mr. Moseley, the architect; Mr. Grimsdell, the builder, and various county officers. Besides the Marquis of Salisbury, the Earl of Chichester, Colonel Wood, and several other gentlemen accompanied the assistant judge and the magistrates to the ground. The foundations of the new building are already laid out, and the plan is pretty clearly indicated.

Steam-boat Piers.—Recent accidents through the bad construction and management of the floating piers on the Thames, seem to render some general survey of them necessary. We could point out two or three which are not simply discreditable to our shores, but imminently dangerous.

Timber Roofs.—Messrs. R. and A. Brandon have announced a work on the open timber roofs of the middle ages; illustrated by perspective and working drawings.

THE BUILDER.

WESTMINSTER COURT OF SEWERS.—On Friday, the 1st inst., a court was held, Mr. Leslie in the chair. The collectors presented their accounts, as did the clerk, and the cash balance at the treasurer's was declared to be 11,313*l.* 8s. 3d. Sundry payments were then made. Applications were made for 11,324 feet of new sewer and 934 private drains. Ordered, upon a motion by Mr. Le Breton, seconded by Mr. France, "That the views to be held during the current year be conducted in the same manner, and the accommodation to the commissioners and their officers be on the same scale, as last year, and that Mr. Hertslet be authorised and empowered to provide accordingly." A special court was ordered for the 12th of May, at 12 o'clock precisely, to consider the proposed regulations as to the construction of sewers. The court then ordered the surveyor to prepare a report as to a cheaper form of sewer for courts and alleys. Mr. Donaldson gave the following notice of motion:—"That the appointment of Thos. Rouse as clerk of the works at the meeting of the court on Friday, the 17th April last, without previous examination by the commissioners, was null and void, being contrary to the practice of the court, and contrary also to the laws of the court, No. 20, no previous notice having been given in the ordinary summons, stating the name of the office and of the candidate or candidates for such office, &c." After some routine business the court adjourned till the special court on Tuesday, the 12th inst., at 12 o'clock.

SOCIETY OF ARTS.—April 29th, Mr. W. F. Cooke, vice-president, in the chair. The first communication read was by Mr. W. Spence, on Mr. Godson's patent furnace for consuming smoke and economising fuel. The general features of the furnace and the parts of which it is composed may be thus described:—A box with a moveable bottom or feed plate for the fuel, and fitting its internal surface, is substituted for the ordinary bars in the middle of the furnace, and is capable of being raised or lowered within the box or chamber, and which is made to occupy a position in the ash pit below the furnace. The fuel is fed on the plate while in its lowered position, and when raised it is introduced into the centre of the fire, by which means the smoke evolved from the fresh fuel is consumed. In order, however, to render such a mode of supplying fuel available for its purpose, it is necessary that at the time when the feed plate in the centre of the furnace is to be lowered to receive its charge, the portion of burning fuel resting thereon should be supported. For this purpose two plates of metal are made to enter the furnace (one on each side) and meet in the centre. Again it is requisite for the due promotion of the draught into the furnace, that inasmuch as the centre support of the fuel consists of a dead plate, that plate should be kept a little below the fire bars, and that a series of oblique bars should be formed, and extend from the ordinary fire bars to the plate. A model and diagrams of the invention were exhibited, and a lengthened discussion took place as to the merits of the invention. The second communication was by Mr. Moses Ricardo, on a machine to register the velocity of railway trains when in motion.

FURNITURE WOODS.—We have on two or three several occasions mentioned that it is the intention of the Government, that all woods which are imported for the purpose of making furniture, and are not applicable to any use other than for cabinet-making purposes, should be delivered free of duty, although they be not specially mentioned in the Act of the last session of Parliament, it being considered that although mahogany, cedar, and some other well-known descriptions of wood were named in the Act, it was the intention of the legislature that all woods imported in a raw state, and applicable to the purposes mentioned only should, have the same privilege of being admitted free of duty.

MEETINGS OF SCIENTIFIC BODIES

During the ensuing Week.

MONDAY, May 11.—British Architects, 76, Grosvernor-street, 8 P.M.; Geographical, 3, Waterloo-place, 8½ P.M.

TUESDAY, 12.—Civil Engineers, 25, Great George-street, 8 P.M.; Freemasons of the Church, 3, Great Newport-street, Leicester-square, 8 P.M.

THURSDAY, 14.—Royal, Somerset House, 8½ P.M.; Antiquaries, Somerset House, 8 P.M.

FRIDAY, 15.—Royal Institution, Albemarle-street, 8½ P.M.

NOTICES OF CONTRACTS.

[We are compelled, by the interference of the Stamp Office, to omit the names of the parties to whom tenders, &c. are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York street, Covent Garden.]

For providing and fixing a wooden boundary fence on each side of the Union-house, Greenwich.

For the execution of works on the Ely and Huntingdon Railway.

For the erection of a new rectory house, stable and coach-house on the glebe-land at Swyre, in the county of Dorset.

For the construction of a service-reservoir, and other works connected with the Coventry water-works.

For restoring and reseating the parish church of Houghton, Huntingdon.

For laying down about 7,000 feet of 3-inch tooled York paving; about 140 yards of 6-inch Aberdeen pitching; and about 50 yards of 4-inch Aberdeen pitching, between Bow-bridge and the Railway-bridge at Stratford.

For the erection of a new church at Droylsden, near Manchester.

For painting thirteen large houses, windows, doors, &c., at Manchester.

For the erection of fifty brick-built houses at Sheerness, each consisting of four rooms, washhouse, &c.

COMPETITION.

The committee of the Manchester Royal Lunatic Hospital are willing to receive plans for a new Lunatic Hospital, to be erected near Cheadle, about eight miles from Manchester. The party whose design is most approved of will be appointed to superintend the building. 100*l.* to be paid for the second best plan.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At Weston Wharf, and No. 8, Oxford-street: an assortment of mahogany (in logs, veneers, &c.), rosewood, ash, oak, pine, deals, &c.

At Henham, Essex: about 300 very useful oak timber trees.

At Barking Tye: a prime small lot of old-seasoned timber, elm boards, &c.

At the Wheat Sheaf Inn, Bewdley: 181 oak trees.

At Hoorenger, near Bury St. Edmunds: about 40 loads of oak timber.

At Poslingford, near Clare: 150 loads of capital oak timber.

TO CORRESPONDENTS.

"*H. M. P.*"—Order of any bookseller. The price is 1s.

"*W. B.*"—Declined with thanks.

"*Competitor.*"—The evidence is not sufficient. The drawings may have been fastened up for examination.

"*A. A.*"—Thanks. It shall be looked to.

Next Week.—"Humanitas," "Cloacina," "R. Trow."

Received.—"Juvenis." "W. S." "W. B." "T. I. M." "The Elements of Architecture," by the Rev. J. W. McGauley (M'Glashan, Dublin, 1846); "Observations on the Kentish Rag-stone," by John Whichcord, jun., architect (Weale, London), 1846; "Old England's Worthies," Part IV. (C. Knight); "Pictorial Gallery of Arts," Part XVI. (C. Knight). This latter brings the history of architecture up to the introduction of the pointed arch. "Railway Chronicle Travelling Charts, or Iron Road Books—London to Woking and Guildford" (a pleasant companion).

ADVERTISEMENTS.

CAEN STONE.

LUARD and BEEDHAM have a quantity of the above stone, of the best quality, direct from their Quarries at Allemange, which may be inspected at the Norway Sufferance Wharf, Greenwich.—Further particulars at MR. G. GATES', 18, SOUTHWARK-SQUARE, SOUTHWARK.

ARCHITECTS and BUILDERS are invited to inspect an entirely new description of building-stone, now first introduced into the London market, and which for cheapness, durability, quality, colour, and facility of working cannot be equalled by any hitherto used. Worked samples and full particulars may be obtained on application to Mr. HARRY OLIVER, Surveyor, 83, Hatton-garden, or Mr. JOHN ELLIS, 26, Martin's-place, Cannon-street, City.

MARBLE CHIMNEY PIECES.—The WESTMINSTER MARBLE COMPANY have this spring, restocked their show-rooms with a great variety of chimney-pieces of quite a new design, with the best quality of Italian Marbles selected expressly for their works, and will be sold to builders at such reduced prices that they will realize a great saving by forwarding their orders to this Establishment. An unabated zeal will be maintained to continue the patronage so liberally shown to the Westminster Marble Works.—Address, Earl-street, Millbank, late Grundy's Works.

FRENCH PAPER HANGINGS.—All the Newest and most Splendid Patterns at the Reduced Duty of 2d. per yard, on view; and orders taken at MARKS and Co.'s Warehouse, 59, Princes-street, Leicester-square. Carved Leather and Carton Pierre Ornaments, and Utrecht Velvets, at the same Reduced Duties.

FINE ARTS.

By Her Majesty's Royal Letters Patent.

LORIMIER'S TRANSPARENT PLANES for Perspective Drawing; BENJAMIN WEST, Patentee.

"This Instrument will enable Artists and others to make any Drawing, whether from Nature or Models, in perfectly true perspective, so that a likeness or landscape may be taken in a few minutes absolutely perfect. It is used by her Majesty's Royal Sappers and Miners, Chatham. To Travellers it would be found serviceable, since it can be employed without the knowledge of drawing."—*Art Union.*

Price 18s. and 25s. Apply for Agents to BENJAMIN WEST, 2, St. James's-walk, Clerkenwell.—Sold by BARRITT and Co., 173, Fleet-street, London; GRIFFIN and Co., Glasgow, and by all Fancy Stationers, &c.

ENCAUSTIC, VENETIAN, and PATENT TILES and MOSAIC PAVEMENTS be purchased at MINTON and Co.'s warehouse, 9, Albion place, Surrey side of Blackfriars-bridge.—Wyatt, Parker, and Co., Agents. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

WILLIAMS'S PATENT SLATE RIDGES and HIPS.—The above article is recommended as the best and the most suitable covering for Ridges and Hips of slated roofs ever invented, possessing a solid Roll of various sizes, more elegant and durable than lead, and 30 per cent. cheaper.—Sold by Messrs. J. and J. SHARP, Slate Merchants, Tooley-street, and Mr. RICHARD COOPER, Slate Merchant, Belvedere-road, Lambeth, London.

DAVEY'S PATENT SLATE RIDGES and HIPS are very superior in appearance to lead, as well as more durable and much cheaper, and are admitted to be the most valuable articles for the purpose hitherto invented. They consist of two side pieces and a roll, either united together to form one solid piece, or in separate parts, and in lengths of from four to six feet. The roll is made of various sizes, perfectly round, and in the strongest way of the slate. They may be purchased of the patentee, W. DAVEY, Broad Quay, Bath, or of any slate dealer in London or the country. Parties ordering a cargo of roofing slates may procure these ridges at the cheapest rate from Mr. JAMES WYATT, Port Penrhyn, Bangor (where they are manufactured), of whom and of the patentee further particulars and prices may be obtained.—Be particular to order DAVEY'S Patent.

HIP TILES to suit slate roofs in colour; Ridges, with plain or rebated joints, roll tops, and vertical ornaments; drains, many sizes, with plain or socket joints; paving in squares, hexagons, octagons, &c., different colours; roofing, in Grecian or Italian styles, other devices also, or plain; conduits, which do not injure pure water; fire-bricks and tiles; clinkers, and out-door paving; sundry wall-coping, garden-borders, chimney-tops; also tubular and other flues of peculiar material. No agent, but a depôt at 22, WHITEFRIARS-STREET, FLEET-STREET, LONDON, under Mr. PEAKE'S personal care, to supply genuine TERRO-METALLIC goods at fair prices as per quality; also, additional Stock at No. 4 Wharf, Macclesfield-street, South, City Basin.

The TILERIES, TUNSTALL, STAFFORDSHIRE, are near the centre of England, whence boats are sent direct to any inland place; or to the Mersey for the coasts, the colonies, and elsewhere.

CHAS. GOODWIN, Plaster of Paris and Hair Manufacturer, 67, Great Guildford-street, Borough, is enabled to supply Plaster, Hair, &c., at the following reduced prices:—Coarse Plaster per ton 2*l.* 10s., Fine 3*l.* 10s., Hair 8*l.* to 10*l.* cash, at Manufactory. C. G. can also supply Architectural Ornaments of every description in a most superior style.

RAIN WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from ¼ in. to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, and No. 6, Bankside, Southwark.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 20s. per gallon.

STEPHENS'S LIQUID OAK, MAHOGANY, ROSE, and SATIN WOOD STAINS, for Staining various sorts of Inferior Woods, so as to give them the appearance and character of the more costly and ornamental kinds; also for reviving the natural colour of Wood Carvings and Panellings, and other ornamental Wood Work, when such has become faded from age or other causes.

IN THE BUILDING AND DECORATING NEW CHURCHES, where it is desirable to give to the cheaper kind of Woods the appearance of Antique Oak, or to make Deal assume the character of Oak Panelling, whereby the effect of the more costly may be produced by the use of a cheaper material, these Stains will be found more effective than any means hitherto employed.

IN OLD MANSIONS AND HALLS, where the Wood Carvings and Panellings have faded, the applications of these Stains will be found to revive and bring back the rich natural colour, and which colour may be varied from the lighter to the deeper shades of the most Antique Oak.

The BIRCH WOOD, which has a fine natural grain, with little colour, is particularly suited to the application of these Stains; and the appearance which it assumes after Staining is so near that of the natural wood, that is is only when the grain and colour of the latter is particularly fine that it is preferred. Beech, Birch, Elm, Ash, and other Woods, English and Foreign, receive the Stains and produce various imitations.

For the exposed Timbers of the inside of the ROOFS of CHURCHES, for which north country Timbers and Deals are generally used, by brushing them over with the Stain, which operation is very rapidly, and of course economically, effected, the appearance of an Oaken Roof will be produced. For colouring the backs of the Seats, Pews, the fronts of Galleries, the Pulpit, &c., it is equally advantageous.

Prepared by HENRY STEPHENS, and may be obtained at 54, Stamford-street; at the Office of "The Builder," 2, York-street, Covent-garden, and in Manchester, at CRAKE'S MARBLE WORKS, Garratt-bridge, Davidstreet, at which places specimens of their application may be seen.

By Her Majesty's Royal Letters Patent

BAILLIE'S

PATENT ROUNDED RIM LOCKS,

WITH SECRET AND SECURE FIXINGS.

THIS CHEAP and USEFUL ARTICLE, obviating the unsightly appearance and insecurity of the common rim lock, can be obtained of any respectable ironmonger in town or country, or from the sole manufacturer, Mr. EDWARD WRIGHT, Wolverhampton.



WILSONS PATENT

VENTILATING

SPIRAL CHIMNEY POT,

For the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success.

This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance.

The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory,

Southwark-bridge Iron Roofing Works.

DAY'S PATENT WINDGUARD, for ventilating

Churches,	Shops,	Kitchens,
Hospitals,	Bed-rooms,	Offices,
Factories,	Smoking-rooms,	Ships,
Theatres,	School-rooms,	Mines,
Breweries,	Nurseries,	Vaults,
Malt-houses,	Stables,	Tunnels,
Club-houses,	Larders,	&c. &c.

Also for preventing down draft; and is guaranteed to cure all smoky chimneys caused by wind; and entirely supersedes the use of revolving cowls, or any thing moveable or unsightly on the tops of chimneys or ventilators.

The object of this invention is to create a draft where otherwise it would not exist, by the spontaneous action of the external air. The Windguard forms a pleasing octagonal pillar, and by its peculiar construction to carry out the principle on which it is based, which consists of the wind giving a disposition for a vacuum within, thereby causing a continual upward current about equal to the velocity of the wind at the time acting upon it, which averages about six feet per second thirty days out of thirty-one; therefore, will nearly at all times ensure a continual change of air, being no impediment to spontaneous ventilation, even on a perfectly calm day. One five feet square will ventilate a building containing upwards of 1,000 persons. The Windguard applied to ships and steam vessels, in the form of a sky-light, prevents rain or the sea entering within, however boisterous the weather may be, thereby affording excellent ventilation as well as light. The Windguard is simply applied for effectually ventilating bed-rooms, nurseries, smoking-rooms, offices, &c., causing the air of the apartment to be at all times as pleasant as can be desired. It is fixed at the top of the chimney, in addition to which a cast-iron frame and valve (about one foot area), made to open or shut at pleasure, is let into the flue, near the ceiling of the room, to allow the constant ascending vitiated air being immediately carried off. The opening is guarded by a neat venetian blind or grating; and so powerful is the effect on a windy day that if a handkerchief be thrown up to the grating, it will remain there—i. e. if the valve be open. In winter the valve would be only partially open, to allow the smoke from the fire to ascend, but if the room be found too cold, can be entirely closed. The Windguard applied to the tops of chimneys prevents all annoyance from smoke (caused by wind); indeed, where it does not, nothing else applied at top will (of the same size); care, therefore should be taken to have the proper size applied. It is simple in its application, reasonable in price, ornamental in appearance; no machinery or anything moveable in it, therefore, cannot get out of order; free from noise or any unpleasantness whatever; not liable to choke up with soot; no obstacle to the machines used for sweeping chimneys. May be had of all respectable ironmongers in town and country; and may be seen daily in operation, where its powers and usefulness are exhibited by the severest tests, at THE PATENT VENTILATING WORKS, COMMERCIAL-ROAD, PIMLICO, LONDON; where also may be seen Mr. G. T. DAY's plans (illustrating the different applications of his Patent Archimedian Ventilator and his Portable Water Apparatus) for effectually Ventilating, Warming, and Cooling the Air of Buildings, Ships, Mines, &c. &c. By the use of these inventions many thousand cubic feet, or any quantity of pure warm or cold air, can be guaranteed to be continually exchanged per minute, day and night, winter and summer; thereby insuring, at all times, free ventilation to the rooms and passages of buildings, &c. from the basement to the roof, at the same time in such a manner as shall not be inconveniently perceptible. The size of the apparatus depends on the nature and use of the building and itsoccupants. The Patentee has been honoured by his inventions being applied at the following places:—

Windsor Castle,	Trinity House,
Buckingham Palace,	Ordnance,
Saint James's Palace,	Greenwich Hospital,
Claremont Palace,	Christ's Hospital,
Walmer Castle	Westminster Hospital,
The Houses of Parliament,	Bethlehem Hospital,
New Conservative Club,	Surrey Lunatic Asylum,
White's Club,	New Royal Exchange,
Travellers' Club,	Mansion House,
Oxford and Cambridge,	Goldsmiths' Hall,
Parthenon,	Fishmongers' Hall,
Wyndham,	Haberdashers' Hall,
Army and Navy,	Dyers' Hall,
Senior United Service,	Grocers' Hall,
Junior United Service,	Armourers' Hall,
Admiralty,	Weigh-house Meeting-house
British Museum,	Hanover Square Rooms,
Somerset House,	Theatre of the Westminster
Custom House,	Literary and Scientific Institution,
Mint,	Grand Cigar Divan, Strand,
Hon. Artillery Company,	City Club,
H. M. S. Salamander,	

And many other Public Buildings in Town and Country, as well as to the Mansions of many Noblemen and Gentlemen. Licenses granted for Manufacturing the above.

Drawings and Plans made for Ventilating and Warming Buildings of every description.

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SIR WILLIAM BURNETT'S PATENT for the Preservation of Timber, Canvas, Cordage, Cotton, Woollen, &c., from Decay.

TESTIMONIALS.

From THOMAS GRAHAM, Esq., M.A., F.R.S., L. and E., Professor of Chemistry, University College, London.

"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.

"The wood appears to be fully and deeply penetrated by the metallic salt: I have found it in the centre of a large prepared paving block.

"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the crystallizable salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.

"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Teplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the fibre of wood, and destroy the solubility, and prevent the tendency to decomposition of the animal principles it contains, by entering into chemical combination with them.

(Signed) "THOMAS GRAHAM."

"University College, 25th October, 1845.

From Professors BRANDE and COOPER.

"London, 4th November, 1845.

"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.

"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.

"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.

"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.—Signed, "WILLIAM THOMAS BRANDE,

"JOHN THOMAS COOPER."

"To Sir William Burnett, K.C.H., F.R.S., &c. &c."

Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 53, King William-street, London-bridge.

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The Builder.

No. CLXXI.

SATURDAY, MAY 16, 1846.

AT a meeting of the Institute of Architects, held on Monday evening last, Mr. Tite, Vice-President in the chair, Mr. Scoles, honorary secretary, read a letter from Mr. Myers, dated Rome, contradicting the reports which were current a short time ago, that the dome of St. Peter's was in danger. Some repairs had been made last summer, one or two of the string courses had been restored, and this had probably given rise to the assertion. A contradiction of the report appeared in THE BUILDER immediately after the statement was made.* With reference to the fact that there had long been numerous cracks in the dome, the chairman reminded the meeting of an anecdote, recorded of one of the later architects connected with the cathedral. Some figures had been erected, and the architect, on being asked his opinion of them, said they wanted repose; there was too much flutter in the drapery. "Yes;" replied the sculptor, "there is; it is caused by the wind through the cracks you have made in the dome."

A paper was read by Mr. De Lassaux, on a preparation of plaster of Paris, proposed to be used in England as an improvement on that now sold. In France, plaster is employed extensively for external work, and endures well; whereas that in England will not stand the weather. The buildings in the *Champs Elysées*, erected on lease for forty years, are mainly constructed of plaster. The Circus there, a model in its way, is chiefly of iron and plaster. The English plaster-stone might be called a sulphate of lime; and he considered it was the presence of a small quantity of sulphuric acid in the plaster which prevented its endurance. The plaster, for which he had established a depôt in England, might be used externally, as in France; and, moreover, was very moderate in cost, being 30s. per ton. As a guide, the paper stated, twenty-six pounds of the plaster, costing 4½d., would cover one yard of wall; and thirty-two pounds, cost of which would be 5½d., a yard of ceiling.

Mr. Bellamy said the present cost of plaster in England was 3*l.* 10s. per ton for the coarse, and 4*l.* 5s. for the fine; so that the difference between this and the plaster introduced by Mr. de Lassaux was very great.

The chairman said, that every person who visited France must be surprised at the general use of plaster of Paris for external work. It was a very important material, and he should be glad to see the obstacles to its use in England lessened. It had this great advantage, that whereas other cements and mortar shrink in setting, plaster of Paris expands. This shrinkage of cements rendered pointing undesirable. Smith's ashes, when mixed with the mortar, lessened the shrinking, but did not obviate it. The expansion of work built with plaster of Paris was such, that it was necessary to carry up the party walls detached from the external walls, and with a space between them, as otherwise the latter would be thrust outwards. In France, when plaster was used for external decoration, it was merely necessary that the upper surface should be protected by lead or zinc, and the plaster would last for a long time.

Mr. Poynter thought the English atmosphere would hardly permit the use of it. It was not that there was more rain here than there, but the atmosphere would seem to be more damp altogether. Outside wooden blinds lasted in England only a few years, whereas in France they might be found a century old. The difference of the growth of the vine in the two countries might also be quoted in support of his opinion. It was this dampness, he thought, which rendered the use of plaster externally, inexpedient.

Mr. Bellamy had known the expansion of doors made of plaster force down the enclosing walls.

The chairman remarked, relative to the dampness of our climate, that in Bavaria, Geneva, and other places, they used our block tin where we were obliged to employ lead; the angles of spires were edged with it and glistened in the sun; rain-water pipes were also formed of it. In Canada too, it was successfully used, whereas in England it would speedily become useless. It was clear, therefore, there was some agent in our atmosphere not present in that of the countries named. Whether or not it was sulphuric acid, produced by the combustion of our coals, he could not say.

Allusion having been made to John's cement, Mr. Godwin cautioned those who had not used it, against permitting it to be applied till the ground-work was perfectly dry. He had recently used a very large quantity of it, and although the brickwork had seemed thoroughly dry, a large portion of the cement afterwards fell off, shewing it was not sufficiently so.

The chairman said it was compounded with oil; and, like mastic, was a sort of paint, rather than cement. He had seen mastic thrown off by the cause mentioned by the last speaker. Even when it was put on efficiently in the first instance, the sun and wind, he thought, gradually decomposed the oil, and the cement was blown away. Painting it was a remedy for this. He then alluded to the Portland stone cement, which he considered a good material, if properly made and properly applied. In using this cement, it was important not to mix it a second time; it should never be disturbed. It will harden when mixed a second time, but then it soon afterwards softens and is useless. It was desirable when using new cements, to employ the patentee's own workmen, and to require a guarantee.

Mr. Bellamy said, Portland cement should be applied of uniform thickness, in order that it might look well; he thought it should not be more than three-quarters of an inch in thickness.

The chairman wound up the conversation by remarking, that the cement last named is an imitation of the natural nodules, of which what we call Roman cement is made, consisting of clay and lime. These nodules fall from the cliffs at Harwich, amongst other places, and contain, in addition to clay and lime, a small quantity of iron, which gives it a dark colour. The *chaux hydralique* of the French is precisely similar to this, excepting that it has no iron. Atkinson's cement is the same chemically, but has little iron, and requires no artificial colouring when executed.

ALTHOUGH we do not feel ourselves called upon to correct all the mistakes which may be committed by our trimestral brethren, it is in some degree incumbent upon us not to give greater currency to errors, by transferring them to our pages amongst what is valuable, without calling attention to them as such.

In one of the extracts which we made on the 11th ult., from the current number of the *Quarterly Review*, concerning Spanish architecture, it is stated, that "The *Encyclopædia Britannica* dismissed the architecture of the Peninsula in one fell swoop,"—that being a short paragraph which intimates that the *cinque cento*, or, as the writer of the article in the *Britannica* terms it, "the Italo-Vitruvian architecture" of Spain was mainly influenced by the practice of that style in France and Italy. Now we find, in the *Encyclopædia Britannica*, and in the same article from which the "one fell swoop" is quoted, another not unimportant passage upon Spanish architecture, which will be thought by many to contain the gist, if not the germ, of what the *Quarterly* has expanded into a long article; and certainly the *Quarterly* does but confirm what is therein stated, whilst the truth of the passage quoted from the *Britannica*, as to the influence of the French and Italian schools upon the modern architecture of Spain, that is to say, since the "revival," is singularly justified by many passages, in the course of the further extracts which we have made from the *Quarterly* in continuation of the former. *Ex. gra.* "The first modern building in Spain is the royal palace at Madrid, which was erected for Philip V., by Sachetti, an architect of Turin. It is altogether Italian in its merits and demerits, and as perfectly un-Spanish as are the two summer residences of the Bourbon; that at La Granja being the work of Juvara, a Sicilian,—the other, at Aranjuez, by Bonavia, a Lombard. Philip V. presided at both, and there is no mistake in their ultra-French character."

Moreover, every drawing and every print that comes to hand, shewing a view within any Spanish town, gives conclusive evidence, in the exteriors of the modern churches, of the close affinity which exists between the modern ecclesiastical architecture of Spain and the Borromini style of the cinque cento, whether it be looked for in France or in Italy.

The passage in the *Encyclopædia Britannica*, which the Quarterly Reviewer must have failed to discover before he pronounced that authority as partial and incomplete, is the following—we quote from the separately published treatises in that work, on "Architecture and Building," at page 20:—

"The edifices in Spain of the ages of pointed architecture, are more in accordance with the Moorish than with the European manner, and may, perhaps, be more correctly considered as an off-shoot of the former than of the latter. Though not in the pointed style, the Moorish or Saracenic structures in Spain may be referred to here. They are in a very peculiar manner, which, it would appear, their authors brought with them from the East. Probably it grew out of some of the earlier styles of architecture, as the gothic and pointed did out of the Roman, and was not the result of design. The really distinctive feature of the Saracenic style is the horse-shoe arch, which is the greater segment of an ellipsis, nearly, on a conjugate chord. The columns from which the arches are sprung are slender, and the superincumbent masses are broad and heavy, giving an air of the intermingling of Chinese and Egyptian, both of which this style may be said to assimilate. The enrichments of Saracenic architecture are very much confined to flat surfaces, the walls being sculptured all over with monotonous ornaments, which produce an effect very similar to that produced by

* See p. 76, *ante*.

the hieroglyphics on the flat surfaces of the Egyptian temples, and possibly were derived from them. The most distinguished monument of this style in Spain is the Alhambra at Granada."

Pretty well this, it may be thought, for an Encyclopædia article, which from the largeness of subject and the smallness of space, must indicate rather than develope.

In connection with the subject of erroneous quotation, our attention is recalled to the circumstance, that some years ago the *Quarterly*, in a review of Hope's architecture, misquoted the same article in the *Encyclopædia Britannica*, to the extent of making its author declare, that "the spire is almost unknown on the continent, except in Normandy;" [*Quarterly Review, vol.* 53, *p.* 358.] whereas the passage referred to, which is in the next paragraph to that last above quoted, on Spanish architecture, runs as follows: "The tapering spire is almost unknown in Italy and France, except in Normandy; and in no part of the continent is it so common as it is in this country."

The article in question is written, as all the world knows, by Professor Hosking, and deservedly holds a high place in public estimation.

PROFESSOR WILLIS ON ECCLESIASTICAL ARCHITECTURE.

In his third lecture, on Tuesday, the 5th inst., Prof. Willis entered at some length into the history of the church of the Holy Sepulchre, at Jerusalem, noticing the probable arrangement at various stages in its existence. The original building was raised by Constantine, or, as many have supposed, by the Empress Helena, round what was considered, probably not without reason, to be the actual sepulchre of Christ. The veneration for places, the presumed scenes of important events, was greater amongst the early Christians than amongst the pilgrims, who succeeded them in the Holy Land. Three spots had especial claims upon their attention, the sites of the Nativity, the Holy Sepulchre, and the Ascension. To these, perhaps rightly allocated, succeeded others, and at length all the occurrences mentioned in the New Testament had places assigned to them, whilst the parables themselves were treated as actual events. *Martyriums*, or shrines in honour of the Christian martyrs, united with houses of prayer, were erected, and the building of Constantine was one of these structures. The original edifice, which was described by Eusebius, was dedicated in A.D. 335, and according to the restored plan by the professor, consisted of an inclosure of columns, with apsidal termination at the west, having at the opposite extremity a basilica, similar in plan to those of St. Peter and St. Paul. The sepulchre, itself an excavation, was converted externally into an apparent structure of polygonal form, and surrounded with columns. It stood in the middle of the inclosure which had double porticoes, and an external wall, by which it was protected from general access. Eastward of the basilica were the atrium and vestibule, usually attached to those buildings. This edifice was destroyed by the Persians, and that destruction was the more complete from the enmity between the Christians and the Jews—the latter people joining with the invader. But it was a matter of some difficulty to effect the entire destruction of a building, for unless the materials were removed, the overthrown walls would protect the localities from obliteration, and the foundations would be sought for again, and made use of, with such alterations as resulted from economy, or increased desire of magnificence. Therefore in the buildings, which were raised in succession on the same site, we found that the apsidal termination above-mentioned, was extended to a circle; distinct edifices were placed on the site of the crucifixion, and on the spot where the true cross was discovered, which, the professor shewed, had probably been included within the original building of Constantine. These detached portions, the Crusaders had united in one building, having the plan of a cross church, in the original portions of which we found the Byzantine style, and in the later the style of architecture then prevailing in Europe, varied, as it might be expected to be, by climate, and by the employment of the workmen of the country. The previous round church became the nave of the new edifice, and, perhaps, had had some influence upon the style of Christian architecture; but the later portions had not, because they were in fact built in the style then practised in Europe. The Templars certainly did adopt the circular plan, but other round churches had been built for baptisteries. The curious plan of the building previous to the time of the Crusaders, brought from Jerusalem, and given to a bishop of Iona, was shewn to agree in several important particulars with the building of Constantine, and that altered by the Crusaders: it was remarkable for the curious position and arrangement of its entrances.

The lecture was illustrated by drawings, and a model of the building; and by references to the writings of Eusebius, and the accounts of the pilgrims. The subject was highly interesting, and was treated with much ability by the professor, who was applauded at the conclusion.

DRAWINGS BY PALLADIO.

The following is a description of a collection of architectural drawings, by Andrea Palladio, in the possession of the Duke of Devonshire, at his villa at Chiswick, near London, drawn up (by permission of his grace), by Mr. Poynter and Mr. Donaldson for the Institute of Architects.

These drawings are contained in seventeen portfolios and books of folio size, and bound in Russia or Morocco leather. Those in the portfolios are all mounted, apparently on foreign boards, and many of the sheets, having sketches on both sides, are attached to the boards at one end only, so as to leave the back free for inspection. The drawings have the lines in bistre, and some are shadowed with finely-drawn lines; others with a wash tint.

They are of two classes, either sketches from original monuments or designs, having dimensions and memoranda upon them; or drawings fairly made out, many of which are probably by another hand, as several are purely elementary drawings of the orders, or plans of temples, sepulchres, and other edifices, most likely prepared for publication.

The memoranda are written in a cramped Italian character of the period, with frequent abbreviations and peculiar orthography.

There is not the signature of Palladio on any one of the drawings. Some have the name of the edifice to which they relate, others have no indication of the object they are meant to illustrate. Those, which may be presumed to be by Palladio himself, amount to about two hundred and fifty.

One portfolio contains four drawings of the Baths of Constantine, entitled "Rovine di Constantino." They consist of a plan, elevation, and sections, with dimensions; one portfolio, five drawings of the thermæ of Vespasian; one book, ten drawings of the thermæ of Nero; one portfolio, six drawings of the thermæ of Titus; one portfolio, nine drawings of the thermæ of Diocletian; one ditto, eleven drawings of the thermæ of Antoninus; one ditto, twelve drawings of the thermæ of Agrippa.

These drawings, fifty-seven in number, are evidently the originals from which the Earl of Burlington published the work on the Baths of the Romans, in 1730. The last-mentioned portfolio contains also a neatly drawn bird's-eye view of Rome, dated 1562, before the erection of the present St. Peter's

One portfolio with eighteen drawings, containing a sketch of a cornice attributed to Raphael;—measured plans, elevations, and sections of the amphitheatres at Pola and Verona, and of the Coliseum; plans and sections of ancient theatres, one of which has the Vitruvian diagram inscribed within the outer circumference, instead of being within the Platea.

There is also a remarkable set, consisting of the plan, elevation, and section of a beautiful composition, with dimensions and details, similar in style to the Temple of Fortune at Preneste. The subject consists of a vast theatre on the banks of a river: the theatre is surmounted by a succession of terraces, with porticoes and flights of steps, leading up to a circular temple, having in front an hexastyle Corinthian portico.—One portfolio with sixteen drawings, ten of which illustrate the Temple of Fortune at Preneste, with plans, elevations, and sections, a restored elevation, elaborate measurements, and restorations of parts, with dimensions, shewing some remarkable and interesting details, of which there now are no vestiges at Palestrina. There are also various compositions, apparently studies for the restorations of certain courts and porticoes; and one drawing of an amphitheatre.—One portfolio with twenty-nine drawings of the Temples of Antoninus and Faustina, of the Pantheon, of Venus and Rome, &c., at Rome, of Bacchus in the Campagna, of the temples at Tivoli, on the Clitumnus and at Nismes; of the Forum of Nerva, of the basilica of Constantine at Rome, &c.—One portfolio with twenty-eight drawings of the arches of Janus, Constantine, Septimius Severus, Gallienus, and the Porta Maggiore, at Rome; of the ancient arches at Verona and Susa; elevations of a doorway at Spalatro, and of the doorway in the cloister of St. Giorgio Maggiore at Venice; and an elevation of one of Palladio's palaces at Vicenza.—One portfolio with twenty drawings, consisting of various sketches of plans, &c., from the villa Hadriana near Tivoli; of the Septizonium or Portico of Pompey; of the tomb of Theodoric near Ravenna; and miscellaneous elementary drawings of the orders, &c.

The following relate more immediately and exclusively to Palladio's own edifices and works. One portfolio with thirty-one drawings in all, containing an elevation of the scene of the Teatro Olimpico by Gian. Battista Albanesi, and a section of the Cortile of the Convento della Carità at Venice, not by Palladio. The other drawings consist of the original sketches, with dimensions, of various palaces at Vicenza, as the Chiericati, Tiene, &c, and also of many new compositions of façades, original in conception, and very elegant in style, partaking much of the cinque-cento character.—One portfolio with thirteen drawings, and another with twelve drawings, being studies for plans only of palaces and villas.—One portfolio containing eighteen drawings, one sheet with the translation from Vitruvius of the description of the Egyptian and Corinthian Œci, and sections in illustration of the text; the rest are studies for various churches, one of which is a round church with a projecting portico, like that of San Simeone at Venice.—One portfolio with twenty-one drawings of plans, elevations, sections, and parts of the villas Papa Giulio and Madama near Rome; of the palazzo of the Counts Tiene at Vicenza, and some drawings of the orders as though prepared in outline for an elementary work. There is also one book endorsed with the words "Heathen Temples, plans, fronts and sections," but the drawings apparently are not by Palladio. It contains thirty-three leaves with plans of temples, principally circular, in Rome and the Campagna; one of a church at Constantinople, and a portion of the palace of Diocletian at Spalatro.

There is also a fine large drawing in outline faintly tinted, being the elevation of a magnificent palace three stories high, enriched with columns on each story, and forming an imposing and grand composition. It is framed and glazed, and in excellent preservation.

CHAPEL BUILT BY ONE MAN.

Every stone of the chapel for the Bath Union Workhouse, mentioned in our last, was laid by one man, John Plass, a mason, aged 78, who was residing in the house. The dimensions of the chapel are 67 feet in length, by 35 in width, and it is capable of accommodating 455 persons in the body. At the west end is a gallery, which affords room for 256 children. In the west porch a stone is thus inscribed:—

> To record the services of
> JOHN PLASS,
> inmate of the Workhouse, who, at the age
> of 78, working with much zeal and
> industry, laid all the stones
> of this building.

We are glad to hear that he has been treated liberally by the guardians.

FOREIGN ARCHITECTURAL AND COLLATERAL INTELLIGENCE.

Paris.—Jury of Rewards for Artisans.—The principal manufacturers of the French capital have united, of late, for forming the above association. Its objects, as stated in their prospectus, are: "To prompt the masters to acts of kindness, the workmen to their *duty* and to morality; to establish between master and man a benevolent mutuality; to reward good behaviour, industry and skill, by the way of medals, prizes, and other rewards—indiscriminately given to any working individual—without reference to their creed, age, sex, or kind of occupation. To form an alliance of the industrious *interests*, for explaining the wants and defects of that branch of the social fabric, to find a remedy for them and to check their recurrence; to labour in fine, for the improvement of the physical (sanatory) condition of the working population, through an improvement of their *morals*." A similar organism (says the *Journal des Débats*) exists already in the military and civic branches of the state, where it may be considered as one of their main springs of improvement—and why should the humbler classes not enjoy the same privilege? A great many manufacturers, engineers, architects, carpenters, casters, &c., &c., have already subscribed for this important institution, and it is to hoped that it will spread over the whole of France.—[Fas est—immo ab *amico* discere.]

The Manufactory of Gobelins at Paris.—This establishment has been known for two centuries for its textures, and especially their splendid colours—which, by some, were ascribed to the sort of water used in the works. Very extensive structures of amelioration are to be executed on the banks of the *Bièvre*, near Paris, which is the little river passing the Gobelins.

The Archæological Commission of St. Petersburg.—This *official* body, supported by the state, was established in 1832—of which, however, we can merely give a cursory notice, as it is chiefly history which has hitherto engrossed its attention. The MSS. of the Vatican relating to Russian affairs have been carefully searched, and copies procured by the labour of Mr. de Uwarow, the ambassador. The collection of Russian *medals*, the first in Europe, has been elucidated in an especial work of the Russian Archæologists.

Debates in the French Chambers on the "Marks" to be placed on manufactured Goods.—As we said before, the French Chambers are very active this year about matters connected with trades, manufactures, &c. The following is an abstract of the reasoning of the Paris press: "It is a wrong calculation, a faulty logic—to *respect* the abuse, which dishonest persons would make in the name of liberty. The freedom of commerce, this proud trophy of 1789, does not come at all to be curtailed; and it is difficult to make sensible persons believe, that liberty of trade is endangered by preventing a scoundrel from selling chalk for plaster of Paris, or copper for gold. If government, or rather the *Chambers of Commerce*, will cover with their guarantee the genuine article, confidence in our manufactures will result therefrom all over the world. The plan proposed is only an extension of what exists already in printing, jewelry, &c. Every person will be, as before, at liberty to make and manufacture what he likes—only the consumer would then *know* whether he does not buy an *X* for an *U*."

Outbreaks and Strikes amongst the Working Men in France.—The French periodicals are full of reports on this avowed *self-aid* of the labouring population. "*We*, certainly, have to learn yet (from history), that any such taking the law into their own hands has ever done them any good."—*Journal des Débats.*

Novel mode of "working" a Patent on the Continent.—It appears, that some parties there do not at times choose to take out a patent, especially in cases where its working would entail large expense (risk?) of manufactories, &c. They advertise the main features of the discovery—and put a certain price (say fifty dollars, or even two dollars) on the written or printed communication of the secret. It is stipulated, however, that the buyer should not be at liberty of allowing others to use it.

Futurity.—It is to be hoped that the time will come, when every 20,000 people, either in the aggregate or gregariously, will have not only their hall, select library, and reading-room, but also their public walk, play, and gymnastic-grounds. In the olden times of Athens, there was an especial fund set aside, which could not be applied excepting to afford the people healthful and invigorating amusement.

Debates of the House of Lords at Munich on Technical Schools.—This important subject has taken up the time of the Chamber for two days—and the necessity of architectural instruction for the humbler walks of *builders* has been well put forth. One of the secretaries of state said beautifully, "The whole position of the present time, the direction which the culture of the age has taken, shew that it is especially the *industrial* tendency, at which the moral and material forces of men are aiming, while classical studies have lost their character of isolation. The barrier between *humanitarism* and *material* efforts is every day more vanishing—the men of industry direct their views at higher culture of the mind, while the *statesman* can no longer exist, if deficient in material, and even technical knowledge. If a technical school were to be established in every county, the expense would be great—but the blessing still *greater*." The project was adopted by a great majority.

Technical and Art-improvements of Western Africa.—Since France possesses establishments on the coast of Guinea, young men have been sent (at the expense of the state) to France to be instructed in several branches of arts and sciences; and seven young chiefs of Bassam and Gabon are now at Paris. Six young men have been sent from Senegal to be instructed in the smelting and casting of iron and other metals, in which their country seems to abound.

Statue in honour of Herder.—The honour done by Germany to such men as Schiller, Jean Paul Frederic Richter, Goethe, &c., has induced some friends of the above great man to propose the erection of a monument at Weimar. As he has served *mankind*, England ought to take a share in doing his memory honour.

Monumental Show-garden at Pistoja.—No one who comes to Tuscany, will fail to view the above splendid establishment, belonging to the liberal and philanthropic Cavaliere Niccolo Puccini. The idea of erecting monuments to *great* men amongst the *great* scenery of nature is novel—at least for us moderns. The inscriptions of a reasonably liberal tendency are by the knight himself. A work, entitled *Monumenti del Giardino Puccini*, with thirty-seven plates, gives a true representation of these monumental gardens.

Artisans in Algeria.—The war secretary at Paris has lately decided, that a free passage to that colony should be given to masons, carpenters, stone-cutters, tilers, &c., being such trades as (besides agriculturists) are the most important to a new establishment. The number of emigrants from France, Italy, and Germany is considerable.

Great Constructions in Germany.—The building of the new Picture Gallery at Dresden has been approved of by both houses of the legislature, and Professor *Semper* appointed the architect, of whose work on Protestant churches we gave a short account to our readers.—As Berlin has been hitherto destitute of any striking church structure, H.M. the King of Prussia has given orders, that a vast cathedral should be raised in the very centre of the city. It will consist of a huge nave, surmounted by two steeples, each 300 feet high.

Hydraulic Works in Upper Egypt.—Mr. d'Arnoux, late pupil of the Polytechnic School of Paris, and engineer to the Pasha of Egypt, has obtained from H.R.H. the important commission of draining the lands of Upper Egypt. J. L——y.

PUBLIC NECESSARIES AND URINALS.

The necessity for public conveniences daily becomes more evident and more pressing, and yet no steps are taken to provide them. The nature of the subject, probably, prevents our contemporaries from joining us in the demand for proper provision in this respect. It is greatly to be wished they would put aside their feelings of delicacy, in a matter of so much importance to all, and assist in enforcing a remedy for a monstrous evil.

CHURCH BUILDING:

SUGGESTIONS AND INSTRUCTIONS FROM THE INCORPORATED CHURCH BUILDING SOCIETY.

Several provincial correspondents having inquired of, us the conditions that must be attended to, in preparing drawings for churches, in aid of which the incorporated and other societies are to be applied to, we think it desirable to print the following:—

The general committee meet for the dispatch of business on the third Monday in each month, with the exception of August, September, and October.

All applications for assistance, plans, certificates of completion, &c. to be post-paid, and delivered at the society's office before the first Monday in each month, to be examined by the surveyor, and afterwards by the sub-committee, whose meeting is held on the Tuesday preceding that of the general committee.

The following plans, &c. must, in every case, accompany an application for aid from this society towards building an additional church or chapel:—

1. A plan of the building, shewing the proposed fitting up, with schedules of the number and situation both of the appropriated and of the free seats. Also, if there be any gallery, a plan of the gallery floor.

2. Elevations of the several fronts.

3. Longitudinal sections, shewing, respectively, the north and south sides of the interior, unless the two sides are similar, in which case one longitudinal section will be sufficient. Also transverse sections, shewing the east and west ends of the interior.

All the above to be drawn to a scale of one-eighth of an inch to a foot. The thickness of the walls and of any projections, buttresses, &c., and the heights of the different parts of the building, to be carefully and accurately figured on the respective drawings. The depth of the foundations, and the spread of the footings, to be correctly described by the sections, and also figured.

4. A drawing, shewing the construction of the roof or roofs, drawn to a scale of half an inch to the foot, with the scantlings of the different timbers figured, and provision shewn for the proper ventilation of the roof.

5. A drawing, shewing the construction of the galleries, if any, on the scale of half an inch to the foot, the scantlings being also figured.

6. A block plan of the site, on the scale of not less than one-twelfth of an inch to a foot, shewing the site, the approaches, the cardinal points, and the drains; with a sectional line drawn across the churchyard; and with the deviations from the level, if any, measured.

7. A description of the nature of the site, as to the soil and fitness for foundations; stating the distance of the nearest building, and whether there are any buildings which will obstruct the light.

8. A detailed specification of the works, stating all dimensions, and

9. A detailed estimate of the expense.

If any enlargement of an existing church or chapel be contemplated, the following are required:—

1. A plan of the whole existing church or chapel, with the dimensions figured, shewing the present arrangement and intended addition; with schedules of the number and situation of the appropriated, as well as of the free seats, present and proposed.

2. An elevation of each front affected by the proposed alteration.

3. Sections of such parts of the building as are affected by the proposed alteration.

4. Longitudinal and transverse sections of the additional building.

All the above to be drawn to the scale of one-eighth of an inch to the foot, and the dimensions figured in each plan or drawing. Pen and ink drawing only is required.

5. Where new or enlarged roofs are required, a drawing, shewing the construction of the roof or roofs, drawn to a scale of half an inch to a foot, with the scantlings of the different timbers figured, and provision shewn for proper ventilation.

6. A drawing, shewing the construction of the galleries, if any, on the scale of half an inch to the foot, the scantlings being also figured.

7. A detailed specification of the works, stating all dimensions, and

8. A detailed estimate of the expense.

N.B. All plans must be approved by the society before the work is commenced.

In order to prevent as much as possible the delay which frequently arises from the necessity of returning plans for alteration, or for further information, persons applying for aid from this society are desired to attend as strictly as possible to the following suggestions and instructions :—

1. *Site.*—Central, with regard to the population to be provided for; dry; if possible, rather elevated, but not on a high or steep hill; not near nuisances, such as steam-engines, shafts of mines, noisy trades, or offensive manufactories: accessible by foot and carriageways, but not so near to principal thoroughfares, as to subject the service of the church to the danger of being incommoded by noise. The building to stand east and west as nearly as possible.

2. *Style and Form.*—No style seems more generally suitable for an English church than the Gothic of our own country, as developed in its successive periods. The Norman (or Romanesque) style is also suitable, and offers peculiar advantages under certain circumstances, especially when the material is brick. The society earnestly recommend that, in the proportions and great features, as well as in the details, good ancient examples should be closely followed. For Gothic churches, the best form is either the cross, consisting of a nave, transepts and chancel, or the double rectangle, composed of a nave, with or without side aisles, and of a chancel. In a chapel, the single rectangle is also suitable; the length being at least twice as great as the breadth. If the funds do not suffice to complete satisfactorily a design, otherwise eligible; or if the circumstances of the neighbourhood render it probable that, at no great distance of time, the building may be enlarged; it is better to leave a part of the original design, as, for example, side aisles or transepts, or the tower, to a future period, than to attempt the completion of the whole design at once in an inferior manner. In such a case, the temporary walls and fillings up of arches should be so built, as clearly to shew that they are temporary, and that the building is incomplete, but at the same time not without due regard to ecclesiastical propriety.

	Square stone of the best quality, or brick.	Brick, faced with flint or stone.	Inferior stone, flint, or rubble.
If less than twenty feet high, and carrying a roof not exceeding twenty feet span	ft. in. 1 10½	ft. in. 2 0	ft. in. 2 3
If twenty feet or more high, or carrying a roof exceeding twenty feet span	2 3	2 5	2 6
If more than thirty feet high	2 7½	2 9	3 0

The above dimensions are given on the supposition that there are buttresses, of solidity and form suitable to the style adopted, placed opposite the trusses or principals of the roof; where there are no buttresses, the thickness of the walls must be considerably greater. No cement or plastering of any kind to be used as a facing of the walls, or of any external part of a church or chapel. If a wall be built with two faces of stone, filled between with rubble, great care must be taken that they be properly bonded together, as the wall will otherwise not stand a partial settlement. Where good stone is scarce, a thickness, otherwise perhaps unattainable, may be secured by this method of construction. Walls built of flint or rubble should have bonding courses of stone or brick, and stone or brick piers at intervals, approaching at least within four inches of the external face. Whatever be the material of which the substance of the walls is made, the dressings should, if possible, be invariably of stone. The greatest attention should be paid to the quality of the mortar used.

3. *Foundation.*—To be surrounded, if requisite, by good covered drains. If the soil wants firmness, the walls may often be better secured from partial settlements, by spreading the footing on each side, than by deepening the foundation, or resorting to more expensive works. In all irregular or doubtful soils, concrete is recommended for the foundations, in preference to any other material. No interment should be permitted under a church, except in arched vaults properly constructed at the time of building the church, with entrances from the outside only; nor should any graves be made within twenty feet of the external *wall*.

4. *Area.*—It would tend much to the preservation of churches, and render them more dry, if a paved open area, not less than eighteen inches wide, were made round them, and sunk six or eight inches below the level of the ground about the church, with a drain from the area to carry off the water.—Or the same objects might be attained either by turning a segmental arch from the wall outside the footing, or by bedding in the wall a course of slate in cement.

5. *Basement.*—The inequalities of the ground, the dampness of the soil, &c., often render it desirable to have crypts under a church. They should be of a massive construction, turned upon semicircular or segmental arches, resembling the early examples, entered only from without.

6. *Floor.*—To sittings, wood; to open spaces, or chancel, stone or encaustic tiles. If not undervaulted, it may be freed from damp by brick rubble, flints, ashes, or furnace slack, laid to the depth of twelve or eighteen inches under the floor. Allowance should also be made for the future rise of the surrounding burial-ground; the floors of many churches, originally above ground, are at this day many feet below the surface, and have thereby become damp and unwholesome. It is desirable that the church floor should be raised at least three steps above the ground line. The distance between the joists of the floor should never exceed twelve inches. All wood floors should be supported on walls, with a clear space of eighteen inches in depth, well ventilated beneath. No American timber to be used either in the floors or in any other part of the building. Flagged floors should be laid on cross walls eighteeen inches high.

7. *Walls.*—To be solidly constructed of stone, either squarred, or rubble, or flint;—or of brick, where no good stone can be procured without great additional expense. If the walls are of brick, cased with stone or flint, the stone or flint to be well bonded into the brick. As a general rule, the thickness must not be less than as follows :—

The above dimensions are given on the supposition that there are buttresses, of solidity and form suitable to the style adopted, placed opposite the trusses or principals of the roof; where there are no buttresses, the thickness of the walls must be considerably greater. No cement or plastering of any kind to be used as a facing of the walls, or of any external part of a church or chapel. If a wall be built with two faces of stone, filled between with rubble, great care must be taken that they be properly bonded together, as the wall will otherwise not stand a partial settlement. Where good stone is scarce, a thickness, otherwise perhaps unattainable, may be secured by this method of construction. Walls built of flint or rubble should have bonding courses of stone or brick, and stone or brick piers at intervals, approaching at least within four inches of the external face. Whatever be the material of which the substance of the walls is made, the dressings should, if possible, be invariably of stone. The greatest attention should be paid to the quality of the mortar used.

8. *Roof.*—The best external covering is lead, which should be not less than seven pounds to the foot;—or copper of not less than twenty-two ounces to the foot. Blue tiles, commonly called Newcastle tiles, or stone tiles, are perhaps the next best covering. Westmoreland slates are better in colour than those commonly used, but are, in most cases, expensive. All slates to be fixed with copper nails. Flat ceilings are inconsistent with Gothic architecture. Next to a stone vaulted roof none has so good an effect internally as an open roof, exhibiting the timbers. It is desirable that this should be of high pitch, the transverse section forming or approaching to the figure of an equilateral triangle. If a wooden panelled roof be preferred, the panelling should not be made to imitate stone. In roofs of low pitch and wide span, horizontal tie-beams are necessary; but in other cases, where the society is satisfied that due provision has been made for the safety of the construction without them, they may be dispensed with. If the distance between the trusses exceed ten feet, intermediate trusses must be introduced. The distance between the common rafters should never exceed twelve inches. Wherever the ends of timbers are lodged in the walls, they should rest in cast-iron shoes or on stone corbels.

9. *Windows.*—In Gothic churches, where stained glass is not used, the glass should be in small panes, those of a diamond shape being generally preferable. Hopper casements are recommended, and they should be inserted in almost all the windows, in order to secure due ventilation. Where lead-lights are adopted, copper bands to tie them to the saddle bars are preferable to lead, being less liable to stretch and become loose by the action of the wind. The very unsightly appearance often occasioned by the wet streaming down the window-backs can be prevented by fixing a small copper gutter at the bottom of each lead-light, to receive the moisture produced by condensation, with copper tubes to convey the same to the outside of the building. This has also a tendency to keep the building dry, and to preserve it from decay; or the inside of the sills may be raised an inch and a half. A good effect will be produced by keeping the sills of windows raised as much as practicable above the line of the tops of the seats.

10. *Tower and Spire.*—The usual place of the tower, in a church without transepts, is at the west end; or it may be placed about the middle of the side. If funds are scanty, it is better to leave this part of the church to a future period, than to attempt its immediate completion in an inferior manner. When the tower contains more bells than one, the timbers of the bell framing or floor should not be inserted into the main walls; but should be supported either on set-offs or on corbels.

11. *Gutters.*—Where necessary, to be most carefully constructed to carry off the rain and snow into the perpendicular pipes, which are best of cast-iron, cylindrical, and placed an inch or two at least from the wall, so as to admit air and keep it dry. Dripping eaves projecting very far do not in all cases supersede the necessity of gutters and pipes, even in very sheltered situations; but in exposed places, eaves-gutters, and rain-water pipes will be absolutely necessary to prevent the wet being driven against the walls, and thus rendering the building damp. Eaves gutters may be made of cast-iron; but, unless very skilfully cast, they will not preserve their level. The lead for gutters must not be less than eight pounds to the foot. Lead gutters must not be less than twelve inches wide in the narrowest part, with drips at proper intervals; each drip two inches deep at the least, and the fall between the drips not less than one inch and a half in every ten feet. Outlets to be provided in parapets to carry off the overflowing occasioned by rapid thaws or otherwise. Drains on the roof should be protected by coverings, as it prevents the melting snow from congealing in the gutter, and thus obstructing the water-course. Drains should be formed at the feet of all the rain water pipes.

12. *Ventilation.*—Ventilation cannot be always completely effected by windows alone, without incommoding the congregation. In such cases foul air may be expelled at or near the roof, either by horizontal or perpendicular channels or tubes. Where there is a ceiling, apertures should be made in it for the proper ventilation of the roof. All the original provisions for the ventilation of the building must be carefully looked after, and the apertures kept open.

13. *Chimneys.*—If any be required, the utmost care must be taken to render them safe from fire. They should never be brought within eighteen inches of any timber. They should be as unobtrusive as possible, but not disguised under the form of any ornamental feature of the building.

14. *The Lord's Table.*—Should be raised two or more steps above the floor of the chancel, which should itself be raised a step or two above the floor of the nave. Where the rails do not extend across the chancel, no seats should be allowed between the rails and the north and south walls; and as much room as possible should be left about the rails for the access of communicants.

15. *Font.*—To be fixed at the west end of the building, or as near as convenient to the principal entrance, but not so as to be under a gallery. Care to be taken that sufficient space is allowed for the sponsors to kneel. The font to be of stone, as directed by the canon, and large enough to admit of the immersion of infants. To be provided with a water-drain.

16. *Reading Pew and Pulpit.*—The reading pew should not be so elevated as to resemble a second pulpit; and both reading pew and pulpit should be so placed as to intercept the view of the east end as little as possible from the body of the church.

17. *Seats.*—The seats must be so placed as that no part of the congregation may turn their backs upon the altar. There must invariably be an open central passage up the whole length of the church, from west to east. No square, or round, or double pews can be allowed, and as few pews as may be. Much accommodation is gained by the adoption, instead of pews, of open seats with backs. The distance from the back of one seat to that of the next must depend in great measure on the height of the backs and the arrangements for kneeling. Where the funds and space admit, convenience will be consulted by adopting a clear width of three feet, or even three feet four inches; but the width of two feet six inches in the clear

may be allowed if the back of the seat be not more than two feet eight inches in height. This height is in all cases to be preferred, both for convenience and for appearance. If a greater height be adopted, the distance from back to back must not be less than two feet eleven inches in the clear. There should not be any projecting capping on the top of the backs. Means for kneeling must in all cases be provided. Hassocks are to be preferred to kneeling boards, especially where the space is narrow. Twenty inches in length must be allowed for each adult, and fourteen for a child. Seats intended exclusively for children may be twenty-four inches from back to front.

18. *Galleries.*—None can be permitted in any part of the chancel. Where necessary, they should not enclose the columns against which they rest, so as to break the upright lines of the shafts from the floor to the roof. Wherever placed, they should, as much as possible, be made to appear as adjuncts and appendages to the architectural design of the interior, rather than as essential parts or features of it. The society will not sanction any plan involving the erection of a gallery, unless in cases where it is distinctly shewn that no room is unnecessarily sacrificed, by inconvenient arrangements, on the floor.

19. *Vestry.*—The vestry should have access to it from without.

20. *Finishings.*—Wall wainscoting, or wood linings to walls, to be avoided wherever convenient. Wood linings to walls confine the damp, and frequently occasion dry rot. For the same reason, cement skirtings are to be preferred to wood; particularly on the ground floor. Where the linings to the walls are of wood, holes should be perforated under the seats to allow the circulation of air. As it is scarcely possible to prevent rot if any wood is in contact with the walls, the ends of seats next the walls should be omitted, and cement, painted, be substituted.

21. *Exciseable and Customable Articles.*—Architects are particularly desired to take care that an accurate account be kept of the quantities of customable and exciseable articles used, where the expense of enlarging, building, rebuilding, or increasing the accommodation of a church or chapel will amount to 400*l.*, or upwards, such as may be duly certified or verified by affidavit.

SHAPE OF SEWERS.

TRAPPING GULLIES—SMALL DRAINS.

Sir,—Allow me through the medium of your widely-circulated journal to invite the especial attention of the Commissioners of Sewers for Westminster, and part of Middlesex, to the report lately published at Brussels, respecting an explosion in a main sewer at Ixelles, occasioned by the improper method of trapping gullies, such method not allowing the gas to escape sufficiently quick in cases of the gas mains being defective, and which is very likely to occur in London, the pipes being laid and jointed in a very slovenly manner. It appears the plan of trapping is similar to the one adopted in the Holborn and Finsbury Commission, and has been recommended by the present surveyor to be generally introduced in the Westminster division. The presumed advantages to be derived from trapping gullies and private drains in the upper district, will, I am persuaded, be more than counterbalanced by the danger likely to be incurred in the lower parts of Pall Mall, Westminster, and other densely populated and valuable portions of this commission. I also wish them to observe minutely the increased height the back-water rises in parts of the King's Scholars' Pond Sewer, since the contraction of the lower part next outlet, and the increased velocity of water discharged from the egg-shaped sewers. Should a storm happen during the time the gates are closed at high water, the destruction of property will be enormous.

Pall Mall, 6th April, 1846.

April 25th.—Allow me now to call your attention to the accident which happened to one of the inspectors (Mr. H. Webber), of the Westminster division, last Wednesday, in a sewer in Rochester-row, and which fully bears out the view I took respecting the system of trapping, and decreasing the size and ventilation of sewers in this district.

By the hasty and general adoption of small egg-shaped sewers, in the poorer and densely populated localities, we shall have, for the present, a cheap and apparently good drainage, but which will not require many years to prove destructive to further improvements of the neighbourhood, without a very great outlay of capital, and a source of immense expense and inconvenience to the public.

April 27th.—The heavy rain, which fell on Saturday night and Sunday morning, has produced a second evil noticed in my letter of the 6th, as likely to occur. The back-water filled the King's Scholars' Pond main sewer, and forced its way up the collateral sewers, carrying away the brickwork back of two houses in Tachbrook-street, next to Warwick-street, Vauxhall Bridge-road, reaching within 9 inches of the basement window sills. It has also done immense mischief in other parts of the neighbourhood, and to the houses in Vauxhall Bridge-road. In justice to all parties, I shall feel obliged by your inserting the three letters with their respective dates.

I am, Sir, &c. Cloacina.

*** As to the increased height of back-water in parts of the King's Scholars' Pond Sewer, "since the contraction of the lower part next the outlet," we learn that no such contraction has taken place. A *very high flood* occurred on Sunday, the 26th ult., and little or no damage took place, except through a neglect of parties themselves, in the case alluded to in Cloacina's letter of 27th ult.

Cloacina states that the back water filled the main sewer, forced its way up the collateral sewers, carrying away the *brick-work back of two houses*, &c. We understand that in consequence of the drains into the main line of King's Scholar pond sewer not having a flap, part of a garden wall was damaged by the rising water, but hear of nothing more.

As to the accident to Mr. H. Webber, the fact is, the sewer was new; not a drain, or gully, nor any soil had been in it. Mr. Webber did not take the Davy lamp, but went with an open candle to examine the brick-work, and the defect in the main of gas, and Mr. Webber's want of caution, occasioned the lamentable accident to himself.

INSTITUTION OF CIVIL ENGINEERS.

May 6th, 1846.—Sir John Rennie, president, in the chair. The paper read was "A descriptive account of the recent works designed by Mr. W. Cubitt, V.P., for the improvement of the River Severn," by E. Leader Williams, resident engineer. The paper commenced by giving an account of the previous condition of the river Severn between Stourport and Gloucester, which it described as being a succession of deep and nearly quiescent pools, separated by a series of rocks and shoals, forming comparative rapids. In these new works, the remedy adopted was the removal of these fourteen natural dams, and the substitution of four artificial weirs, placed diagonally across the channel of the river. In connection with these weirs were a series of locks placed in artificial lateral channels, by means of which the navigation was maintained. These weirs and locks were described as situated at Lincomb, Holt, Bevere, and Diglis; Lincomb being one mile below Stourport, Diglis one mile below Worcester, and Holt and Bevere at intermediate distances. The general dimensions of all the locks resembled that at Lincomb, which was 100 feet long by 20 feet wide, and 17 feet 9 inches deep, with a lift of 8 feet, and a depth of 6 feet 6 inches over the cills. It is built of stone and brick-work upon a foundation of red sandstone rock. The water was admitted to and discharged from the lock chamber in a peculiar manner. A lateral arched culvert was built parallel to the side walls of the lock. It communicated with the bottom of the chamber by seven lateral arched openings at right angles to the culvert, and by it 16,000 cubic feet of water flowed in or out of the lock in one minute and a half; and loaded vessels have frequently passed through in three minutes. The construction of all the locks was described as similar to that at Lincomb.

The lock gates were described as being 33 feet 6 inches in height by 17 feet 6 inches wide. The overhanging portions of the balance beams are of cast-iron, and although the total weight of each gate was 16 tons, it was worked by one man. Diagonal iron tie rods were inserted in the framing of the gates from the top of the heel post to the mitre post, at an angle of 45°, and by this arrangement the gates were rendered perfectly firm. The weirs, which are chiefly built across the bed of the river, but in one instance in an artificial channel, were fully described; they are constructed of large rubble stone, abutting against a foundation of piling, and vary in length between 300 and 400 feet.

The facility with which the freshes are discharged by these weirs was accounted for by their length, their obliquity, and the uninterrupted action of the under current. The advantage of their length was self-evident; and to obtain that, it was necessary to carry the line of the upper sill obliquely across the stream, by which an equal discharge was ensured throughout the whole length of the weir. The free action of the under current was also maintainnd to be an important cause of an efficient discharge of the land waters.

It was found that the under current was improved by the obliquity of the weirs, and less impediment was offered to the water than by weirs placed at right angles to the stream. In fact, if the area of the section represented by multiplying the length of the oblique weir into the depth of the sheet of water flowing over it, was equal to the area of the direct transverse section of the water of the river above it, the weir offered no impediment to the water, and the stream flowed onwards with a regular velocity.

As a proof of this under current, it was stated, that an old barge which had been laid up as useless, got adrift, and sunk in ten feet of water twenty yards above one of the weirs. It continued undisturbed during the short water season, but the first heavy fresh raised it from the bottom, and laid it on the upper cill of the weir, there not being sufficient water to carry it over. Another instance of the free action of the under current was, that the channel not only maintained its original depth, but was scoured out in some instances to a depth of two feet. A series of experiments made in connection with these works, proved that the under current flowed in lines parallel to the surface of the river till it reached the foot of the weir. As an illustration of this fact, a float, which was loaded in such a manner as to swim at different depths, approached the weir in a line parallel to the surface, until it came nearly close to the upper cill of the weir, when it rose, and formed a parabolic curve in its passage over it.

The fall at low water between Stourport and Worcester, was stated to be at the rate of 21 inches per mile; while between Worcester and Gloucester, it was only at the rate of 4¼ inches per mile. On account of this variation, a different mode of improvement was there adopted, viz., removing the shoals by dredging, and constructing a series of embankments for the purpose of equalising the width and depth of the river. The whole series of locks and weirs between Stourport and Gloucester was completed by Messrs. Grissell and Peto, the contractors, in the short space of fifteen months. The works have been satisfactorily tested by the floods of two winters, and the efficiency of the weirs in discharging the flood waters has been fully demonstrated.

At the monthly ballot for members, the following candidates were elected:—Messrs. A. Causton, W. W. Collins, S. Frost, C. Harratt, T. M. Gladstone, and J. Tully.

Building Societies.—A Correspondent directs attention to the fact that the Board of Special Commissioners, Somerset House, London, have decided in the case "Caigill *v.* the Trustees of the Borough of Durham Building Society," that such societies are liable to the payment of 7*d.* on every 20*s.* of interest paid to the societies by the respective members, who have purchased out their shares, notwithstanding any rule or condition made by such society to the contrary.

Hull Cemetery Competition.—A correspondent informs us, that the premiums in this competition have been awarded to Mr. C. Broderick, of Hull, and to Mr. E. W. Elmslie, of London.

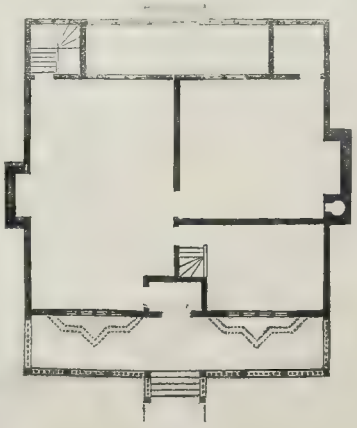
Water for Liverpool.—A Bill for supplying Liverpool with water is now before the House of Commons.

AN OLD LONDON HOUSE.



LONDON HOUSE OF THE REIGN OF ELIZABETH.

FREQUENT allusions have been made in this journal to the curious volume of MS. drawings by John Thorpe, now preserved in Sir John Soane's museum. Thorpe was an architect extensively employed during the reigns of Elizabeth, James I., and Charles I. He rebuilt Holland House as it now stands, and was the architect of the great Lord Burleigh. The MS. volume contains 280 pages, all filled with plans and elevations, details, copies from French works of architecture, designs, &c. Many of the plans are of important buildings, such as Theobalds, Burghley, Longford Castle, and of some of those he was employed by the government to survey and report upon. There are plans and elevations of country houses and town houses, and some very curious sketches of wooden buildings. Most of the elevations are badly drawn, and in some cases it requires a good acquaintance with Thorpe's drawing to understand them. As an example of what this curious volume contains, one of the sketches is here given:—it represents a wooden building, and it is described as standing at the "water end of Holborn,"—at that time adorned with the mansion of the Lord Chancellor Hatton—who employed Thorpe as his architect for Kirby, in Northamptonshire, still standing.



The plan of the building, which is half the size of Thorpe's sketch, is very interesting; and certainly it gives us very respectable ideas as to the comfortable requirements in his dwelling of the old London citizen or merchant—such person we may very safely suppose to have been the tenant of the building represented. From the garden you ascend by five steps the inclosed terrace in front of the building; this has, as Thorpe expresses, a "terrace overhead"—a small porch leads into the great hall. The kitchen is on the right: the larder is the small square room leading out of it. The small room in front, on the same side as the kitchen, is the buttery, with cellar under, the small steps conducting down to it. Above the hall is "the great chamber," the staircase leading to which opens into a gallery communicating to the rooms of the rest of the building. The square compartments at the back of the house, represented in plan as staircase and larder, are carried up above the roof as turrets; a small prospect tower is placed in the front of the building.

There are several other plans of wooden houses in this curious volume, on a much larger scale than the one represented. The writer was permitted in 1837, by the trustees of Sir John Soane's Museum, to take copies of the collection, an undertaking which occupied him six weeks. Several of the best of the elevations and plans have been given by him in his publications.

C. J. RICHARDSON.

ARCADE—CHAPTER ROOM CANTERBURY CATHEDRAL.

The entrance to this splendid room is from the east cloister. The oldest part is said to be of the time of Archbishop Boniface about 1260, but it was repaired in 1304, and again in the 15th century, when the upper part was rebuilt; the vaulted ceiling, which is remarkably fine, is said to be of Irish oak.

The room is entirely surrounded by an arcade, a portion of which is shewn in the engraving; the arches at the east end intended for the prior and other superior officers, are of a more elaborate but not so good a design; the shafts of the columns are said to be of Bethersden marble; the date of this work (with the exception of the quatrefoils and battlement, which are modern), is about 1270.

It may be as well to add the internal dimensions of the chapter room—length 99 feet, breadth 35 feet, height 52 feet.

W. Caveler.

ARCADE: CANTERBURY CATHEDRAL.



THE ART-UNION QUESTION.

At the anniversary dinner of the Artists' Benevolent Fund, on Saturday, May 9th, at the Freemasons' Tavern, most ably presided over by the Right Hon. Lord Morpeth, M.P., Mr. Benjamin Bond Cabbell, in replying to the toast, "The British Institution," insisted with much force on the importance of leading public attention to the works of modern artists, and urged with truth, the greater value of the Art-Union of London in this respect. The noble chairman, Lord Morpeth, who had previously made a most eloquent address in favour of the fund, then rose and said, the toast next on the list related to the association, so warmly eulogised by Mr. Cabbell, and he was quite sure would be received by the meeting with enthusiasm. The importance of spreading abroad a taste for art must be admitted by all, and the extent to which the Art-Union was effecting this was extraordinary. During his stay in America he was often gratified in a high degree by discovering some of their prints hung up in log-huts, and humble cabins in wild and remote districts. He proposed to drink "Prosperity to the Art-Union of London," and would connect with it the name of one of the honorary secretaries, who was present. The toast was received with loud and continued applause.

Mr. Godwin said, the manner in which the toast had been responded to, would be not merely gratifying to the committee of the Art-Union of London, but valuable to them in their present efforts to ensure the continuance of the association. Most of the gentlemen there were aware of the present position of the Society; that in spite of the admission of the principle on two occasions by the House of Commons, and the recommendation of a select committee of their body, the Chancellor of the Exchequer had declared his intention of opposing the bill to legalize Art-Unions permanently, brought in by Mr. Wyse. He (the speaker), had formed one of a deputation headed by the Duke of Cambridge and Lord Monteagle, who had an interview with Sir Robert Peel and the Chancellor of the Exchequer a few days ago; on which occasion the premier admitted he had not been able to read the report of the committee, but stated that his impression was, that Art-Unions did not benefit high art. Without going fully into the details of the interview, he would mention that the Chancellor of the Exchequer on that occasion made an observation to this effect, that if the Government allowed this bill to pass, other bodies would apply to be exempted from the Lottery Acts in like manner, the upholsterers for example, and that he did not see why the persons who produced pictures, should obtain immunities any more than the persons who produced tables and chairs. Now he (the speaker) would make no comment on this statement, which was repeated in various forms, because what he would say might be considered disrespectful—but he ventured to think in that assembly at all events, the difference between the producers of pictures and the producers of works of art—the influence of art,—the importance of obtaining for it national encouragement—would be viewed somewhat differently. To oppose the Art-Union of London because the prize-holders bought other pictures than those by the first men in the profession (whose works, by the way, were not bought simply because they were seldom for sale), was preposterous: as well might a recruiting serjeant say he would enlist none but veterans. Whence came the veterans? Why from the recruits. Whence proceeded first-rate painters? Why from the ranks of those who were once second-rate. The majority of those young artists who were striding on rapidly, to fill the spaces which time necessarily made in the first ranks, had been encouraged in their efforts by the Art-Union of London. Of the advantage it had been to individual artists he could mention fifty cases, but would restrict himself to one. At the time of the first Government competition of cartoons, a young artist requested he would come and see his cartoon, and said if it had not been for the sale of one or two little pictures to prizeholders, he could not possibly have attempted this large work. The cartoon was not rewarded, but as he (the speaker) had lately heard, it led to the artist's appointment as master of the Glasgow School of Design, where he was then pursuing his avocation, with advantage to himself and credit to the country. He would not dwell, however, on this point. The immediate encouragement of artists was not the primary object of those who established the Art-Union; what they aimed at was to spread a love of art throughout the community, and to place within the reach of all, the enjoyment of fine works. They knew perfectly well, that this was the true way to advance the interests of artists and of arts; and the results had perfectly justified their views. The great scope of art was beginning to be understood; pictures and sculpture had been looked at and purchased as plate or jewels might be; the fact, that art was a teacher, that a true artist was a poet, expressing his ideas through a different medium, had not been understood. But the time was not far distant, he hoped, when it would be; provided the operations of this and similar societies were not interfered with. Look at the present exhibition; one so good was not remembered. Look at the present state of public feeling as regarded art; when had art been so much talked of and so much thought of too, as it was now? This really was a most important question. The 90,000*l.* the Art-Union of Lon-

don had spent amongst artists was not the main point to be considered; nor even the extraordinary fact that the existence of Art-Unions involved an expenditure amongst artists of at least forty or fifty thousand pounds a year. The great point was, the spread of a love and knowledge of art amongst the people. He need hardly say, that he had no private interest in the continuance of Art-Unions,—his was a labour of love, and therefore he felt justified in calling on every man there, who really felt the importance of the matter, to exert himself to obtain from the House of Commons a successful issue. He had found his chief enjoyments in art, and would open those enjoyments to others. He regarded the true artist with respect, and would make him respected by others. The committee whom he represented had determined to use every means in their power to ensure a continuance of the association, and he doubted not that with the good help of those present, they would succeed.

The noble chairman said, that although until that time his attention had not been specially directed to the proceedings of the society, he should unquestionably support the Bill. We may state, that nearly the whole of the Royal Academicians have signed the petition to the House of Commons, praying the House to pass the Bill now before them.

The prizeholders of the present year are actively engaged in the selection. Amongst the pictures already purchased may be mentioned, "The Fainting of Hero," by Elmore, A.R.A.; "The Gow Chrom and the Glee Maiden," by Lauder; "The High Altar of the Church of St. Antoine," by D. Roberts, R.A.; two by Lee, R.A.; "Harvest Time," by Witherington, R.A.; and others by Goodall, J. Allen, Barraud, A. Cooper, R.A., McIan, F. R. Pickersgill, Hussell, Jutsum, Anthony, De Wint, &c., &c.

JUNCTION OF THE GAUGES.

To obviate the difficulties of diversity of gauge, now occupying the attention of many, Messrs. Austin and Quick have proposed a plan of simple character. It consists in the application of additional sets of wheels to each axle of the carriages, whereby the same carriage may travel both on the broad and narrow gauges, and pass from one to the other, if the statement be correct, without stoppage or inconvenience of any kind. The locomotives, of course, would not require the proposed alteration, as each line would possess its own establishment of engines, travelling no further, as is now the practice, on meeting lines of uniform gauge. The carriages employed for the purpose would be of narrow gauge dimensions, the axles being lengthened sufficiently to receive the additional wheels. The axle bearings would be most conveniently situated between the wheels on either side, the grease or lubricating box being so placed as to be readily accessible between the spokes of the outer wheels.

The inventors say, "The steps of the narrow gauge carriages now project invariably beyond the broad gauge dimensions, the additional wheels, therefore, involve no alteration whatever of bridges, tunnels, or even the station platforms of the narrow gauge lines. The only alteration required, throughout the works, for the uninterrupted passage of these carriages, will be a most simple addition to the rails, at the crossings from one line to the other, or the sidings of both gauges, to allow the flanges of the wheels that are not travelling on the rails to pass through. This will consist of an opening made along each rail to be passed, at the proper distance from, and parallel to the rails travelled upon in each direction, this opening being precisely similar to what is now formed at all crossings to allow the flange of each of the wheels to pass at the crossing points; the turntables requiring only an additional square notch or opening across the rails for each additional wheel."

A model is to be seen at Greenwich, but we have not yet found an opportunity to inspect it.

THE IRON TRADE.—A fall in price was expected but has not come. It appears likely that the present prices will be maintained for some time, should no extraordinary event occur.

RAILWAY JOTTINGS.

A RUMOUR prevails, that the Grand Junction Company are about to possess themselves of the whole of the land from Lime-street to Hotham-street, and from London-road to Lord Nelson-street, Liverpool, including the whole of the Blind Asylum, for the purpose of erecting an hotel upon it for railway passengers.——The young quicksets along the London and Birmingham Railway have undergone a new method of training. Instead of being allowed to grow perpendicularly, they are inclined in the direction of the line, and interlaced, so as to resemble the device made by the swords of the morris-dancers when put together. This has been done from London to Rugby; and the cost of so simple an operation has exceeded 5,000*l.* The object is to make the fence a full protection against cattle.

—— The Railway Department of the Board of Trade have recently put forth the following statement of the number of "accidents attended with personal injury or danger to the public, arising from causes beyond the control of passengers," &c.:—

Years.	Number of accidents.	Number of persons injured. Killed.	Injured, not fatally.	Total.	Number of miles of Railway open.	Total Number of Passengers carried.	Proportion of the number of persons killed to the total number of passengers carried.
Last 5 months of 1840	28	22	131	153	1,830½	6,099,866	1 in 39,410
1841	29	24	72	96	1,856¼	20,449,754	1 in 213,018
1842	10	5	14	19	1,717½	21,858,445	1 in 1,124,128
1843	5	3	3	6	1,598½	25,572,635	1 in 4,262,087
1844	34	10	84	94	1,942¾	30,369,053	1 in 356,702
1845 first 6 months..	15	2	30	32	2,111¼	16,720,550	1 in 522,517

——The length of the Summit Tunnel is three miles, and a great portion of the material has been wound out of the earth from a depth of 600 feet. Nearly eight millions of tons of water have been pumped in the space of five years. The quantity of gunpowder consumed in the execution of the tunnel is as follows:—

EASTERN CONTRACT.

		brls.	tns.	cwt.	qr.	lb.
From Jan. 1839 to Feb. 1843	sinking shafts and driving the drifts ..	1182½	54	11	2	27
From Feb. 14, 1843 to Nov. 18, 1845	.....	1102	49	4	0	0

WESTERN CONTRACT.

From Feb. 14, 1843 to Nov. 18, 1844	.....	1200½	53	18	2	10
	Total	3485	157	14	1	9

——The cost of the valuable report on the gauges was 571*l.* 10s.——The only difference between Hallette's Atmospheric Railway, now in operation at Peckham, and the common atmospheric, consists in the construction of the longitudinal valve, which closes the long slit in the atmospheric pipe. In Messrs. Clegg and Samuda's system the opening is closed by a leather valve and hinge. In Mr. Hallette's system the slit is closed by a pair of elastic lips, which allow a thin plate of metal to pass along between them and close immediately after it. These lips are formed of India-rubber pipes, clothed with cotton and leather, and inflated with compressed air of some five pounds pressure.

BATHS AND WASHHOUSES FOR THE POOR.—The London Committee for promoting the establishment of baths and washhouses, have petitioned Parliament to pass a law, empowering boroughs and towns to establish such, and to impose moderate rates to defray any excess of expenditure over income.

LLANDILO CHURCH COMPETITION.

IN reply to several inquirers, we are glad to be able to insert the following letter:—

Sir,—Having observed in your paper, and otherwise learnt, that some of the architects who have transmitted plans to the Llandilo Church Committee, are desirous to know when a selection will be made, I beg to inform you, from your having already noticed this subject in your paper, that the committee are in communication with the Incorporated Church Building Society, whose advice they have sought to enable them to award the prizes in accordance with the stipulated instructions to the architects, and that the Committee will announce their decision as soon as they shall have obtained competent professional assistance for their guidance. The names of the competing architects were forwarded to the committee, under seal, in which state they will remain until the prizes have been determined, when the plans will be returned to the persons to whom they may appear to belong; and in the mean time care will be taken that no improper use is made of them.

I trouble you with this communication, and also beg to inclose a copy of the instructions before mentioned, in order that you may notice the subject, if necessary, in reply to any inquiries which have been addressed to you.

I am Sir, &c., T. W. PUGH,
Chairman of the Committee.

Llandilo, 11th May, 1846.

ARCHITECTS' REMUNERATION.

SIR,—Pardon me for once more trespassing upon your valuable time and attention, but as your correspondent "Alpha," seems not to have kept to the question at issue, viz., "Remuneration of Architects," or, in other words, that they have no specified charges, perhaps you will bear with me for a few moments. Were the solicitor to be consulted, or the medical man called in, both parties have their publicly acknowledged charges, and would receive them without a demur; but not so the architect, and as a case in point, I beg to refer your correspondent to the late case (in the Court of Queen's Bench) of "Mair *v.* Ward," which is so fully commented on in the leading articles of your journal of Dec. 20th and Feb. 7th. After the council for the plaintiff had stated the case, and called witnesses to prove the usages of the profession as regards remuneration—what was the defendant's idea of the matter? why this, "that he supposed the compensation in all departments of it, was to be nothing but what his own judgment should approve, and his 'generosity' bestow." Now here is no "thrower of a sprat to catch a herring," but one who was professionally employed to assign and carry out certain works, which he did to the satisfaction of the employer, and yet the remuneration he was to receive for his services, was to be left entirely to the *generosity* of the defendant. Is this right or proper? The above is no solitary instance; the defendant only expressed the feelings of the majority, and I feel assured that there are but few, if any, in the profession, who have not one time or another, been treated in the same manner as Mr. Mair, although it was not brought into a court of justice; and matters, I fear, will never be otherwise while things remain as they are. I would say now as I did before,—let there be a regular and generally acknowledged set of charges: this is no case to be settled by common law. The profession must legislate for itself, and none else, and should there be any appeal, let it be to a committee of those eminent in the profession, and who can alone judge of the merits of the case. That there are professional tyros who do as your correspondent describes, it is but too true; nevertheless this in a certain extent, arises from the cause which I have above described, and from which many more evils emanate.

Alpha's illustration in proof of his argument is so far so good; but I will put it to him as an honest man, is it just that any party after they have induced an architect to go to the expense of furnishing plans and drawings, should retain them, and that the first intimation he receives, that he is the non-successful candidate, should be through the columns of a public journal? In common politeness (putting aside the justice of the case), they ought as early as possible after the selection has been

made, to return the drawings to their different owners, with the issue of the competition, but I am aware that the reverse is an every-day occurrence. This in itself is bad and quite enough to damp the beginner. Even if he is over generous of his time and talents, he ought not to be victimized; hoping for something better buoys him up through many difficulties, and God help him or any one else when that forsakes him. With many apologies for this long letter, I am, Sir, &c.

May 2, 1846. W. S.

FEES RECEIVED UNDER THE METROPOLITAN BUILDINGS ACT.

On Tuesday, a return of the monies received by the registrar and others under the Buildings Act was issued. We avail ourselves of the following abstract in the *Times*:—

"The first branch of the return has reference to moneys received and expended by the Woods and Forests Commissioners, on account of the salaries of the official referees, and Registrar of Metropolitan Buildings, from September 1, 1844, to the 1st of April, 1846. The contributions received out of the consolidated fund, towards defraying one moiety of the salaries of the official referees and registrar, was 2,650*l.*, out of which 146*l.* 18s. 4d. was deducted for clerks, &c. The contributions in the same period, out of the rates of the city of London, and the counties of Middlesex, Surrey, and Kent, were 1,500*l.*, making together, 3,863*l.* 1s. 8d. On the credit side there were payments, to the official referees and registrar, at 1,000*l.* a year each, of 3,483*l.* 14s. 9d., and on the 1st of April last there was due on the accounts to the same parties, 1,258*l.* 4s. 3d., which is now made payable by the statute passed in the present sessions, out of the consolidated fund. A statement is made, in the second part, of the fees received and payments made by Mr. Symonds, the registrar, from the 1st of September, 1844, to the 1st of January, 1845. The fees received were 265*l.* 13s., which, with 146*l.* 18s. 4d. received through the office of Woods and Forests by payment of the Treasury on account of salaries, made 412*l.* 11s. 4d. The money was disbursed, as per statement on the other side, with a sum of 5*l.* 13s. 0½d. carried to the next account, making 418*l.* 4s. 4½d. The third account in the return is a statement of fees and payments from the first of January, 1845, to the 1st of April last (five quarters). The amount received in that period was 1,958*l.* 4s. 9d., which was disbursed in payments, except a balance in hand of 64*l.* 18s. In the five quarters, as much as 53*l.* 11s. 10d. was paid for postages. The amount due to the 1st of April on salaries and expense, was 351*l.* 1s. 9d., and the amount owing to the office was 211*l.* 2s. 11d.

DUTY ON BRICKS.

Sir,—I saw by your observations that you intended to look to the duty on bricks; but while the grass is growing the steed is starving. Now or never; and considering you are in earnest, I am willing to attempt assistance. Can any one account how it is, that while the producing price of every other manufacture has, in the last 100 years, been lessened more than one-fourth, that the price of brickwork has been doubled instead of lessened? The price of brickwork, when the old Building Act was passed, 14 Geo. 3, as stated in that Act, was 7*l.* 15s. per rod; this was the full price: the same ratio of price for the same kind of work is now 15*l.* per rod. How is this vast difference to be accounted for in any other way than by attributing it to the duty on bricks? And ought we not also to deduct at least one-fifth from the smaller cost (to meet improvements prevented by the duty, for why should not the producing price of this manufacture have lessened like all others?) thus making the natural cost of brickwork of the present day to be about six guineas per rod. We know it is an every day fact, that journeymen bricklayers take all labour of all kinds of such brickwork, including labourers, making of mortar, all cutting, and all labour or work whatever, at 25s. per rod; and it can be proved that a bricklayer of the present day lays twice the number of bricks for the same value of money to what they did 100 years ago; that a brickmaker of the present day makes twice the number of bricks for the same value of money than they did 100 years ago; that the fuel with which the bricks and lime are burnt is not only much cheaper, but it is also applied with ten times the skill and effect now to what it was 100 years ago; that carriage of bricks, of lime, of sand, of scaffolding, &c., &c., is considerably less now than it was 100 years ago; that scaffolding is not only cheaper, irrespective of the duty since added, but also it is much more expeditiously and cheaply reared now than it was 100 years ago; that all other tools, implements, &c., used to produce the materials of brickwork, and the brickwork itself, including clay digging, brickmaking, stone getting, lime burning, sand getting, mortar mixing, &c., &c., are considerably cheaper now than they were 100 years ago; that lime and sand are considerably cheaper now than they were 100 years ago; that labourers of the present day do twice the quantity of work for the same amount of money than they did 100 years ago; that masters of the present day, with the exception only of master brickmakers, only get half the profits now that they got 100 years ago. Take the journeymen's labour, including bricklayers' labourers, mortar-mixers, scaffold rearing, pargetting of flues, setting of pots, bedding of bond plates, lintels, frames, cases, and all introductions into the brickwork, all cuttings, chasings, gathering over projections, recessings, sailing courses, brick on edge, rough arching, splays, brick-trimmers, and all other works, labours or requirements, belonging to the brickwork (all this is now done for 25s. per rod, while a great deal of extra labour is introduced to save brickwork by arched recesses, false windows, blank doorways, piers, &c., &c.,) at 23s. a rod; 4,500 bricks to the rod at their natural price, had not any duty been put on bricks, would be 3*l.* 7s. 6d., also 15s. 6d. for the same natural price of materials for mortar, and 20s. for masters' profits and losses, this makes six guineas the rod. I maintain, that this is the very utmost price that brickwork would have been at now, if no duty had been put on bricks; large masters would have had much more than 20s. per rod for their profits, from their having a greater demand for materials and labour, and from their being paid extra by measurement, numbers, and allowances for waste and labour, included in the 23s. to the journeyman, viz.:—pargetting of flues, setting of pots, bedding of bond, plates, lintels, frames, cases, and all introductions in the brickwork; all cuttings, chasings, gatherings, over-projections, breaks, recesses, sailing courses, brick on edge, rough arches, cut and gauged arches, drains, splays, brick trimmers, pockets, chimney breasts, and a vast many other extras, the profits of which are only known to builders, and ought not to be exposed unless builders force them out. These I have fairly calculated, but shall not expose, as I feel satisfied that every master and journeyman will admit, that I have still retained for each of them better remuneration than what they get now. I have stated things in the worst light to prevent injury to the trade by which I get my daily bread; I can prove this in various ways. It is a very erroneous opinion, that an excise duty on a home manufacture only enhances the value by the amount of duty imposed. The glass duty just taken off ought to open the eyes of the people to this foolish error; yet I admit it is one of the most difficult things I know of to follow the duty through its thousands of effects to get at the real increase in cost consequent on that duty.

I have been sixteen years constantly studying the effects of the brick duty, and not a day has passed without my attention being called to, nor has a week passed without (either on the Sunday or on the week evenings, when the fatigue of the day would permit of it) my making different calculations, checking and proving my opinions, and searching out how all was to be accounted for. Bricks only pay a duty of 6s. per 1,000, yet I can clearly prove in a number of different ways, that this duty enhances the price of bricks when in the work, and to the party ultimately and eventually paying for the brickwork, 35s. per 1000. This makes an ultimate and eventual difference in a rod of brickwork, of 7*l.* 17s. 6d. to the ultimate and eventual payer for the brickwork. This same duty makes a difference of 16s. 6d. on labour and other things that go to make up a rod of brickwork, by lessening their consumption, improvements in their productions, &c., to the ultimate eventual payer of the brickwork.

Extra final charge for bricks caused by duty	£7	17	6
Extra final charge for labour and other things caused by duty	0	16	6
Natural price of brickwork if no duty had been	6	6	0
Present unnatural price caused by duty	15	0	0

My calculations, producing these results in many different ways, are very prolix and tedious, and such as very few would go into. I have made several communications to you on the subject. If I were to attempt to hint at all the ways in which the duty affects the price, I should not hope to benefit you without being present with my papers. The principal harm done by the duty is placing those that make bricks under the excise laws, so that without any known fault or error, the maker may be exchequered, his business stopped for an unlimited time, immense expenses brought on him,—total ruin, if not immensely rich. This confines the trade in a very few hands. It also prevents any but the richest persons embarking in it; for it is known when the duty money must be paid, and any one that must sell to pay the duty is compelled to make very great sacrifices, or, to save themselves a part of this great sacrifice, they sell to the rich makers: thus an awful monopoly of brickmakers exists. Then the duty being payable immediately the clay leaves the moulds, prevents the making going on except in the very finest weather, prevents it being a continuous trade or business, causes the pay to be greater for making, prevents improvements being introduced, as any failure is the loss of duty. I will not go further in mentioning the effects of the duty, the bare writing them down to give a just idea of them would swell my communication to many postages. I have made 3,000,000 of bricks, and paid great attention to the subject, and I can convince any reasonable person that I have most undeniable evidence to substantiate all that I assert. I believe this foolish tax was put on to prevent persons (having leases of ground that did not forbid the making of bricks) from the making of bricks. It was a selfish legislative movement of landlords to commit a legal robbery on their tenants. In this they were greatly assisted, as Peter Pindar tells us, by a brickmaker making bricks near the residence of Geo. III. I remember laughing at the account when a boy, but not having Peter Pindar's works by me, I should not perhaps give the account correctly, after thirty years of hard fighting for a bare living since I read it. This duty has since been principally maintained to enable a few master-brickmakers to make rapid and large fortunes, by keeping the making in a few hands, instead of as it used to be, when every farmer and owner of land made bricks when short of other work for their labourers, when they used to cart them to the nearest town at the slack time; when farmers chiefly depended on such brickmaking as the only means of enabling them to manure properly their farms, exchanging one load of clay, manufactured into bricks, for twenty loads of manure; for I know that Government proposed to do away with this duty, as it hardly paid for its collection, and the maintenance of excisemen always on the spot; but the large brickmakers petitioned Government to continue the duty, and made a wilful mis-statement to induce the continuance of it.

Only calculate the immense injury this tax causes to the proper housing of the poor, the building of sewers, drains, railroads, churches, chapels, public buildings, bridges, &c. The preventing of fires where houses join each other, &c., and how it lessens the labour of not only bricklayers and labourers, but also of plasterers, masons, slaters, carpenters, joiners, cabinet-makers, upholsterers, smiths, plumbers, painters, glaziers, paper-hangers, surveyors, architects, and all their clerks and attendants, and many thousands of others depending on building for their means of living, and how it prevents additional accumulation of the most permanent and the most desirable part of the wealth of nations, viz., dwelling-houses, churches, public buildings, sewers, drains, bridges, and other works that will endure for centuries.

Humanitas.

THE STRIKE.

A LARGE meeting of master builders has been held at Newton. The towns of Manchester, Liverpool, Birmingham, Macclesfield, Ashton-under-Lyne, Leeds, Bolton, Preston, Wigan, Warrington, Blackburn, Stockport, Birkenhead, Sheffield, Bury, Oldham, Bradford, and various other places of minor note, had appointed deputations from the body of master builders in the various localities, and numbered nearly 200. The deputations met in the great hall, and Mr. David Bellhouse, of Manchester, was unanimously called to preside. The representatives of almost all the large building firms, in the various towns which we have enumerated, were present, and the utmost determination was shewn not to yield to the demands of the union.

The *Liverpool Mail* says, "After the meeting had broken up a letter was received, signed by several persons, on behalf of the bricklayers, joiners, and plasterers, of Liverpool, and the joiners of Manchester, and it was referred to the committee. It is probable, from the firm and decided tone of the whole proceedings, that the struggle, instead of being near its termination, is only commencing on an extensive scale, and that either the General National Union of the building trades must be dissolved, or the building trade itself throughout Lancashire, Yorkshire, and Warwickshire, will be generally suspended. This is an event much to be deplored, and we think that the operatives would do well to dissolve their connections with any general and national organization for trade purposes, as we understand that there is not much disinclination on the part of the masters to agree to local associations of workmen, which do not attempt to coerce the employers, or to interfere with their freedom to employ men who are non-unionists."

Correspondence.

MODERN JEWELLER

SIR,—Being a competent surveyor and leveller (brought up as a civil engineer), I beg to contradict a statement which I observed in the *Times* some time past, evidently emanating from the mouth of a would-be leveller, who did not know any thing of his presumed profession. This leveller says:—That any man who is not an idiot, could learn the art of taking levels for a railway in ten minutes by a book. More than that, we frequently see advertisements in the daily papers to the effect, that gentlemen will be made competent in the arts of surveying and levelling in a week, for a very small stipend, sometimes for three guineas. One of these advertising surveyors (a Mr. Edwards, of Bouverie-street), who engaged to make gentlemen competent for five guineas, when he had got the money from about a dozen scholars, went off to America.

Sir, for a gentlemen to be perfect in surveying, fit for practising on a line of railway, he should be well acquainted with chain-surveying and use of theodolite; taking the breadth of rivers, height of buildings, angles on inclined planes, class of all houses that may be required to be taken down, and the computing of areas. And in levelling, one ought to be able to make up one's field-book, and to plot (many surveyors I have seen unable to do either), and to take curves, and to give gradients.

It is my opinion, that many of the lines that were sent out on account of non-compliance with standing orders, &c., failed solely on account of the inefficient surveyors and levellers employed on them. I have frequently seen surveyors, when met by a river, send a man with one end of a rope over the first bridge (perhaps half a mile off), and measure the width in that way. A leveller, I myself employed, did not know what was meant by plotting.

Hoping the above will prove a warning to some of the readers of your entertaining journal, not to be taken in by advertisements promising to make them, for six guineas, competent to earn from ten to thirty guineas per week during the ensuing session,

I am, Sir, &c.,
VERITAS.
Chelsea, 8th May, 1846.

NEW PADDINGTON HOSPITAL.

SIR,—I have waited in the expectation that some reply would be given through your journal, to the question respecting this intended building, which you were so good as to insert in the 167th number of THE BUILDER. I cannot but think that the paragraph in question, being now of nearly a month's date, must have come under the notice of parties able, if willing, to give, let us hope, *satisfactory* information on the subject. Every thing remains in statu quo on the site, designated on a notice board as that intended for the hospital—the solitary block of granite, called the foundation stone, and the foundation walls included. Pray refer to your journal for 1845, pages 299, 304, and 321, and say, whether with so much honorary assistance engaged (as therein mentioned) in this urgent cause of charity, and the requisite funds having been subscribed, the present appearance of the works does not seem to illustrate a well-known adage.

SCULPTURE FOR THE PEDIMENT OF THE SOUTH FRONT, BRITISH MUSEUM.

THE professor of architecture at the Royal Academy having devoted his well-known talents to the improving the façade of the Liverpool Hall and Courts of Law, by designing and exhibiting this year the drawings for the sculpture for the pediment of that building, what hinders, I would ask, like assistance being afforded to the pediment of our national museum? The *frame* will soon be completed, but the *picture* ——. Perhaps you can inform your readers whether such sculpture has not always been contemplated; I fancy that it has: *chi sa?*

Would it come within the scope of the Art-Union to offer a premium to our sculptors for cartoon designs and models, that the public at large might be made sensible how far the appearance of the National Museum would be improved by the introduction of sculpture in the pediment? And supposing that an outline engraving of the most approved design should be given, as the other engravings and etchings annually are, to the subscribers, would not such a proceeding go far to prove the utility of an institution, which could bring home to every one the conviction of the necessity for the intimate connection of all the fine arts?

I am, Sir, &c.,
Φ.
Tuesday, May 12, 1846.

Miscellanea.

VENTILATION.—At the last meeting of the Society of Arts, a communication, by Mr. A. J. Green, was read on "The Ventilation of Buildings." The paper commenced with an account of the various plans which the author had adopted for the purpose of ventilating the sick-ward and other rooms of the Sudbury Union Workhouse, and it then proceeded to point out the way in which he would propose that all large buildings about to be erected should be built. Where a double chimney is to be erected, I would propose, says Mr. Green, that two air-flues should be carried up in the stack as near the centre as they can be got. If the chimneys are not in the centre of the side or end of the room, the flues should be carried so as to bring them as nearly into that position as possible. The flues need not be more than 14 in. by 6 or 7 in., or 9 in. by 9 in., and should be commenced from the first floor, and continued through every successive story to the top of the chimney, in the same way as the flues for the smoke. One flue of the above size would be sufficient to ventilate four or five stories, if each room required it. Valves would require to be fixed in the wall or ceiling in connection with the flue. This system of ventilation, he considers, would be very applicable to smoking-rooms, tap-rooms, eating-houses, or any buildings where a large number of persons assemble.

WINDSOR CASTLE.—We are sorry to hear rumours that it is in contemplation to close the Royal apartments at the Castle to the public altogether. Should this take place, Windsor will be greatly injured.

THE NINETEENTH CENTURY.—An edict has been posted on the walls of Rome, denouncing the modern innovation of gas-light, and ordering that all private gas-works should be suppressed! Are they afraid of the light?

INSTITUTE OF FINE ARTS.—We are sorry to find that a dissension in this body is likely to interfere with its useful progress. A proposition to make the subscription two guineas instead of one, led to the appointment of a committee of inquiry by the members. This the council thought tantamount to a vote of want of confidence, and many of them resigned. It is greatly to be hoped that all parties will put aside personal feelings, and unite in maintaining a satisfactory adjustment of the differences. All must have the same interests at heart, and they should remember that the failure of the present association would render the establishment of a similar society very unlikely for a long time to come.

SURPRISING DISCOVERY.—According to all appearances, a surprising discovery in "heating apartments and buildings" has been made in Germany. It is stated, that with a merely nominal quantity of fuel, large places can be heated—the temperature raised or lowered at option, kept up for a long time, &c. The first tidings of this discovery emanated from Baron Charles Hügel, in Vienna, a traveller of some note. But since that, other persons in Bavaria, &c., have claimed the priority of invention, and even assert to possess other and superior methods. Mr. Rothschild, the banker, has taken out a patent for this country, probably on Hügel's principle. A few days more will sift the matter and make it more adapted to be brought before our readers.

NEW CHURCH, WINCHESTER.—The church of St. John the Evangelist, at Westmeon, was on Tuesday last consecrated by the Bishop of Winchester, with the customary formalities. The new church stands on an eminence at the entrance to the village, and was built chiefly at the expense of the late Ven. Archdeacon Bayley, who was for eighteen years rector of the parish. Its style is that which prevailed in the latter half of the thirteenth century. It consists of a nave, north and south aisles, chancel, western tower, south porch and vestry, but it has no clerestory.

SUPPLY OF WATER FOR BRISTOL.—The Society of Merchant Venturers have withdrawn their Bill, the Water Works Company having agreed to pay certain expenses incurred by the former. The Water Works Company's Bill will probably pass immediately.

THE CAMBRIDGE CAMDEN SOCIETY.—At a general meeting, held on the 12th inst., the name of the society was altered to the "Ecclesiological Society, or Cambridge Camden Society," and it was determined that the annual meetings should be held in London.

NEW HOSPITAL, BIRKENHEAD.—We learn that the design chosen is that of Mr. Elmslie; the second premium is adjudged to Mr. Allom.

MEETINGS OF SCIENTIFIC BODIES

During the ensuing Week.

MONDAY, May 18.—Statistical, 12, St. James's-square, 8 P.M.; Chemical (Society of Arts, Adelphi), 8 P.M.

TUESDAY, 19.—Civil Engineers, 25, Great George-street, 8 P.M.

WEDNESDAY, 20.—Society of Arts, Adelphi, 8 P.M.; Geological, Somerset House, 8½ P.M.; British Archæological Association (Western Literary Institution, Leicester-square), 8½ P.M.

THURSDAY, 21.—Antiquaries, Somerset House, 8 P.M.; Royal Society of Literature, 4, St. Martin's-place, 4 P.M.

FRIDAY, 22.—Royal Institution, Albemarle-street, 8½ P.M.; Philological (London Library, 12, St. James's-square), anniversary, 7 P.M.

NOTICES OF CONTRACTS.

We are compelled, by the interference of the Stamp Office, to omit the names of the parties who advertise for tenders to be delivered for the consideration of our readers, however, are entered in a book, and may be seen on application at the office of "The Builder," [illegible]

For erecting a new church of St. Simon's, Baptist Mills, Bristol.

For the erection of a new chapel at Speldwick, Hants.

For the erection of a church in the parish of St. Paul, Sculcoates.

For the erection of school-rooms and a teacher's house at Bromley-common, Bromley, Kent.

For a supply of 300 tons of granite for road-making, for the parish of St. Mary Magdalen, Bermondsey.

For the digging and masonry of two tanks, dry well, and retort house, &c., for the Airdrie and Suburban Consumers' Gas Works, near Glasgow.

For building part of an extensive set of offices, near Oban.

For the erection of a church at Oban.

For the casting of from 50 to 70 tons of branches, bends, diminishing pipes, air vessels, &c., for the Dundee Water Company.

For the erection of a new church at Bradford.

For the excavation and masonry on the Lockerbie district of the Caledonian Railway.

For making and erecting a steam engine of forty-horse power, also an engine-house, &c., &c., near the banks of the River Trent, Gainsborough.

For building Sewers in Finch-lane, Nicholas-lane, and Angel-court, in the City of London.

For the cleansing and reparation of Sewers within the City of London.

For the erection of Thirty-five brick-built Cottages; 17 consisting of three rooms, 5 of four rooms, and 13 of five rooms.

COMPETITION.

The trustees of Burelem Market offer a premium of 20*l.* for the best design and plan for a new Town Hall and public offices.

The Board of Guardians of the parish of Kensington, Middlesex, are desirous of receiving plans, &c., for the erection of a workhouse capable of accommodating 400 inmates, at a cost not exceeding 9,000*l.* The architect whose plan shall be approved will be employed to erect the workhouse upon the usual per centage; if not so employed, will receive a premium of 50*l.*, and the architect second in merit will receive a premium of 20*l.*

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At the Union-house, Shipmeadow, near Bungay: upwards of 60 capital oak timber trees.

At Poslingford, near Clare: 150 good oak trees.

At the Talbot Inn, Haddlesay, near Selby: a large quantity of ash and other timber.

Upon the Waste, Rettendon, Essex: 30 ash and 45 oak well-seasoned timber trees.

At the Cock Inn, Epping: 550 capital oak trees; 50 capital ash, elm, and beech.

At Shortgrove Park, Newport, Essex: 230 timber trees.

At Mr. Davis's Farm, Hadstock, near Linton: 300 oak trees and topwood.

TO CORRESPONDENTS.

"*Development of the Cylinder.*"—In R. T.'s example, the side of the square which is constituted by the development of the cylindrical surface, is 25 feet, and the square of this is 625 feet. But he takes the diameter of the circle of conversion as 27·5 feet, which is an error. The diameter is 26·26948 feet, and the area of a circle of that diameter is 625 square feet; so that the square development and the circle of conversion are each 625 square feet. "ergo," they are equal. R. T. makes the circle of conversion 593·9587 square feet—"ergo"—he is wrong.

"*Outline Drawing.*"—J. R. N. wishes to know a better material for drawing in outline than Indian ink or sepia.

"*Compositor.*"—It is out of our province to give him the valuation he asks.

"*Mr. Emmett.*"—Thanks.

"*Rusticus.*"—Will our correspondent send us a description of the roof?

"*J. Leedham.*"—Write to the works, "Limehouse."

"*W. L.*"—The Academy Exhibition will be open all June.

"*T. H.*" (Leighton Buzzard Apply to Holtzapffel, Charing Cross.

"*An Early Subscriber.*"—The Essay on Brick is not published.

"*R. C. D.*"—The rooms of the Institute are at 16, Lower Grosvenor-street, Grosvenor-square.

"*Kilns.*"—Our correspondent "P." will find an article on the subject of Limes, Calcination, Kilns, &c., with sections and plans of various kilns, in an article headed "Stuceo," in the "Encyclopædia Metropolitana," written by Professor Donaldson.

"*T. G.*" (Bermuda.)—We are sorry that the drawing sent is scarcely suited to our pages.

"*Stained Glass Window, St. George's, Hanover Square.*"—A Correspondent, who signs himself "W. R." called upon us, some time since, to discuss the propriety or impropriety of the stained glass window in St. George's Church,—he maintaining, if we remember rightly, that it was not gothic, but perfectly fitting. Because we have not done so, he now complains of "uncourteous conduct," and is so wrong as to say that truth is not considered by us material. "W. R." must be strangely ignorant of an editor's duties if he suppose we are bound to discuss every subject that may be proposed, especially when, as in this case, there cannot be two opinions upon it. No one who looks at the window can doubt that it is gothic in character and feeling; why, then, should we make any statement to prove the fact?

Received.—"J. D. Parry," "C. W. E. P.," "S. P. W.," "A. B.," "An Admirer of the Past Architecture," "R. Wornum," "A Competitor," "J. S. A.," "Fair Play," "A Treatise on Railway Surveying and Levelling," by John Quested (Relfe and Fletcher, Cloak-lane, 1846.)

ADVERTISEMENTS.

PLUMBERS' BRASS WORK, WATER-CLOSET PUMPS, &c.—These articles require the greatest attention and care in the manufacture, and will be found superior and cheaper than at any other manufactory. Best Pan Water Closets, 32s.; 2¼ Lift Pumps and Planks, 4*l.* 10s. 0d.; 3-inch Pumps, 5*l.* 10s. 0d.; 2-inch Bib Ball and Stop Cocks, 2s. 4d. each, and every article in this branch equally low. Every article warranted.—Address, THOS. MILLINGTON, 67, Bishopsgate-street.

WILSONS PATENT
VENTILATING
SPIRAL CHIMNEY POT,



For the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success.

This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance.

The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory,

Southwark-bridge Iron Roofing Works.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery

Best Patent Cut Clasp.

3d.	4d.	6d.	10d.	20d.
5d.	7d.	8d.	1s. 6d.	2s. per 1000.

Best Sheet Cut Floor Brads 16s. per cwt.
Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6d., 7d., 8d. per inch.
Self-acting Kitchen Ranges with Oven and Back Boiler.
Wrought Bars and Bright Fittings.

3 ft.,	3*l.* 3s.	3 ft. 6in.,	3*l.* 12s. 6d.	4 ft.,	4*l.*

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3*l.* 6s.	3*l.* 12s.	3*l.* 16s.	4*l.*	4*l.* 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5*l.*	5*l.* 15s.	6*l.* 5s.	6*l.* 10s.	7*l.*

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 3½d., and 4d. do.
Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.
Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

BRIGHT REGISTER STOVES, with Steel and Ormolu Ornaments, for 4*l.* 15s., cast at GREEN and CONSTABLES, 36, King William-street, five doors from London-bridge.

THE OXFORD ROASTING RANGE.

THESE RANGES are especially suited to Hotels, Clubs, and large Private Families, since they combine the most complete facility for roasting even the largest joints with great economy of fuel and perfect simplicity of management. They are manufactured by

J. L. BENHAM and SONS,

and have been erected by them in the kitchens of many of the nobility and gentry; amongst others are those of the Earl Fortescue, Earl of Liverpool, Lord Foley, Sir Edward Baker, Bart., Mrs. Drummond, Edward Ellice, Esq., M.P., W. Marshall, Esq., M.P., J. Attwood, Esq., M.P., H. A. Herbert, Esq., T. M. Goodlake, Esq., R. Marsham, Esq., Rev. Mr. Barnard, Rev. Mr. St. Aubyn, &c., &c., and also at the Reform Club House.

Hot Plates, Broiling Stoves, Ovens, Hot Closets, Steam Cooking Apparatus, &c., erected in town or country.

BUILDINGS HEATED by HOT WATER on the most secure and efficient principles.—MANUFACTORY and SHOW ROOMS, 19, Wigmore-street, Cavendish-square, London.

WROUGHT-IRON BACK BOILERS for RANGES, and Boilers for Steam and Hot Water purposes of every description, made and repaired on a short notice. Wrought-iron Patent Welded Tubing for Hot Water, Steam, or Gas, with the requisite fittings constantly on hand. Composition Pipe of extraordinary long lengths for interior fittings, affording a great saving in joints—at WALBY'S DEPOT, 59, Greek-street, Soho, six doors from the square.—N.B. A quantity of Back Boilers, &c., various sizes, kept in stock.

TO ARCHITECTS, BUILDERS, & BRICK MAKERS.

PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Roads, Gardens, and for Liquid Manure. BRICKMAKERS' PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to 12-inch bore, kept for Hire.

BENJ. FOWLER, 63, Dorset-street, Fleet-street

STEPHENS'S LIQUID OAK, MAHOGANY, ROSE, and SATIN WOOD STAINS, for Staining various sorts of Inferior Woods, so as to give them the appearance and character of the more costly and ornamental kinds; also for reviving the natural colour of Wood Carvings and Panellings, and other ornamental Wood Work, when such has become faded from age or other causes.

IN THE BUILDING AND DECORATING NEW CHURCHES, where it is desirable to give to the cheaper kind of Woods the appearance of Antique Oak, or to make Deal assume the character of Oak Panelling, whereby the effect of the more costly may be produced by the use of a cheaper material, these Stains will be found more effective than any means hitherto employed.

IN OLD MANSIONS AND HALLS, where the Wood Carvings and Panellings have faded, the applications of these Stains will be found to revive and bring back the rich natural colour, and which colour may be varied from the lighter to the deepest shades of the most Antique Oak.

The BIRCH WOOD, which has a fine natural grain, with little colour, is particularly suited to the application of these Stains; and the appearance which it assumes after Staining is so near that of the natural wood, that is is only when the grain and colour of the latter is particularly fine that it is preferred. Beech, Birch, Elm, Ash, and other Woods, English and Foreign, receive the Stains and produce various imitations.

For the exposed Timbers of the inside of the ROOFS of CHURCHES, for which north country Timbers and Deals are generally used, by brushing them over with the Stain, which operation is very rapidly, and of course economically, effected, the appearance of an Oaken Roof will be produced. For colouring the backs of the Seats, Pews, the fronts of Galleries, the Pulpit, &c., it is equally advantageous.

Prepared by HENRY STEPHENS, and may be obtained at 54, Stamford-street; at the Office of "The Builder," 2, York-street, Covent-garden, and in Manchester, at CRAKE'S MARBLE WORKS, Garratt-bridge, Davidstreet, at which places specimens of their application may be seen.

PREPARED FLOORING BOARDS.

4*l.* REDUCED PRICES.

ALWAYS ON SALE, a LARGE ASSORTMENT of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¾ inch to 1¼ inch thick. Rough Boarding for Flats.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Smith-street, Westminster.

PREPARED FLOORING BOARDS.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, and Old-Barge-Wharf, Upper Ground-street, Blackfriars, a very large stock of well-seasoned Floor Boards of every variety.

A. R., in calling the attention of builders and consumers, confidently presumes on his being able to supply them on such advantageous terms, as will ensure and merit their favours and approbation.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Pantiles.

MUIR'S PATENT  PLANING MACHINERY.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.



THE GENERAL WOOD CUTTING COMPANY, TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.—SAWING in all its branches executed with the greatest precision and despatch. PLANING by the most approved Machinery, reducing the Boards to a parallel width and thickness, and grooving or matching with undeviating accuracy. The operation economizes time, money, and material.

PLASTERING LIME, that may be used immediately without risk of blistering, manufactured expressly for Plastering, and sold at the usual price, at FORREST'S WHARF, Earl-street, Blackfriars. Sheds for the slacking and mixing of lime. Accommodation for loading and landing bricks, sand, ballast, &c.

CHAS. GOODWIN, Plaster of Paris and Hair Manufacturer, 67, Great Guildford-street, Borough, is enabled to supply Plaster, Hair, &c., at the following reduced prices:—Coarse Plaster per ton 2*l.* 10s., Fine 3*l.* 10s., Hair 8*l.* to 10*l.* cash, at Manufactory. C. G. can also supply Architectural Ornaments of every description in a most superior style.

PAPIER MACHE.

HASELDEN and CO., Manufacturers of Papier Mâché, beg to call the attention of architects, builders, house decorators, and upholsterers, to their architectural ornaments, mouldings, cornices, glass and picture frames, ceiling flowers, &c., &c., drawings of which may be had free of expense on application.—Warehouse, 26, Wardour-street, Soho.

BIELEFELD'S PAPIER MACHE.—The superiority of the Papier Mâché for the purposes of ARCHITECTURAL DECORATIONS is now so generally admitted, that it is needless to argue it. The introduction of Papier Mâché into most of the public and private buildings in the country is the best proof of its merits. Ornaments may be had in almost every style, and pattern-books, containing more than a thousand executed designs, price 1*l.*

PICTURE FRAMES and other Articles of Furniture, either gilt or in imitation of the finest carved oak. An illustrated Tariff forwarded on the receipt of eight post-office stamps.

PATENT QUAQUAVERSAL GLASS-STANDS for the toilet, on an entirely new principle, of great elegance, and free from all the practical inconvenience of ordinary Glass-stands. At the works, 15, Wellington-street North, Strand.

By Her Majesty's  Royal Letters Patent

BAILLIE'S
PATENT ROUNDED RIM LOCKS.
WITH SECRET AND SECURE FIXINGS.

THIS CHEAP and USEFUL ARTICLE, obviating the unsightly appearance and insecurity of the common rim lock, can be obtained of any respectable ironmonger in town or country, or from the sole manufacturer, Mr. EDWARD WRIGHT, Wolverhampton.

MR. GRAYSON'S ARCHITECTURAL SCHOOL of DESIGN, established above Fifty Years.—CIVIL ENGINEERS, MILLWRIGHTS, and others taught the principles of MACHINERY and PRACTICAL PERSPECTIVE. The selection of models and casts accompanying the diagrams which are introduced at this Academy will be found of great utility to the Student in elucidating the several Mechanical and Practical Sciences. Morning classes from 9 till 2; evening from 6 till 9, five nights in the week.—For terms, apply at 1, Banner-street, Finsbury-square; if by letter, post-paid.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.

Manufactured by J. B. WHITE and SONS, of Millbank-street, Westminster; and sold at their warehouses—Earl-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

ROMAN CEMENT, &c.
REMOVAL.

THOMAS JOHN CROGGON

Begs to inform the Trade that he has removed to
9, LAWRENCE POUNTNEY-HILL and
THREE CRANES WHARF, 69, Upper Thames-street.

Orders addressed to either place for ROMAN CEMENT of genuine quality will be executed with promptitude and the strictest regard to quality and economy.

KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Millbank-street, Westminster,

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MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in this cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

CAEN STONE.

LUARD and BEEDHAM have a quantity of the above stone, of the best quality, direct from their Quarries at Allemagne, which may be inspected at the Norway Sufferance Wharf, Greenwich.—Further particulars at Mr. G. GATES', 18, SOUTHWARK-SQUARE, SOUTHWARK.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

SAMUEL CUNDY begs to inform Architects, &c., that every description of Stone, Marble, and Granite work is executed at the cheapest possible rate.

Estimates given for Mason's Work in all its branches, Gothic Work, Tombs, Monuments, &c.

MARBLE WORK for Halls, Dairies, Tables, Columns, Vases, at most reasonable prices.

A large collection of Designs for Mural and other Monuments.

CHIMNEY PIECES from Twelve Shillings upwards.

Depôt for CAEN STONE, &c.

MARBLE CHIMNEY PIECES.—The WESTMINSTER MARBLE COMPANY have this spring, restocked their show-rooms with a great variety of chimney-pieces of quite a new design, with the best quality of Italian Marbles selected expressly for their works, and will be sold to builders at such reduced prices that they will realise a great saving by forwarding their orders to this Establishment. An unabated zeal will be maintained to continue the patronage so liberally shown to the Westminster Marble Works.—Address, Earl-street, Millbank, late Grundy's Works.

PORTER'S CORRUGATED, and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanising Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway, and other Iron and Smith's work Manufactured of the best quality. Iron Fence and Hurdles as usual.—The Trade Supplied.

MOREWOOD AND ROGERS' PATENT GALVANIZED TINNED IRON.

T. W. BEALE begs to acquaint the public that he is prepared to lay roofing, plain or corrugated, fix pipes, gutters, &c. Also chimney-tops and ventilating cowls of every description; also water and oil cisterns, of this incorrodible and fireproof metal. He manufactures all kinds of baths, as hip, shower, Roman, open, slipper, sponging, foot, children's, and self-heating baths; also toilet-cans and pails, slop-pails, coal-scuttles, cash and deed-boxes, and fire-proof safes of every description, 10 per cent. cheaper than any house in London.

The PATENT GALVANIZED TINNED IRON is applicable to the following uses:—The Lining of Ships' Store Rooms, Ships' Water Buckets, Water Jugs and Receivers, and for almost every purpose to which zinc, tin, copper, brass, or any other metal is now applied; is more durable, and manufactured at much less expense. An experienced workman sent to any part of the kingdom. All orders punctually attended to. For particulars, apply to T. W. BEALE, 46, Bridge House-place, Newington Causeway.



PATENT GALVANISED TINNED IRON.
(MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and water-closets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 9oz. to every required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quicksett-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

PAVING, 2s. 9d. PER SQUARE YARD Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27s. 6d. per ton.

TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorized CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced. I. FARRELL, Secretary.

Stangate, near Westminster Seyssel Asphalte Company.
Bridge, Jan., 1845.

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specification, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—Wyatt, Parker, and Co., Agents. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

ORNAMENTAL TILES FOR COVERING BUILDINGS.

ROBERT BROWNE'S newly-invented CURVED ITALIAN TILES, for which invention the Society of Arts and Sciences awarded a medal. The Gothic Grooved Ridge Tile, with vertical ornaments, invented by R. B. in 1842; also a variety of plain Gothic Ridge Tiles adapted for tile or slate coverings; ornamental Plain Tiles of various patterns.

Tiles form in winter a warmer and in summer a cooler covering than slates or metal, and may be burnt of any desired colour. Address ROBERT BROWN, Tile Works, Surbiton Hill, near Kingston, Surrey.

DAVEY'S PATENT SLATE RIDGES and HIPS are very superior in appearance to lead, as well as more durable and much cheaper, and are admitted to be the most valuable articles for the purpose hitherto invented. They consist of two side pieces and a roll, either united together to form one solid piece, or in separate parts, and in lengths of from four to six feet. The roll is made of various sizes, perfectly round, and in the strongest way of the slate. They may be purchased of the patentee, W. DAVEY, Broad Quay, Bath, or of any slate dealer in London or the country. Parties ordering a cargo of roofing slates may procure these ridges at the cheapest rate from Mr. JAMES WYATT, Port Penrhyn, Bangor (where they are manufactured), of whom and of the patentee further particulars and prices may be obtained.—Be particular to order DAVEY'S Patent.

HIP TILES to suit slate roofs in colour; Ridges, with plain or rebated joints, roll tops, and vertical ornaments; drains, many sizes, with plain or socket joints; paving in squares, hexagons, octagons, &c., different colours; roofing, in Grecian or Italian styles, other devices also, or plain; conduits, which do not injure pure water; fire-bricks and tiles; clinkers, and out-door paving; sundry wall-coping, garden-borders, chimney-tops; also tubular and other flues of peculiar material. No agent, but a depôt at 32, WHITEFRIARS-STREET, FLEET-STREET, LONDON, under Mr. PEAKE'S personal care, to supply genuine TERRO-METALLIC goods at fair prices as per quality; also, additional Stock at No. 4 Wharf, Macclesfield-street, South, City Basin.

The TILERIES, TUNSTALL, STAFFORDSHIRE, are near the centre of England, whence boats are sent direct to any inland place; or to the Mersey for the coasts, the colonies, and elsewhere.

FIRE BRICKS.

W. WARD, Honduras Wharf, Bankside, and St. Michael's-alley, Cornhill, has just landed a large quantity of his very superior manufactured Fire Bricks, of Stourbridge, Welsh, and Newcastle. Prices very low. Shipments made for the East and West Indies, &c., with the greatest promptness. Gas companies, engineers, builders, and all large consumers supplied from ships in the river at a much lower price. A very large stock on hand of Bricks, Lumps, Tiles, and Clays.

River sand and gravel by freight to any wharf and dock.

BRICK MACHINE.

JONES'S PATENT MACHINE is acknowledged by old-experienced workmen to turn out far superior Bricks to what can possibly be done by hand. Expedition and cheapness guaranteed. They are moulded stiffer, put in the walls at once to dry, and will bear two high a day. So that nearly double the quantity is in process of drying, and consequently less covering required. Contracts for brick-making, by machines, entered into, and licenses granted.—Apply to EDW. JONES, Queen's Wharf, King's-road, Camden Town.

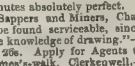
TO ARCHITECTS AND BUILDERS.

DOOR SPRINGS AND HINGES.—GERISH'S PATENT DOOR SPRINGS, for CLOSING every description of DOOR, consists of Single and DOUBLE-ACTION BUTT HINGES in Brass and Iron for Doors to open one or both ways, and Rising Hinges for the convenience of Doors opening on uneven Floors. Likewise Swing Centres, which consist of a combination of power unequalled by any made at present. Manufactured by F. W. Gerish, East-road, City-road; and sold by all respectable Ironmongers in the United Kingdom.

TO ARCHITECTS AND BUILDERS.

COLLINGE'S PATENT HINGES.—Sole Manufactory, 64, BRIDGE-ROAD, LAMBETH, where a great variety are always on view, for Church, Park, Coach-house, and all other Doors and Gates, of large or small dimensions, a gate of a ton in weight moving with these hinges as easily as a wicket; they are also admirably adapted for drawing-rooms, being highly ornamental, and folding-doors fitted with them may be removed and replaced in an instant. Rising and spring Hinges, on the most improved principle, and very superior Fastenings for exterior Gates, at moderate prices. To be seen at Charles Collinge and Co.'s Patent Axletree, Sugar-mill and Spherical-hinge Manufactory, 64, Bridge-road, Lambeth.

FINE ARTS.

By Her Majesty's  Royal Letters Patent.

LORIMIER'S TRANSPARENT PLANES for Perspective Drawing; BENJAMIN WEST, Patentee.

"This Instrument will enable Artists and others to make any Drawing, whether from Nature or Models, in perfectly true perspective, so that a likeness or landscape may be taken in a few minutes absolutely perfect. It is used by her Majesty's Royal Sappers and Miners, Chatham. To Travellers it would be found serviceable, since it can be employed without the knowledge of drawing."—*Art Union.*

Price 18s. and 26s. Apply for Agents to BENJAMIN WEST, 2, St. James's-walk, Clerkenwell.—Sold by BARRITT and Co., 173, Fleet-street, London; GRIFFIN and Co., Glasgow, and by all Fancy Stationers, &c.

The Builder.

No. CLXXII.

SATURDAY, MAY 23, 1846.

SCAFFOLDING has been erected on the triumphal arch at Hyde Park Corner, and an enclosure formed at the foot of it, preparatory to the sacrificial act of placing thereon a monstrous pedestal, and Mr. Wyatt's colossal figure of the Duke of Wellington. In July last, and long previously, we pointed out the absurdity of this arrangement,* the injurious effect it would have upon the archway, and the inappropriateness of the situation, leaving the archway out of the question. At this, the last moment, we feel it necessary to make one more effort to prevent the contemplated destruction.

We appeal to Lord Canning, within whose jurisdiction it is, and beseech him to interfere in favour of this other "finest site," and not allow it to be wilfully injured, by a course, too, which will deprive another part of the metropolis of a monument. Surely we have not so many monuments that we can afford to sacrifice one and lose a second? And yet unquestionably this will be the result of the present proceeding;—the archway will be degraded into a pedestal, and the group will be placed too far from the eye to be properly seen. The archway is of itself complete. If any figures be added, they should of course be accessorial, not dominant,—they should be the adornments of the edifice, and not its destruction.

The effect of a figure of the intended size must have been seen (by those who needed such demonstration), when the wooden effigy was set up on the archway in 1839, to the special wonderment of the horses and the crows. Now that the statue is finished, a mounted life-guardsman (says a contemporary, in a tone of gratulation), can ride between the legs of the horse; and we have heard it remarked, as a matter of boast, by one who is interested in the testimonial, that the group is quite five feet longer than it was at first proposed to be! An additional reason why it should not be placed on the top of the archway.

In our previous article we expressed an opinion, notwithstanding assertions to the contrary, that Mr. Decimus Burton, the architect of the gateway, could not view the proposition favourably; that though he might have said to Mr. Wyatt (as was asserted), long before the Wellington testimonial was proposed, that figures were essential to the finish of his structure, he meant figures of a very different size and character from that now threatened. Since then we have learnt, and can state positively, that Mr. Burton has the strongest objection possible, against placing the group in question on the archway (and well he may have), and that he is taking no part whatever in the alteration proposed to be made in the upper part of the structure, to prepare it to receive the pedestal about to be built on it,—a pedestal, be it remarked here, of brick faced with stone, five and twenty feet long, and eleven feet wide.

Mr. Burton, through the mildness which characterizes him, has not expressed this opinion so loudly, and so publicly, as he ought to have done; but we do hope, for the sake of the public, that he will wave his accustomed gentleness, and protest in the strongest manner against the unwise course about to be taken. He owes this, too, to himself; for an opinion prevails very generally, that he is a party to the proceedings, and this has induced many to be silent who would otherwise have spoken. The result will unquestionably rest on his shoulders.

The duke himself, we may be quite certain, cannot desire to have the figure opposite his front windows—harassed, as he is, by Achilles in his rear: the architect, as we have said, strongly objects to it; and that portion of the public who have as yet thought about the matter, violently reprobate it. To please whom, then, is it, that this violation of good taste, and waste of public money, are to be perpetrated?

Of the statue itself we can say nothing, not having seen it; moreover we have a sufficiently good opinion of Mr. Wyatt's abilities to believe that it will be very satisfactory, and would prove an adornment to one of many fitting spots in the metropolis that might be pointed out, placed on an appropriate pedestal, such as Mr. Burton, we understand, has himself proposed and submitted a model of, to the office of works. Our objection applies entirely to the proposed situation of it, and we respectfully reiterate an appeal to Lord Canning, and beg him to fortify himself with the opinion of competent disinterested parties, before he suffers any further steps to be taken, in the unwise direction contemplated.

* See p. 325, Vol. III.

A more satisfactory proof could not be adduced of the increased amount of interest in art, now manifested by the public, than the lengthened and able notices of the present Academy exhibition, which have appeared in the daily papers. Time was, when the smallest type and a narrow space sufficed to tell the world what to look at, and what admire, on the walls of the old rooms at Somerset House; whereas now, the criticisms appear in largest character, and are "to be continued" from morning to morning. The periodical press is a reflect of public opinion: if more space be devoted to art, it is because the public will read more about art, and, in fact, demand it. The press may go much further than they do: they *will* go much further before long; and even the reporters of the House of Commons, who now shut up their books when any thing concerning art, or literature, is talked about, will learn there is a public anxious to hear of these, and will find themselves compelled to note it. The ignorance which has prevailed in England as to the scope of art, its purpose, and real power, is deplorable. We say *has* prevailed, but ought to say, *does* prevail, notwithstanding the improvement which has been effected by the establishment of Art-Unions; and we would point for examples, to the highest circles equally with the lower. Of this hereafter.

CHURCH FOR SEAMEN OF THE PORT OF LONDON.—The first stone of this church, designed by Mr. H. Roberts, was laid by Prince Albert on the 11th inst. The style is Early English; the estimated cost 9,000*l*. We learn that the external length of the church is sixty-nine feet; the width, fifty-three feet; the height, to the plate of the clerestory roof, thirty-five feet; and to the under-side of ridge, fifty-two feet; the entire height of the tower and spire will be one hundred feet. The timbers of the roof are to be open, and, with the whole of the wood fittings, will be stained dark oak. The seats will be entirely free, of open benches, accommodating 600 on the ground-floor, and 200 in the two side galleries. There will be no gallery at the west-end of the church, the organ being placed in a recess within the tower.

THE ARCHITECTURAL ROOM AT THE ROYAL ACADEMY.

ROOMS are opened and pictures are hung at the exhibition, which is assumed to represent the state of art in England, less for the immediate benefit of the arts themselves, than the gain in visitors' shillings. Consequently, the first object is to cover the walls; the nature of the works is of secondary importance. Large Paintings are on the level of the eye, whilst architectural drawings are next the floor, or above the doorway. The visitor passes in at one door of the architectural room, and out at the other, saying, "Oh! I hate these things," as we heard the other day; the architect-academicians are usually absent, so it can hardly be wondered at, that architects in general should omit to send, and the interest of the room degenerate. In our former notice,* we briefly adverted to points in which alteration was desirable, and if we now allude to the bad system of hanging, the admixture of oil pictures, and other matters, it is because we could not, consistently with our duty, allow any year to pass without recording our opinion as to the necessity for improvement.

We cannot call to mind any exhibition, in which there have been so few drawings of buildings in progress, or to be erected. Views of cathedrals and abbeys, or of Greek and Roman temples, reduce our critical labours considerably, but remind us of many subjects, which should occupy their places.—But we give the praise it merits to the "Interior of the Upper Chapel, Benedetto, Subiaco" (1312), by D. Wyatt, a drawing of an interesting building, affording some scope for colour, and artistic treatment. The "West Doorway, Rochester Cathedral" (1242), by S. Read, is also not without merit. "An Elizabethan Mansion, at Ipswich, date 1568," by T. M. Baynes (1208), is an interesting example, having a projecting story and roof, pilasters and festoons, and bow windows; in general character being very similar to the Queen's Palace at Greenwich. No. 1233, "Bishop Longland's Chapel, Lincoln Cathedral," by C. Creeke, is nicely drawn in outline. "The Town Hall, Leominster" (1276), by J. Clayton, is an interesting example of the half-timbered edifices, which we may also say of "Garratt Hall, Manchester" (1324); but the buildings in the latter view are *not* in all respects "represented as they appeared, July, 1837."

The views of the quadrangle of the Royal Exchange, and of the staircase in the Conservative Club, by F. Sang, represent the polychromatic decorations in those buildings, but might be intended for working drawings, so little do they aim at the effect, which the interiors themselves might be supposed to present. In "A Library," by W. W. Deane (1160), the polychromy is better treated, and seems in all respects better composed; the columns, and the semi-circular recess at the end are also well arranged. Of interiors generally, there are fewer than usual. Mr. Derick exhibits one of "the Episcopal Chapel now erecting at Cloabar, Mayo;" and there is one of the church at Seacroft, near Leeds, by T. Hellyer, both commendable productions. The "Music Hall and Class Rooms for Mr. Hullah's Singing School," by W. Wesmacott (1355), is Gothic in design, and not very effective.

Mr. Hopper's old design for the Nelson Monument (1171) is a monopteral edifice, consisting of a basement, and rostral columns, nine in number (so we counted them), and apparently was intended for one end of Trafalgar-square. Mr. Railton troubles us with his Nelson Column (1313) as it *will* one of these days appear, *when* completed. The latter architect shows us a view of "Riseholme Hall, as enlarged and adapted for the Bishop of Lincoln." It is just one of those plain square mansions, of which there are so many, some 20 or 30 years old, and which make us feel that we have advanced greatly in our villa architecture. But as it is not entirely a new building, we are not inclined to make this a complaint against the architect. 1200, called in the catalogue, "Design for a Mansion," by H. H. Burnell, though picturesque in outline, has too much the character of a public or collegiate building to be what its name signifies. Mr. Lamb's drawing (1210) of a "church porch," has the appearance of an accurate delineation from an old example. The "Gothic Design for a Town Hall and Public Assembly Room,"

* Vide *ante*, p. 217.

&c., by C. Burton (1214), will never be anything more than a design. Its decoration is carried to excess, and its execution would be an impossibility. The old carter in the foreground, astonished though he appear, could not feel more surprised at the enormous mass of masonry hanging in the air, than, we dare say, did the plain, sober people "in the west of England." W. A. Papworth, in his "Design for a Way-side Railway Station" (1216), has arranged the projecting gables for timber and plaster, and their supports are apparent. This design has the ornamented timbers and verge-boards of the style. The *hip-knobs* seem too bulky. In Mr. Barr's drawing, "Steeples of gothic churches" (1218), he seems to have followed one model of the broach spire exclusively. Mr. Allom, besides the works previously mentioned, exhibits a "bird's-eye view of a design for the Clifton Union Workhouse" (1215), one of his clever drawings, "a view of the plan for laying out the manor of Stoke Damerel, Devonport" (1343), and a house now erecting in New Zealand (1227). Two pen and ink drawings, designs for churches (1231 and 1224), are ascribed to different hands, but are apparently by one. Mr. S. S. Teulon has a drawing of "North Creake Rectory," erected by him. In number 1260, "view of a church, designed by G. Alexander," the tower and spire deserve great praise. "Street architecture and astylar decorations" (1275), by W. H. Leeds, reminds us of two drawings by the same architect last year. It shews a commendable desire to leave the beaten track. The "design for the Ipswich Railway Station (1323), which obtained the second premium," by Heneker and Lawford, is clever and appropriate; and "Healey Church, now erecting" (1329), by E. B. Lamb, is one of the best designs in the exhibition. Some designs for lodges, by W. Haywood, are good. E. C. Sayer has drawn out "Sir Christopher Wren's first design for St. Paul's Cathedral from the model." The result will, perhaps, disappoint many, no attempt having been made to supply the elaborate decorations which the present building has, and the domes not being sufficiently elevated. The portico, however, is imposing. The model has, we believe, been strictly adhered to.—Amongst the models is one of the "Martyr's Memorial," recently erected at Oxford, and another of Mr. Poynter's Church at Westminster. The steam-boat pier, by H. H. Burnell, may be noticed, for an attempt to do away with the present floating barges. The plan seems practicable.

PROFESSOR WILLIS ON ECCLESIASTICAL ARCHITECTURE.

On Tuesday, the 12th inst., Professor Willis described the arrangement of the Greek church from that of St. Sophia, at Constantinople. This building, erected by Justinian, and dedicated to the Wisdom of the Deity, differed greatly in its plan and construction from the basilicas. These structures were roofed with open timbers, whilst the Byzantine church was domed over in light brickwork. That characteristic was united with peculiarities of plan, mainly attributable to the influence of ritual, and the curious combination of forms. The main portion of the plan enclosed a parallelogram, varied in outline by apses. The centre portion, which was square, was united east and west to large apses; from the middle of one of these projected a smaller apse, as a place for the altar, whilst a square projection occupied a corresponding place at the other end of the interior. One on each side of these projections were other apses, covered, as in the former case, with semi-domes. In front of the building was an atrium, as in the old basilica of St. Peter, and in the church of St. Clement, at Rome. It had a fountain in the centre; and might, the outline excepted, be likened to the porticoes in front of the modern St. Peter's. It was similar to the cloister of a Gothic cathedral, but was not a private but a public place.

The church had aisles, which were much wider than those of the basilica. The square centre, surmounted by a dome, was enclosed by four great arches. The north and south arches—though it was not at first apparent—were smaller in span than the others, and were filled by a wall pierced with openings. There were arches in two tiers, opening, the lower into the side aisles, and the upper into apartments resembling those below. The upper gallery, occupying the place of the triforium in Gothic churches, differed from it in being precisely similar to the aisles below. These upper galleries were devoted to the women, and the lower galleries to the men. The north and south arches themselves were filled, each with a large window, or rather, a wall pierced with arched openings, which were glazed with stained glass. The aisles were filled with similar *mullioned* windows, from which, possibly, the idea of the Gothic window was taken.

The professor pointed out the different parts of the building from the model before him, and explained that the construction of the vaulting was borrowed from the examples at Rome, in the baths and the "Temple of Peace." The domes were filled with small apertures, which admitted the light. The church of St. Sophia had been the model for the Turkish mosques. He also pointed out the enormous counter-forts to the eastern and western arches. The history of the building might be gained from Procopius, and the Byzantine churches had been carefully illustrated by M. Couchaud.* The design was attributed to two architects, and it had been said that the emperor was himself the architect. Justinian expended upon it all his resources, and when he entered it, at its completion, exclaimed, "I have vanquished thee, O Solomon." The structure, however, proved too gigantic for the skill of the time; the foundations settled, and other serious failures took place, of which we had no distinct account, until, at length, an earthquake threw down the great dome. At the reconstruction great changes were made, which the professor considered were reducing the span of the north and south arches, and building the great buttresses to those of the east and west. He thought it was probable, also, that the church had previously a central transept.—The area was divided into three principal portions. The sanctuary, removed from the position it held in the basilica, occupied the *eastern* apse. The bishop's throne, and presbyters' seats, had their usual arrangement in the central apse, which had three windows, in accordance with a vision which appeared to Justinian, and being probably the origin of the eastern triplet. The two smaller apses were, one for the table of prothesis, and the other for the books and sacred utensils. At a subsequent period in the Latin church, these apses were found so convenient for the additional altars, that they were employed in that manner, and their number often increased; the table of prothesis being diminished to a projecting shelf in the choir. The divisions of the area were made by screens, and the only parts occupied by the congregation were the galleries, and the western end. The great space allotted to those engaged in the celebration of the service, was necessary, from the number of priests, singers, and others, of whom there were in all 525 individuals.

The professor said, that the Byzantine style had been supposed to have exerted a vast influence upon the style of western Europe, but the difference between the two was so great, that he thought that influence could not have been so important.—He then noticed the church of the nativity at Bethlehem, erected over a grotto, supposed to be the site of the Saviour's birth. The grotto was under ground, and great part of it was excavated subsequent to the building of the church. The high altar stood immediately over the presumed site of the manger. The church was "transverse triapsal," or having its second and third apses at the ends of the transepts, instead of parallel with the great apse, as in the other instance, called "parallel triapsal." The plan of the church had been much extended, and the professor demonstrated, from the position of the altar, and the general arrangement of basilicas, what was probably the original form.—He then alluded to another class of churches, found in Germany and other parts of Europe, having an apse at each end, which seemed to belong to a period of transition from the earlier system, as regarded the position of the altar, to that with which we are familiar. This peculiarity he illustrated by a plan of the monastery of St. Gall, in Switzerland, erected during the 9th century, taken from the drawing which still exists on parchment in the monastic library. There are altars at each end, the eastern choir having the prolonged outline, common at a later date. Our readers may see a plan of the church in the number of the *Ecclesiologist* for March, in the present year, to which we referred at the time.

* "Choix d'Eglises Byzantines en Grèce," par A. Couchaud. Paris, 1832.

REGULATIONS FOR THE CONSTRUCTION OF SEWERS.

WESTMINSTER COMMISSION.

Drainage of Courts and Alleys.

At a Special Meeting of the Westminster Court of Sewers, on the 12th instant, Mr. Leslie in the chair, the following Regulations were unanimously agreed to:—

1. That all persons obtaining leave of the court to construct any length of sewer, do conform to the following regulations, as the conditions on which such leave is granted.

2. That all persons applying for leave to build a sewer, do present with the petition (which is to be in the form provided by the court) a plan of the ground and buildings which such sewer is intended to drain. A transverse section of the road-way, shewing the depth of the lower floors of the buildings below the said road-way, must be drawn and figured on the plan. A strong red mark is also to be drawn on the plan, shewing the line of the sewer for which application is made. The situation, level, and current of all sewers will be regulated by the court. Whenever the lower floors of buildings are too low to be properly drained, no sewer or drain will be allowed to be made for such premises.

3. That leave to build a sewer, and the drains connected therewith, shall continue in force for six months; and in case the work is not commenced within that period, it must not be done without a renewal of the leave.

4. That all sewers, and works connected therewith, be built respectively in accordance with the subjoined plans and sections.

5. That care be taken to avoid all angles, either in changing the direction of a sewer, or in forming junctions therewith; and that, in all cases, such junctions be formed by means of a curve, with a radius as long as the locality will allow. The fall along a curved length, must be treble that along a similar length of the straight part.

6. That all the bricks used be good, sound, square, hard, and well-burnt stocks or paviors. Bricks of an inferior quality are not on any account to be used, and wherever such are found, the works will be suspended until the bad bricks are removed.

7. That the mortar be composed of two parts of the best fresh-burned grey-stone lime, of approved quality, and five parts of the best, clean, sharp, river-sand, free from dirt and other impurities, well mixed and tempered, with such a quantity of clean water only as is sufficient to bring it to a tough and proper consistency.

8. That the cement be of approved quality, and mixed in small quantities at one time, with an equal proportion of clean sharp river sand. Should any of the composition become hard or set, it must not be re-mixed for use.

9. That the inverts be worked in cement as shewn on the sections, and the three centre-courses thereof well bonded and cemented together above ground, in blocks one foot six inches long, which must not be used within twelve hours after being put together. The bricks used with the cement must be well soaked in water.

10. That the brickwork be executed in the best manner, the bricks properly bonded, and the cross-joints of each course well rubbed-up. The bricks must also be laid evenly and uniformly, to the curvatures of the moulds and centres, in neat, close, and regular joints, not exceeding a quarter of an inch in thickness at the interior surface, and the joints are to be smoothed or struck full and flush with the face of the work.

11. That the ground be excavated of such length at one time, as shall be deemed most proper by the surveyor or clerk of the works of the court, the sides of the trench being supported with suitable planking and transverse strutting, until the brickwork of the sewer is completed. The bed for the invert and sides must be excavated to the form of the exterior; but should there be any vacant space behind the brickwork, it must be made up with proper earth, soundly rammed, as the work pro-

ceeds; the trench must then be filled up with regular layers of ground, not more than one foot thick at a time, each of which must be thoroughly punned down.

12. That all sewers or drains, whether public or private, which may be met with in building any sewer, be preserved and properly connected therewith, in such manner as the surveyor of the court shall direct, and at the cost of the party building such new sewer. The court reserves to itself the power of allowing the junction of any sewer into any part of such new sewers, without the sanction or concurrence of any person whatever, and without any payment in consideration of such junction; but no new drains will be allowed to be inserted without the written consent of the owner of the sewer.

13. That all persons obtaining leave to build a sewer within thirty feet of adjoining property, be required to continue the line of such sewer up to such adjoining property.

14. That all persons, before commencing a sewer or drain, must apply to the person in charge of the roadway, for the purpose of arranging as to the thoroughfare and making good the roadway.

15. That the petition for any sewer must include such proper shafts and side-entrances, for examination and repairs, and gullies for carrying off the surface water, as the court shall require. The iron work will be provided by the court.

16. That all drains be connected with the sewers by means of pipes, agreeably to the (subjoined) plan and section. Specimens to be seen at the office.

17. That every new sewer, and all works connected therewith, shall be maintained, kept in repair, and upheld at the expense of the petitioner, until the street or way over such sewer shall be completed to the satisfaction of the court.

18. That the whole risk and charge of building any sewer, side-entrance, drain, gully, or other work, including the watching, lighting, and fencing, as also the breaking-up or making good the foot or carriage-way, and all works occasioned by the building of such sewer, side-entrance, drain, gully, or other work, together with every responsibility, shall be borne by the party on whose petition the leave was granted.

19. That no building or erection of any kind shall be built in, over, or upon any sewer, and not (without the special permission of the court), nearer to the side wall thereof than three feet.

20. That no sewer be made through a burial ground; nor, without special permission, in any other situation than along a public way.

21. That this court will not maintain fences at the sides of sewers.

22. That, previous to the commencement of any sewer, at least two clear days' notice thereof be given at the Sewers' Office.

23. That a distinct and separate drain be laid from each house, including the offices. All persons breaking this regulation will subject themselves to a fine, and the drain will be cut off from the sewer.

24. That the officers have strict orders to see that all works are carried out in conformity to the regulations and orders of court, and subjoined plans and sections, and to stop all works in any way departing therefrom, by leaving a written or printed notice, and report the same to the court without delay.

The following Report from the Surveyor, on drainage of courts and alleys, was then read:—

As ordered by the court of the 1st May, 1846, I beg to present a report, accompanied by plans and sections, on the drainage of courts and alleys, as follows:—

Within the limits of this commission, there is a large number of courts and alleys entirely without underground drainage. The houses in these localities drain on the surface, and into cesspools which have no overflow drains; and, in consequence, these places are almost always covered with filth, and the smells are very offensive.

There are, however, many courts and alleys that have sewers, but are, nevertheless, very badly and improperly drained; many of the sewers being choked up with soil, and in a very dilapidated and ruinous condition, and in consequence of their intricate directions, improper sizes, fall, and form (being flat bottomed), they are very little better than cesspools, for they often require to be broken into for the purpose of clearing out the soil, which occasions much annoyance and expense; and the smell emitted from the soil while it is depositing and accumulating is very bad; altogether they form a source of great trouble.

Now all the courts and alleys that are without sewers and drains, as well as those places that have sewers, but which are in foul condition, can be cheaply and most effectually drained. It is, therefore, in my opinion, absolutely necessary, that a cheap and proper system of sewerage should be adopted by the court for draining the localities in question. The owners of such property would then be enabled to cause sewers to be carried along these places, for properly draining the tenements; and those sewers that are inefficient, and which are under the control of the court, should be put into an efficient state, or entirely rebuilt.

But as most of the courts are very narrow, and as there are a great many vaults, areas, and cellars projecting from the houses into them, the small size, or No. 3 sewer, is much too large, and could not, in very many cases, be built along them. Moreover, large sewers are not in any way adapted or fitting for the drainage of such localities; and I am of opinion that they may be properly and effectually drained by sewers of even much smaller capacity than the No. 3 sewer, which is 3 feet 3 inches high, and 2 feet wide in the clear.

In providing for the drainage of these places, the form of the sewer at the bottom should be such, that a small quantity of water shall cause a scour along their channels, and keep them free from deposit and accumulation. Keeping in view, therefore, the hydraulic principle, that by concentrating the stream on a small area, and by contracting the channel to narrow limits, increase of velocity and power to scour is the result, I submit the accompanying sections of sewers, as best adapted for draining courts and alleys.

I propose, therefore, that three sizes of sewers should be used for that purpose.* The first is intended for courts from 300 to 450 feet long, the second from 150 to 300 feet long, and the third for places 150 feet and less in length. They should be built half brick, or 4½ inches, thick, with radiated bricks worked into blocks, (with best Roman cement), as shewn by the said sections. The average cost of such sewers would not exceed five shillings per foot run.

In lieu of using bricks for the construction of the aforegoing sewers, it is very desirable to make them of terro-metallic or iron-stone clay, or of Staffordshire fire-clay, moulded in the manner (that was) shewn. My opinion, which is strengthened by the opinions of persons of great experience in the building of sewers, and also by practical manufacturers, is, that little or no difficulty would be experienced in making pipes as represented. The advantages to be obtained by their use are, sound and quick construction, strength, durability, efficiency, and cheapness. There are many places where, in consequence of vaults, cellars, and want of depth, it would not be possible, without great difficulty and expense, to put in sewers even of the heights proposed; to obviate which, the bottom parts of the tubular sewers only may be used, covering them with strong flat tiles made of the same material, or with thick slate.

It is very desirable to provide facilities for examining the state of these sewers from time to time. I propose, therefore, that a shaft should be built at the head of the sewer in each court, and shafts at their sides; (as shewn by the plans and sections which were given). Local circumstances will determine, in most cases, where the side shafts are to be placed; and as conveniency of access to the sewers is important for examining them, and for the removal of accidental obstructions, they should be placed about 100 or 150 feet distant from each other. Or if a sewer, from where it joins a main one, to its head, be about 100 or 150 feet long, a shaft at the end thereof will be sufficient; if it be from 150 to 300 feet long, a side shaft should be constructed at about the middle of its length, and a shaft at the end; if it be from 300 to 450 feet long, two side shafts and one at the head should be built. These shafts should be covered with chequered cast iron flaps or doors, with proper locks and fastenings to them, and laid flush with the surface of the paving. Foot, or ladder irons are also intended to be inserted in the walls of the shafts.

Besides affording facilities for examining the state of the sewers, the *end* shafts can be made to serve a very important purpose, namely, that of holding water, to be supplied from the water companies' mains, and having a proper ball-cock with waste-pipe to regulate the supply, for keeping these sewers well washed or flushed out. The plan consists in fixing against the heads of the sewers in the shafts, strong water-tight flaps, which may be lifted up (if required) to allow a man to crawl or look into the sewers. Near to the bottom of this flap a circular aperture should be made, of the same radius as the bottom of the sewer, covered with an iron valve, to be hung by a link and staples, so as to swing freely. This valve could be opened from above by a chain fastened to it. When the shaft or tank, which should be built and rendered inside with Roman cement, is full of water, and the valve is opened, the rush and force of the stream through the aperture and along the sewer would be such, that it would scour and carry away any deposit or accumulation. This process can be performed once a week at most, and would keep the sewers perfectly clear of all obstructions, and free from smells, for no smell arises from those sewers in which the currents are powerful enough to prevent the soil from depositing. The cost of the water for the supply of the tank for each court or alley, would be about the same as that for an ordinary cistern, or from twenty to thirty shillings per annum. Small sized grates with narrow bars and openings, about a quarter of an inch wide, should also be laid in the pavements, as shewn, with small drains communicating with the sewers, for carrying off the surface water.

Having maturely considered the system for the drainage of courts and alleys, as laid down in this report, and the principles connected with it, and having taken the opinions of eminent engineers as to its practicability and efficiency, I have no hesitation in saying that, should the court think it worthy of adoption, it would be found cheap, durable, and efficient, and a great boon to the inhabitants of the wretched and miserable abodes in courts and alleys.

JOHN PHILLIPS.

It was resolved unanimously, that the report be approved and adopted; the limitation respecting the lengths of the courts being considered as a guide only, and not as a precise direction.

The surveyor reported, that he had directed several of the sewers in alleys to be opened, that the court might have the opportunity of seeing the horrible state in which they were. The court resolved unanimously, that immediate steps be taken, and the surveyor be authorized to try the effect of his new sewers in a few courts and alleys.

The court then ordered an advertisement to be prepared immediately on the sample-brick being ready, for 30,000 radiating bricks for the new sewers for courts and alleys.

* The drawings submitted shewed No. 1 to be 3 ft. 3 in. by 1 ft. 9 in.; No. 2, 2 ft. 9 in. by 1 ft. 6 in.; and No. 3, 2 ft. 3 in. by 1 ft. 3 in.,—all of the egg shape.

WASTE OF WATER POWER IN IRELAND.—In Lancashire, every available rivulet is caught hold of. The little current which passes by Bolton and Manchester, Dr. Kane somewhat quaintly styles, "the hardest worked stream probably in the world;" in a fall of 900 feet, not less than 800 are appropriated to the use of mills. Now, the Shannon (whose total basin amounts to the prodigious area of 4,544 square miles) falls 147 feet from Lough Allen to Limerick, the last fifteen miles from Killaloe presenting a difference of level of not less than 97 feet! The total continuous power above Killaloe, calculated from the level of basin, is 4,717 horses power; that from Killaloe to Limerick something above 350 horses power for every foot of fall, making for 97 feet the immense force of 33,950 horses power, these added together *giving a force in uninterrupted action day and night, at every moment of the year, of* 38,667 *horses power!* Yet with the exception of a few corn-mills along the *trajet* of the river, this invaluable force is allowed day after day to go to waste.—*Dublin University Magazine.*

ARCHITECTURAL QUERIES.

MEETING AT METZ.

Dr. Bromet has favoured us with a programme of the questions which will be submitted to the French Archæological Congress, to be held this year at Metz, commencing on the 1st of June, already alluded to in The Builder. We print such of them as are generally suggestive.—The readiest way to Metz is from Dover to Ostend, and thence by rail to Namur, whence by diligence to Luxemburg and Metz, in three or four days from London.

1. Is it not possible to ascertain in churches of pointed architecture, the numerical relation of their several portions, and a geometrical deduction of their architectonic forms?

2. Do not the ecclesiastical monuments of the middle ages prove the existence of an architectonic hierarchy by which all cathedrals, and abbatial and parochial churches, and even private chapels, were severally built according to certain dispositions and dimensions?

3. Is not the pointed or *ogival* style better indicated by the presence of pinnacles than by pointed arches?

4. May we not trace the progress of the styles of Gothic architecture by the technical terms employed in architectural documents of different epochs?

5. What are the distinctive characters between the pointed styles of France and those of Germany? and is not the cathedral at Metz an example of transition between two varieties of that style?

6. Was there not in each of the dioceses of Metz, Trèves, Strasbourg, and Verdun, a special architectonic school? and if so, what were their distinctive characters?

7. What were the monuments which served as the prototypes of those churches with a choir at each end, so frequently met with in Germany?

8. If, as supposed, there was some absolute rule for building churches due east and west, how can we explain the numerous exceptions to such rule observable in Lorraine and about Metz?

9. What is the origin of the little gallery so commonly found on the outside of Germano-Romanesque churches?

10. Were not the masonic lodges, which are sometimes found in the close vicinity of cathedrals, dependent on cathedral government, and were the masters of such lodges priests or laymen?

11. In the architectonic decoration of Gothic churches, should not the disposition of their statuary be under the architect's control, and considered as an integral part of his original design?

12. What kind of pavement was employed in the civil and ecclesiastical edifices of the middle ages?

13. What were the innovations in castellated buildings brought into western Europe after the first crusades?

14. Whether the houses of towns and villages of ancient times were not often built after the form of the large mansions in their vicinity?

15. What changes as to style did edifices built of wood undergo, and what are the analogies or differences of them and the styles of stone buildings?

16. What is now the most expedient form of church-building, whether considered artistically or economically?

17. What is the most fitting style of decoration for churches in the pointed style of architecture?

18. In what cases may we venture to repair ancient monuments, and according to what general rules should such repairs be conducted?

19. Must we admit as an axiom that ecclesiastical buildings should not in any way be washed over with colour, considering that occasionally the nature of their materials require some uniform tint?

20. What system should be adopted in newly paving such churches as have their old pavements so worn as absolutely to demand renewal?

21. In what proportion, and to what kind of edifices should be restricted the employment of coloured glass as church ornament?

The Strike.—According to the provincial journals, the strike is virtually at an end. Its disastrous effects will be felt for a long time to come.

THE ART-UNION QUESTION.

The final consideration of Mr. Wyse's bill is again postponed for a fortnight. A number of petitions have been forwarded to members of the two Houses for presentation, from various provincial bodies, including—The Royal Manchester Institution; the Manchester Association for the Advancement of the Fine Arts; the inhabitants of Reading, Macclesfield, Liverpool, Ashbourne (Derbyshire), Faversham, Southampton, Warrington, Darlington, Bury St. Edmunds, Fakenham, Lynn, and Leeds. They are all numerously signed by the principal inhabitants, including the clergy.

We extract the following remarks from an anonymous pamphlet on the subject, which has been recently circulated.

"It has been said, these societies encourage low art; this is not the case; they do exactly that which is wanting in the present state of society—lead the young aspirant on in his ambitious career, by purchasing some of the best pictures of ten, twenty, and thirty pounds value; most of which would probably be otherwise returned from the exhibitions to the poor young artist; to his mortification, and for lack of funds, often to his great distress also, if not to the necessity of abandoning the pursuit he has chosen and loves. These societies, therefore, encourage young merit, but not low art, in spending a portion of their funds in pictures of small price; and let it be asked, which of our present or past greatest artists, when young, have not been grateful to a purchaser who would give ten pounds or less for their works, the best their talents could then produce? The more numerous, and larger sums expended, go to reward maturer and matured art."

"The following quotation from an early letter of the late Sir Thomas Lawrence will illustrate the foregoing remarks; it would be useless to add a score more from other eminent artists, for—"*hoc genus omne*:"—

"Mr. Lawrence presents his respects to Lord George Lenox . . . . . Mr. L. has the honour of acquainting Lord George Lenox, that on the first week of next May, he raises the price of his pictures from fifteen to twenty guineas; but as he conceives himself to be under many obligations to his lordship, he begs to be *allowed* the pleasure of painting any of his family, or friends, that are for himself, at the original price that his lordship paid him, which he believes was ten guineas.

"He has the honour to be, Lord George Lenox's much obliged and most obedient servant,

"T. Lawrence.

"Jermyn-street, March 18th,"—(1787 or 88.)

"The Right Honourable Lord George Lenox,

"Stoke, near Chichester, Sussex."

"Has the Chancellor of the Exchequer used this expression, *or to its exact effect?*—'You won't give me a lottery, by which I might benefit the revenue. Grant me that, and you may have as many Acts to establish art-unions as you like!' If so, he is not influenced by any moral sentiment in his present opinion respecting them."

"The chancellor of the Exchequer, to a deputation which waited on Sir Robert Peel, observed that he could not see why the cultivators of the fine arts should be more encouraged than makers of chairs and tables, a deputation from whom had just then been with him to argue the advantage it would be to their business, if they were allowed, by Parliament, to dispose of their furniture by lottery; and he could see no difference whatever between art-unions and makers of chairs and tables, that artists should be encouraged any more than these or other tradesmen! Now the Chancellor of the Exchequer may be a very clever calculator—he may know that ten chairs and ten tables make twenty pieces of furniture, or that ten pictures and ten pieces of sculpture make as many; but if he can see no difference between a chair and a statue, or a table and a picture, it is not very proper he should be allowed to offer another opinion on the subject of art."

Railway Speculation.—"What have you cleared by your railway speculation? said a gentleman, the other day, to one who had largely indulged his mania for scrip. "Cleared!" exclaimed the other, "faith, I've cleared my pockets."

EARL DE GREY'S ENTERTAINMENT TO THE ARCHITECTS.

On Friday, the 15th instant, Earl de Grey, as president of the Institute of Architects, invited a large party of the nobility, and men distinguished in science, literature, and art, to meet the members of that body. The council had previously dined with his lordship. About ten o'clock, his Royal Highness Prince Albert arrived, and was received by the Earl and Countess de Grey, and the honorary secretaries of the Institute, and was conducted round the rooms, the tables in which displayed some of the choicest specimens of the work of our best artists. Lord de Grey's *soirées* are distinguished by the presence of the fairer portion of the aristocracy, who on this occasion shone pre-eminently.

NOTES IN THE PROVINCES.

The foundation stone of St. Paul's Church, Hull, for the immediate erection of which builders have been invited to send in contracts, will probably be laid in the beginning of June. The windows of St. James's Church have been painted at the expense of Mr. John Malam, and the building has been cleansed, repaired, and altered, and its former defective ventilation much improved, by a few additional openings in the ceiling connected with apertures in the roof, by which the heated air is said to be now entirely carried off without occasioning any draught whatever. An extensive amphitheatre has been recently erected in Paragon-street. A new market, or an extension of the old market-place, is talked of.——The Jephsonian Gardens at Leamington were formally opened on the 12th instant.——Fretherne Church has been pulled down, to make way for a more commodious edifice.——In excavating for foundations to the houses about to be erected in front of Maud's-hill-terrace, Lincoln, great numbers of stone coffins and human remains have been found. The site is that on which the battle between King Stephen and the Empress Maud was fought; and before the Reformation the churches of St. Faith, St. John, and St. Peter ad Placita, stood in the immediate vicinity. It is said that the old and decayed church of St. Benedict, Lincoln, is to be pulled down, and the parish united with that of St. Peter at Arches.——The site for a new chapel of ease for 600 persons (one-half of the kneelings to be free) has been given at Cirencester, and 2,100*l.* have been subscribed towards its endowment, besides handsome donations promised towards the building fund; 2,000*l.* more will be requisite for the completion of the design.——In the parish church of Loftus, in the North Riding, an allegorical monument to Major General Dundas has just been completed by Mr. Thomas Earle, of Hull and London.——Mr. Robert Slade, of Poole, has presented to the new church at Twillingate, Newfoundland, a couple of ornamental tablets, with the decalogue, the creed, and the Lord's Prayer, inscribed; and also the set of brass chandeliers used in the church at Poole till the introduction of gas. Poole Harbour Improvement Bill, from non-compliance with some sessional order, has been lost for the present session.——"While superintending the repairs of the town-hall at Yarmouth," says the *Ipswich Journal*, "the surveyor, on Tuesday last, thought it desirable to examine the lead and flooring on the portico, when, to his astonishment, he found the entire flooring had given way from pressure, and that the lead was supported only by the fastenings round. It will be in the recollection of many of our readers, that about five years ago a large vessel, the "Maria Soames," was launched from the yard of Mr. F. Preston, on which occasion a vast concourse of persons assembled to witness the imposing ceremony, and as many as could stand on the balcony of the portico of the town hall were admitted there. During the time, the mayor sent once or twice to see if the ceiling beneath appeared to bend or give way, not dreaming there was a vacancy of 4 or 5 feet between that and the floor above. It appears that from the great weight upon it, on the occasion above alluded to, some of the beams gave way, leaving the whole weight to be supported by the lead. Fortunately, no similar occurrence has transpired since, or we should have probably witnessed a catastrophe

more awful in its consequences than the loss of the Phœnix, or the fall of the suspension bridge."——At Eye, near Peterborough, on the 11th instant, the foundation stone of a new church was laid, in the usual form, by the bishop of the diocese.——The new church of St. John, at Wednesbury, was consecrated by the Bishop of Lichfield on the 13th instant. It consists of a lofty nave with side aisles and a detached tower (and spire, to cost 500*l.*) It is built in the style of the 13th century, and is 130 feet in length, from the west to the extreme end of the chancel; and 53 feet in width. The seats are all open, and above one-half are free and unappropriated for ever. The principal features are the coupled lancet windows in the aisles, having foliated capitals between them; also a triple lancet window at the east end of an elevated chancel, and a nave 50 feet high, with open roof and ornamental timbers. The font is in character with the church, and was presented by the architect, Mr. S. W. Dankes, of Cheltenham. The communion plate, chancel drapery, and oak chairs, harmonize with the building.——Another new stained-glass window, the gift of the Rev. E. B. Sparke, has been put up in the north transept of Ely Cathedral. The subjects are the stoning of Stephen, and the conversion of Saul. The interior of the great western tower has been thrown open, and much of the original work restored. By the removal of some masonry the zig-zag mouldings of the original arches that support the tower have been displayed.——A powerful organ has been recently presented to Holy Trinity Church, Barnstaple, by the Rev. John Scott.——The foundation stone of a new Wesleyan College was laid a few days ago in the parish of Truli. The area of the building, with its lawns and shrubberies, is to extend over a space of about six acres of land. Mr. Wilson, of Bath, is the architect; Mr. Mason, of Exeter, is the contractor, and has undertaken the whole work for little more than 5,000*l.*——Sir Isaac Lyon Goldsmid has given a piece of land at Preston, near Brighton, as the site for a new church. "It is to be wished," says our informant, "that all Christians were as liberal towards each other."——Mr. John Sillifant, of Coombé, near Crediton, has offered to give the sum of 500*l.* towards the erection of a church at Knowle, about four miles to the west of Crediton, on condition that the Crediton Church Corporation advance a sufficient sum to complete the building.——A stained glass window, by Bell, of Bristol, has been presented to St. George's Church, Tiverton, by Miss Walker, of that town. The subject is St. Andrew with the cross.——A district church in the parish of Tiverton, Devon, has originated in the zeal of an honest yeoman of the neighbourhood, who offered the land, the stone, a considerable portion of the cartage, and 200*l.* towards the work. He set the things in order, but he was not permitted to see the building commenced. His sons are treading in their father's steps: the foundations have been laid, and the building is in progress. "The Bishop of Exeter," says the *Quarterly Report of the Diocesan Architectural Society*, "in his late visitation, went to view the spot. He had previously taken great interest in the work, and he could not refrain, before those who were present, from contrasting the very humble dwelling of the chief founders, with the chaste and beautiful designs for the house of God which they were raising."——The works at the Norman Tower, at Bury, have now arrived at a critical point in their progress—the very worst fissures—those on the east side, from the second to the third tier of arches, having been laid open through the whole substance of the masonry. Before this was done, it was necessary to slip down to this level the temporary iron band (the two upper chain ties being permanently fixed), and to secure the middle jamb by chains and irons from the opposite side. The arches have now been turned afresh in Roman cement, with which material the whole of the masonry in the chasms will be worked; and when this part of the structure is restored to its pristine solidity, the formidable work of taking out the great arch may be encountered. It is remarked in the *Ipswich Journal*, that, "could it be conceived how firm and enduring a national monument of antiquity is thus being preserved, we think the good taste of many would induce them to augment the funds of the Norman Tower Committee, in order that all inharmonious obstacles to the fair exhibition of this building might be removed."——In the church at Preston-Bisset, Bucks, a piscina and brasses have been cleansed, and an arch and shelf, probably the credence table, have been discovered.——A new stained glass window has been placed in the church of Lostwithiel, in Cornwall, by Mr. William Westlake, in memory of his deceased wife.——The great Roman Catholic Chapel of Waterford, in Baron Strand-street, is supposed to be one of the largest buildings in Ireland, and is capable of accommodating 14,000 people. It was built in 1793, at an expense of 20,000*l.*, which was raised chiefly by collections of halfpence at the chapel door.

ANCIENT GLASS.

At a meeting of the Freemasons of the Church on the 12th inst., the secretary read a letter from Mr. J. Wykeham Archer, relative to the house of the poet Milton, in London, and urging the college to take steps for preserving this interesting relic from its impending fate. Some communications were also read from Mr. Wright, with regard to the present inefficient means for showing Westminster Abbey. Mr. George Isaacs then delivered a lecture "On ancient glass as applied to vessels and other domestic purposes," tracing his subject from the earliest known records, and carrying it forward to the close of the 17th century. After controverting the theory founded on a passage in the book of Job, xxxvii. 18, and shewing how glass had been confounded with the obsidian stone, so plentiful in Ethiopia, he alluded to the arts of forming and colouring glass vessels among the Egyptians, explained the nature of their manufacture, and described many of the finest known specimens in existence. Following the art through Tyre, Sidon, and Etruria, he proceeded to the period of Greek art, on which he dwelt at some length, adverting to the Portland vase, some specimens in the Bibliothèque Royale, and those exhibited at the last meeting by the Earl Cadogan, in all of which examples, it seems conclusively demonstrated that the glass was blown of two colours, viz., of deep purple coated with white, and that out of the exterior surface were carved those exquisite bas-reliefs, which, from their extraordinary delicacy and precision, have been an enigma to antiquaries of considerable authority. A wonderful specimen of Greek art, in the possession of Mr. Herly, was then described, having a series of gold figures burnt in from the interior of the vessel, and some curious historical information was given on the subject of malleable glass from Dion Cassius, Petronius, Arbiter, and Isidorus, Ibn Abd Alhokim, Neri, and many other writers. Among Roman glass, the vase of the birth of Bacchus, in Baron Lionel de Rothschild's collection, a specimen possessed by Mr. Roussel, of Paris, and other extraordinary pieces, were cited in chronological order. Nor would it be an outrageous hypothesis, observed Mr. Isaacs, to suppose that the art never became entirely extinct, but was continued to a certain extent through the middle ages down to its perfection at Murano in the 16th century. For the mediæval period, some remarkable extracts were given from old authors and chroniclers, and an explanation offered of the early grotesque vessels, called Bourrabaquins. Then followed the Vitro di Trina, frost glass, cornaline, and many other kinds, of all of which specimens were on the table.

THE PADDINGTON HOSPITAL.

Sir,—Although not in general disposed to afford an explanation in answer to anonymous critics, yet as I have been requested to take some notice of the observations respecting St. Mary's (Paddington) Hospital, in the last number of The Builder, I beg to state that the delay in the building has been caused by the unfortunate death of Mr. Winsland, the contractor for the second portion of the building. The difficulties occasioned by that event are now removed, and the works have been resumed.

I remain, Sir, &c.,

George Russell French.

18th May, 1846.

LIST OF NEW PATENTS

RELATING TO ARCHITECTURE, ENGINEERING, &c. GRANTED FOR ENGLAND.

Furnished by Mr. A. Prince, of the Office for Patents of Inventions, Lincoln's-inn Fields, London.

[SIX MONTHS FOR ENROLMENT.]

William Spiby, of Carrington, Nottingham, engineer, for improvements in the construction of furnaces used for heating water and other fluids. April 1.

George Lewis, of High Cross-street, Leicester, locksmith, for improvements in the construction of shutters and blinds for windows and doors, and in the construction of doors. April 7.

James Allingham, of Dublin, gent. and James William McGaulay, clerk, of Dublin, aforesaid, for certain improvements in steam engines. April 7.

Joseph Bunnett, of Deptford, engineer, for certain improvements in water-closets, part of which improvements is applicable to other useful purposes. April 15.

William Tutin Haycraft, of Greenwich, doctor of medicine, for improvements in steam engines. April 15.

Charles May, of Ipswich, Suffolk, civil engineer, for improvements in machinery for punching, rivetting, and shearing metal plates. April 16.

Elijah Galloway, of Buckingham-street, Strand, engineer, for improvements in locomotive engines. April 18.

William Heward Bell, of Edmondsley, near Chester-le-street, Durham, for improvements in working coal in coal mines. April 21.

Arthur Phillip Perceval, of East Horsley, Surrey, clerk, for improvements in communicating between places separated by water. April 23.

William Higgs, of Westminster, Middlesex, chemist, for the means of collecting the contents of sewers and drains in cities, towns, and villages, and for treating chemically the same, and applying such contents when so treated to agricultural and other useful purposes. April 28.

Nathan Anthony de Rothschild, of London, merchant, for improvements in heating apartments and buildings. April 28.

William Mather, of Salford, near Manchester, and Colin Mather, of the same place, millwrights and engineers, for improvements in metallic pistons. April 28.

Charles de Bergue, of Arthur-street West, in the city of London, engineer, for improvements in atmospheric railways. April 28.

William Edward Newton, of Chancery-lane, Middlesex, civil engineer, for certain improvements in clocks or time keepers. April 28.

James Timmins Chance, of Handsworth, Stafford, glass manufacturer, and Henry Badger, of West Bromwich, Stafford, glass stainer, for improvements in the manufacture of glass. April 28.

Edward Augustine King, of Warwick-street, Charing-cross, for improvements in the production of magnetic electricity. April 30.

Thomas Lambert, of New Cut, Blackfriars, brass founder, and Charles William Rowley Richards, of Charlotte-street, Blackfriars, engineer, for improvements in cocks for drawing off liquids and gases. April 28.

LICENSE TO VALUE ARTIFICERS' WORK.

Sir,—I shall feel obliged by your informing me whether it is not necessary to take out an appraiser's license, for the valuation and mensuration of artificers' work.

Yours obediently, A. B.

Reading.

*** An Act of Geo. 3 sets forth, not merely that no person shall make a valuation of any dilapidations or repairs wanted, or of the materials and labour *used* or *to be* used in any building, or of any *artificer's work* whatsoever, without an appraiser's license, but that the same shall be made on a stamp, ranging from 2s. 6d. to 20s. This is manifestly unjust in the case of artificers' work, where the surveyor stands simply in the place of the builder, and the bill for so much brickwork, for example, holds precisely the same position as the bill sent out by a draper for so many yards of linen. It appears never to have been acted on. If the bill, when made out, is to appear as a valuation, or as evidence in a court of law, a license should be taken out.

ANCIENT IRON RAILING, FROM FRANCE.



NEWSPAPER

ANCIENT IRON RAILING.

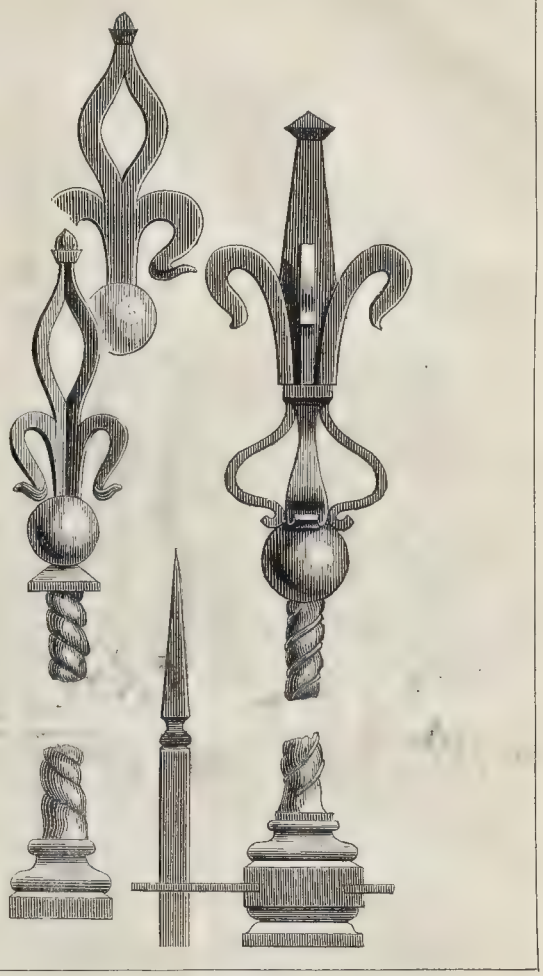
THE examples which are occasionally brought to light of ancient Gothic ironwork illustrate, by the beauty of their designs, the very great skill and ability of the old workmen. Unluckily, ancient Gothic ironwork, unless in the form of locks, hinges, or such small matters, is extremely rare; legitimate iron railing is seldom met with; iron gates never; it has been doubted whether, in the early periods, the latter ever existed. Of ancient iron railing, certainly the most interesting example that ever came under my notice is the one I now have the pleasure of illustrating on the opposite page. A length of about 30 feet of this railing was sent over to England from the continent; it formed part of one of those ship-loads of relics, furniture, carving, &c., which are so continually arriving. From the profits realised by such importations, it would appear, that the rage for making new houses the representations of old ones has not at all abated.

In consequence of the ironwork coming over in this way, no information as to the precise locale whence it was brought, can be obtained. From its appearance, it probably formed the railing round an ancient shrine or tomb. The style is certainly French, and the date the commencement of the *Renaissance*. It is at present the property of Mr. Pratt, of Bond-street, who received at the same time an immense number of locks, hinges, &c., of the same ancient period.

Some insight into the forms and designs of ancient ironwork can be obtained, by referring to old illustrated books; one instance I will give: in the "Architectura Curiosa," by Georg Andreä Bœcleri, published in Nuremberg in 1664, a copy of which is in the King's collection, British Museum, a representation of the ancient ironwork round the Schonbrunnen, or beautiful fountain, is given. It appears to have been of most elaborate and elegant design; the tops of the standards are adorned with large bunches of flowers, leaves, &c., falling or bending over the railing. The print is well worth inspection, especially as only the bare frame-work of the railing remains. A view of the fountain is given in Mr. Haghe's first volume of views in Belgium and Germany.

The smaller print represents, one-fourth the real size, some old ironwork remaining in Ashford Church, Kent, belonging to two tombs of the period of James the First. C. J. R.

ANCIENT IRONWORK, ASHFORD CHURCH, KENT.



KENTISH RAGSTONE AS A BUILDING MATERIAL.

AT the end of last year, Mr. Whichcord, jun., read a paper on this material, before the Institute of Architects, which was reported at some length in our pages.* This has since been enlarged, and is now published in the shape of a pamphlet,† worthy the attention of our readers.

The finest qualities of stone are, at present, procured at Boughton, near Maidstone, where the quarries have been worked for several centuries. In our previous notice, we described the various layers of stone and hassock‡ in these quarries, and to this we refer. The hassock requires very little labour in dressing. It is sometimes used as an inside lining to walls built with ragstone. "It is usually roughly squared, an operation that should never be neglected, as the crumbling nature of the stone would endanger the security, if the work is exposed to the unequal pressure that would result from the use of irregularly shaped stones. Care should be taken not to place hassock in situations where it is exposed to very great pressure.

For jaumbs, arches, &c., sound bricks are best to be used with it. When the work is of a superior description, and the masonry intended to show inside, as is sometimes the case, the hassock is capable of being worked to a very good surface with close joints; and as it can be procured in blocks of a considerable size, hassock is very applicable as an internal facing.

There is a circular staircase in the gateway of the college (built by Archbishop Courtney) at Maidstone, which has the walls* faced internally with hassock."

"The ragstone must not be used internally, as it 'sweats,' that is, the condensed moisture from the atmosphere is not absorbed at all, but hangs on it in globules, and will show even through two coat plastering.

"Sunk work and moulding upon ragstone should, as much as possible, be avoided, both from the great cost of executing them in so hard a material, and the rapid decay that so much wrought surface causes in this stone. The mediæval builders were well aware of this fact, and while they used ragstone extensively in the more substantial parts of their structures, preferred Caen or even fire or sandstone for the decorated portions. Caen stone is more peculiarly appropriate to be used with ragstone, on account of the small difference of the two materials in colour,† a distinction entirely obliterated by time.

In using '*ragstone ashlar*' great care should be taken to have the stone laid upon its natural bed, as any other proceeding will almost certainly be followed by rapid decay; not but that I believe the stone in its soundest form to be almost beyond the influence of time or the elements, but that from the thinness of the strata, blocks of a large size can seldom be entirely freed from hassock; and even what appears to the eye as blue stone, does, for a considerable distance inward, retain the perishable nature of its enveloping crust. A block of ragstone (if the face be worked) will present, in damp weather, an appearance precisely similar to the heart and sap of timber.

When it is necessary (as in case of copings, &c.) that one bed should be exposed, care should be taken in skiffling the stone to reduce its dimensions as much as possible from the upper side, so as to expose only the soundest portion of the stone to the action of the atmosphere. In some situations, such as mullions, and door and window jaumbs, an unsightly appearance would be produced by too exact an attention to the beds of the stone, as the ashlar is generally too small to range with more than one course of headers. In these cases the old masons seem to have departed from their usual rule, and to have set the blocks on end so as to embrace two or three courses; but as the depth of the block required to work an ordinary jaumb or mullion is not very great, it is not a difficult thing to get the whole thickness required out of the heart of stone, and where this has been done, the work will be found pretty free from decay.

"There are several modes of building with ragstone, either now in use or practised by our ancestors. That most frequently adopted in the better kind of modern buildings is the

* Page 585, Vol. III.
† Weale, Holborn.
‡ A layer of sand which intervenes between the strata of stone, and in some beds, becomes so consolidated as to form a very useful building material.

* The circular turret stair, at the new Homerton church (now erecting from the designs of Mr. A. Ashpitel), is worked in this manner, and may be inspected as (it is believed) the only specimen in the neighbourhood of London.
† The difference is very great at first, but a few years will make them harmonize in colour.

coursed header work, in which headers of an equal height and parallel joints are laid round in a similar manner to brickwork.

There is always something stiff and formal about this kind of work, from the large size of the joints marking out each stone in distinct individuality.

To make the matter worse, the work is generally finished with a raised or a sunk joint, and the mortar coloured of a deep blue colour; sometimes we see the work *even* tuck-pointed, as though it were designed to set each stone in a frame.

'*Coursed header work*' is particularly inapplicable to the free forms of pointed architecture. If used at all, the stones should be laid in ragstone lime mortar, not *chalk lime*, and the joints simply struck. As far as appearance goes, it would be almost better that they were left rough. Chalk lime should be especially eschewed as both æsthetically and practically bad. It will not adhere to the ragstone, and the difference of colour is more offensive than when *blue* mortar is used.

'*Random-coursed work*' was that adopted by our ancestors in the best ages of our national style,* when to beauty of design was added skill and certainty in execution, and an improved way of setting about things. Previous to the latter part of the decorated period, even in the most magnificent edifices, there will be found much slovenliness of execution, and many defects that seem to have originated in the absence of a general system of direction; and some little betrayal of the fact, that when the fine old freemasons set to work they did not always know what to be at. Every one must have noticed the superior certainty of execution, and general completeness and accordance of parts that prevailed a few years later, and the improvements in mechanical skill and practical knowledge appear to have fully kept pace with the refinement in taste. One result of this change was the substitution of 'random-coursed work' for the rubble walling formerly in use; so rude is most of the ragstone building during what is usually termed the early English and decorated (I will not say the Norman) periods, that the whole appearance is that of the materials having been thrown 'pell-mell' in between a double board of boards; in fact, concreted in.

Of the appearance of work so executed I will say nothing, as this kind of building, when *connected with antiquity*, does not want for admirers; but any one who has been concerned in the renovation of churches in the south-eastern part of our island, will have no doubt of its instability."

"The durability of buildings erected with ragstone depends mainly upon the qualities of the *lime* from which the mortar is made. The worthless nature of what is generally sold as London lime is well known; but all its bad properties are exaggerated when used with ragstone instead of brick, even grey stone (*i. e.* grey chalk) lime, though greatly superior to the lime burnt from white chalk, is deficient as a cementing substance when used with ragstone.

The durability of ragstone wall work can only be depended upon when executed with mortar made with lime burnt from the ragstone itself; this mortar becomes in the lapse of time so very hard as to form almost one and the same body with the stone. Many buildings may be seen that have been erected a number of years, that retain the original pointing in the joints, fair as when first finished, and so hard as to resist the blow of a chisel."

Mr. Whichcord gives the following average list of prices of stone of various kinds in the quarry, and the rate at which it can be supplied in London alongside the wharf, together with some prices paid for labour upon the stone:

	At quarry. £.	s.	d.	In London. £.	s.	d.
Rough rag, per ton	0	1	6	0	5	0
Headers, per ton	0	8	0	0	12	6
Rag for breaking, per chord	0	1	6	0	5	0
Rag for lime, per chord	0	2	6	0	6	0
Hassock, roughly squared, per chord	0	3	0	0	6	6
Hassock, best, per chord	0	4	0	0	7	6
Ashlar, scapled out, per foot cubic	0	2	0	0	2	9
Ashlar, large scantlings	0	2	6	0	3	3
Lime (per load of 36 bushels)	1	0	0	1	4	0

* By far the best example of ragstone work near London is done in this manner at the new church at Homerton.

It would, in most cases, be cheaper and otherwise preferable to burn the lime in London.

Prices of Labour on Ragstone in Maidstone.

	s.	d.
Beds and joints (usually measured as plain work)	0	8
Plain picked face	0	8
Plain close picked in a superior manner	0	10
Tooled face	1	4
Sunk work	1	0
Sunk and tooled	1	8
Moulded	2	6
Circular plain	1	0
Circular and tooled	1	8
Circular sunk and tooled	2	0
Circular moulded and tooled	3	6

The pamphlet concludes with extracts from specifications of works executed in Kentish ragstone, to serve as precedents, and is altogether well entitled to consideration.

THE LAWS OF SOUND IN THE CONSTRUCTION OF BUILDINGS.

On the 8th inst., Mr. Scott Russell lectured at the Royal Institution "On the application of certain laws of sound to the construction of buildings," a subject of considerable importance, and at present little understood even by those best informed upon it. As we were not present on the occasion, we avail ourselves of a report which appeared in the *Literary Gazette*.

At the commencement of his discourse, Mr. Scott Russell read letters referring to the unfitness of almost all the large rooms which have been built in London for public speaking or public singing. In one it was represented that the chorus singers, on the opposite sides of the orchestra, were unable to hear each other. In another, the speaker had the sensation of speaking through a wet blanket. In another, the walls of the room appeared to carry on a running accompaniment to the singer, but in a discordant key. Referring to these instances of the acknowledged unfitness of so many public rooms for the purpose for which they were constructed, Mr. S. Russell proposed to consider—1st, the nature of these defects; 2ndly, their causes; and 3rdly, what remedies would be most likely to counteract them. Characterising a room designed for the distinct transmission of sound as a great ear-trumpet, the lecturer alleged that, when it failed in its purpose, the failure was attributable to one or more of the following causes:—1, *resonance*; 2, *echo*; 3, *interference*; 4 *repetition*; 5, *disturbance*; 6, *reverberation*. Before addressing himself to the details of these defects and their correction, Mr. S. Russell adverted to what he described as a philosophical error in regard to the undulations of sound. He denied that there was any analogy between the air-wave and the wave caused by dropping a stone into still water. He asserted that the sound-wave was identical with that wave which he had previously described as the *wave of translation*, and maintained that this wave, whether in an elastic or an inelastic fluid, moved with a velocity proportioned to the depth of the fluid in which it was propagated. He contended that there was a great difference between the reflection of sound and that of light, or of elastic bodies; that, when sound impinges at a very acute angle on a flat surface, it is not reflected, but that it rolls along the surface, occasioning what he has termed a *lateral accumulation*. This lateral accumulation causes the defect of *resonance*—it occurs in oblong rooms whose length is disproportioned to their breadth. In these the voice of the speaker soon strikes the walls of the room at the angle before alluded to, and then becomes dissonant. The remedy in such a case is to curve off the end of such a narrow room, as has been done in old churches. With regard to the disturbance occasioned by *echo*, it was presumed that the sound-wave causing this defect might be made to escape by interposing obstacles of an irregular form at the end of the hall or church where it prevailed. The defect of *interference* was said to consist in the effect produced by a voice heard in one of two rooms at right angles with each other, these rooms not being in certain proportions (as that of 32 to 24) to each other. When these proportions were deviated from, the sound occasioned something like what is technically called a *beat*. To this cause Mr. S. Russell referred the difficulty of speaking in a room which was lighted by a high lantern. This evil was to be mitigated by placing the speaker or singer in the angle formed by the two rooms, and by opening doors in those parts of the two rooms at which the wave of lateral accumulation would find the easiest escape. The defect of *repetition* was occasioned by the ordinary phenomena of reflected sounds; and that of *disturbance* by the discordant admixture of other sounds, as that of coughing, &c. In this instance it is the great object of scientific contrivance to catch up and to smother such incongruous noises. *Reverberation* is a dissonance which only occurs in the largest rooms: a striking instance of it is heard in the sound produced by the shutting one of the outer doors of St. Paul's. This noise is not the effect of reflection, but is a case of *lateral accumulation*, occasioned by the sound striking the wall at an angle less than 40°. In conclusion, Mr. S. Russell suggested that the great requisite in rooms destined for the harmonious diffusion of sound was to prevent reflection from walls by small chambers, as the boxes in a theatre; and by arranging the audience so that while no one interferes with the other, their persons may, by the mode of their distribution, prevent many of the defects already noticed. He had suggested a curve, which he described as the *isacoustic curve*, for affording equal facility of hearing to every individual in a large assembly. This curve had been adopted in the arrangements for the congregations in the 450 Free Churches recently built in Scotland; and two other very dissimilar buildings, both celebrated for easy transmission of sound, the Opera House, and the Theatre of the Royal Institution, were arranged in a very near approximation to this curve.

MARKET PLACES.*

When the *Prefet de la Seine* decided upon erecting a new market-hall in Paris, previous to the plans being completed, a commission was sent out to visit various countries, and study the establishments of that kind. It consisted of Messrs. Anger, Inspector-General of Market-halls of Paris; V. Ballard, architect; and A. Husson, chief clerk of the Perfecture de la Seine. Details are given by the commissioners on the markets of London, Manchester, and other cities. While the advantages of our establishments are placed in relief, with the usual urbanity of Frenchmen, yet they could not quite blink the inconvenience of some of our *mediæval* concerns, amongst which Smithfield plays a conspicuous part. "Who should believe," they say, "that this immense metropolis has no exterior market-place for cattle? It is in the midst of the city, a few paces from the Cathedral of St. Paul, where all this host of animals are driven to and sold. Smithfield is the *beau ideal* of disorders in the way of markets—the shifting of cows, bullocks, and horses; the peregrination of herds of sheep and swine; the escaping of half-furious beasts; the howling of dogs, shouting of drivers, screams of frightened passers-by—add to this, that the streets through which this world of beasts pass, are choaked by this throng, dirtied by their excrements, *et cetera*. Whence comes all this inconvenience? It is because the corporation opposes its removal, leaning upon a statute enacted by Edward III.—*five hundred years ago*." Then follow some observations on the immorality of such wholesale slaughter, before the eyes of an uneducated, prone-to-evil mass of the people; which, however, to detail does not fall within the scope of our journal. The strictures which our worthy commissioners pass on Shude-hill Market, Manchester, are interesting and instructive; but we must refer those interested in *states-architecture* to the report itself.—Of Munich, the work says, very truly and tartly, "There, the decorative arts leave nothing to be desired, save the application to useful purposes, viz.: lighting of streets, paving, and market-places."

The report is adorned with elevations and plans. It is thus that, by observation and study *in situ*, the municipality of Paris have given a good example how corporations and nations may learn from each other.

* Official Report on the Public Market-places in England, Belgium, Holland, and Germany.—Rapport sur les Marchés Publics, &c. Paris, 1846, 8vo.

PUBLIC NECESSARIES.

Mr. Editor,—The public is greatly indebted to you, for advocating the great necessity of erecting watering places and closets in the various thoroughfares.

Your contemporaries seem to labour under a false delicacy, in keeping themselves aloof from the consideration of the question. It must, however, be sooner or later carried into effect by the legislature or parochial authorities. Praise, through the medium of the press, is due to Lord Lincoln, late chief Commissioner of Woods, for causing to be erected at Hyde Park Corner, the most convenient and spacious watering-place within the precincts of the metropolis.

With reference to the instructions from the Incorporated Church Building Society, which appeared in The Builder, they seem to have lost sight of one which is essential to the comfort and convenience of the congregation, and that is,—a water-closet.—I am, Sir, &c.,

A Friend to Public Convenience.

Kensington, May 19th, 1846.

INSTITUTION OF CIVIL ENGINEERS.

May 12th and 19th. Sir John Rennie, President, in the chair.—The first of these evenings was entirely occupied by the renewed discussion upon Mr. Williams's "Description of the new works for rendering navigable the upper part of the river Severn." The theory of the oblique weirs was strongly contested, on the ground that, although by its obliquity the obstruction to the stream was more gradual, yet that the vertical obstruction must exist to the extent of the cubic content of the object placed in a channel of given dimensions. After much discussion, in which it was argued that the real position assumed by Mr. Cubitt, in his design for these weirs, had not been perfectly seized by the members, it was shewn that the intention of the works was, to place such weirs in the river as should at all times retain a depth of water sufficient for the navigation, even in the shoalest spots, but that such weirs should be so constructed as to permit of the free passage of the water, without raising it higher in times of freshes or floods than it had been raised in times of similar floods before the construction of such weirs. This it was satisfactorily shewn had been done by the oblique weirs, and that the navigation by means of the lateral rocks enabled a certainty of transport of merchandise to be attained which could not previously be thought of; and at the same time, the drainage of the country had not been at all deteriorated by the regular medium height of the water in the river.

The paper read was "On the combustion of fuel under steam boilers, with a description of Bodmer's fire-grate," by J. G. Bodmer. This paper, after drawing attention to the importance of ensuring a more perfect combustion of the fuel used in furnaces than has hitherto been attained by the ordinary methods, proceeded to give a description of the new fire-grate, by which the author arrived at the desired object.

The main feature of this grate consisted in the ends of the fire-bars being laid in the threads of two parallel endless screws, placed longitudinally beside the fire space, and revolving slowly, so as to move the grate bars gradually forward; the fresh fuel being thus received on a bare surface, and consecutively moved towards that portion, in a state of ignition, a more perfect and effective combustion of the fuel and the gases was stated to take place, than could be obtained by the ordinary method of throwing the fresh fuel on an ignited surface; for in the latter case the gases suddenly developed passed off to a considerable extent through the flues as smoke without being ignited, and a considerable waste of fuel was the consequence, which it was the principal object of this grate to avoid. The fire-bars, on arriving at the further end of the machine, descended on to another parallel pair of endless screws, which had a contrary motion to the upper pair, and thus restored the bars to the front of the grate, where they were again lifted up to the upper screws by means of levers, and were in a position to receive fresh coals, and again to be moved onwards into the fire; a rocking motion was communicated to them by a drunken thread, so as to prevent the spaces from filling with clinkers.

The paper then proceeded to notice the applicability of this grate to all situations in which furnaces were required, and concluded by contending, that with the more perfect combustion that would be insured, a less draught, and, consequently, less fuel would be required, which, it was maintained, was an object of great interest, when it was considered that millions of tons of coal were annually consumed in this country, and that with a daily increasing consumption, the time might ere long arrive when any means by which even a small saving of fuel might be effected would be looked upon as a matter of paramount importance.

Sir John Rennie, president, announced that the first of the series of his soirées would be held June 13th, and that it was his intention this season to repeat them on the eveniogs of Saturday, June 20th and 27th, and July 4th. The members were requested to co-operate in procuring interesting models and works of art for these interesting meetings.

ILLEGALITY OF VIOLENT EJECTMENTS.

Perry *v.* Fitzhowe.

A new and interesting point was decided in this case, on Thurday, the 14th instant, by the Court of Queen's Bench. The action was brought for trespass, in breaking and entering the plaintiff's house, and pulling it down; the plaintiff himself and his family being actually in the house at the time. The defendant pleaded his right to pull down the house. Several collateral matters of no consequence were pleaded on both sides; but the real question was, whether, admitting that a party is authorized by law in the other circumstances of any particular case, to demolish a house, he can justify such demolition where the house is in the actual present personal occupation of the owner and his family. Lord Denman, in giving judgment, said the presence of the plaintiff and his family in the house at the time of the demolition, rendered this case different from any which had ever been brought before the court, and there was no express authority upon the point. There was, however, no difficulty in deciding it, by analogy to well-known cases, and to provisions which were already clearly and fully established. It has been long settled, that a horse could not be distrained whilst a man was riding him, and that instruments or tools could not be seized whilst they were in actual use and possession of the owner; and the general ground of these and all such decisions was the imminent danger of a breach of the peace, resulting from seizing the articles in such circumstances. But surely a breach of the peace was much more likely to result from throwing down a house whilst the inhabitants were in it; and it was further evident that such demolition was necessarily dangerous to personal security, and even to human life. The law would not allow any man to assert his rights, or pursue his remedy, at so great a risk of producing such important injuries to the public peace, or the safety of individuals. The court was therefore of opinion, that the justification which the defendant had set up was wholly insufficient, and that the judgment must be given for the plaintiff.—*Times.*

VENTILATION.

The select committee, as to Houses of Parliament, have recommended that further inquiries and experiments should be made, under the direction of the Office of Works, before any plan hitherto proposed be adopted.

At the Central Criminal Court, on the 18th of May, just as the court was about to break up, one of the jury addressed the recorder, and called his attention to the effect of the present plan of ventilating the court by Dr. Reid. He said that the jury had suffered most severely from the currents of cold air that were thrown into their box, and one or two of them had taken severe colds, and all had been very much inconvenienced.

The recorder said he agreed with the jury, that the system was very unsatisfactory. When he sat in the court for any time, he had found his legs and feet completely benumbed, and hardly a session passed without his taking a severe cold. It really seemed as though the worst system of ventilation was adopted at the greatest expense.

New Books.

The History and Description of the Great Western Railway, including its Geology, and the Antiquities of the District; with numerous Views. By John C. Bourne. Bogue, Fleet-street, 1846.

The Great Western Railway is a work, of which a country may justly be proud, whether regarded by itself or in connection with its results, and is an enduring monument of modern power, and the tendency of the age. "The difficulties to be overcome in the construction of a railway," says the preface of the work before us, "and the great capital employed in overcoming them, have given rise to a number of engineering works of the highest class, both as examples of constructive skill and general grandeur of appearance.

It follows, unfortunately, from the nature of the case, that whilst purely architectural structures are placed in open thoroughfares, or places of public resort, the engineering works of a road or railway, stand commonly in some remote district, crossing some secluded valley, or piercing some barren hill. The traveller, indeed, upon a common road, is almost always able, from his comparatively slow progress and from the turnings and windings of the way, to obtain a tolerable view of any great work along its courses; but the straightness of the railway, and the rapidity of the motion upon it, entirely shut out its far greater and more numerous works, and thus some of the most magnificent structures in the kingdom, though crossed daily by thousands, are actually seen by few."

The present publication is intended, in some degree, to supply this defect with regard to the Great Western Railway. It contains fifty illustrations of large size, beautifully drawn on stone, some remarks on the application of certain general principles to railway conveyance, a description of the line, notice of the geology, and an account of the general antiquities. The details of the more curious churches and other specimens of ecclesiastical architecture, are described in an appendix.

The illustrations comprise the various stations, viaducts, bridges, and tunnels, with views of the principal places passed, admirably drawn in tints. The Maidenhead Bridge; the entrance to the Box Tunnel; a view from above the tunnel; some of the views near Bath; entrance to Long Tunnel; and the Bristol station, may be pointed out for special praise. Several plates are devoted to the details of some of the ancient buildings near the line, relative to which the letter-press is fuller than it is in other parts. The appendix says:—"Although it is scarcely worth while to notice all the churches which the railway passes, yet it is surprising how very few there are in which do not occur some remains, interesting either from their great antiquity or their architectural beauty, or from their being indications of customs and religious ceremonies, in many cases peculiar to the Anglican church, and now swept away altogether.

There is also another reason why the details of these ancient structures should be worth attention. Their architects, almost always ecclesiastics, worked by certain rules of construction, to which they rigidly adhered, and which has given to their contemporary works all over the country a peculiar stamp of unity. In the details of their ornaments, indeed, they gave free license to an exuberant fancy; but in general character and disposition, no less than in the proportions and arrangements of the different parts of the whole building, their works are so uniform as at once to mark, to an accustomed eye, the date of their erection within a very few years. It is curious, also, to observe how completely this unity of style is preserved, without producing the least tendency to sameness; and, indeed, in buildings at first sight totally dissimilar, each front, each tower, each window, or each doorway, is so marked, as to be recognised at a glance as belonging to a particular date or style, but so varied in its details and ornaments, as that each in turn draws the attention of the spectator with a feeling, not of sameness, but of novelty and delight."

The book is beautifully printed, on excellent paper, and is altogether a fine work of its class. Next week we shall avail ourselves of some of the architectural information it contains, for the benefit of our readers.

Correspondence.

MODERN BRICKWORK.

SIR,—Finding one of your correspondents, signed "V" in the paper headed "Modern Brickwork," has taken up, what I consider, a just cause of complaint, I beg leave to make some few remarks on the same subject. Myself and others (of the old school) anticipated, at the passing of the new Buildings Act, we should see work better done, instead of which the reverse is the case. Some years ago, an architect in his specifications, would bind the bricklayer that no four courses should extend to 11½ inches, or 1 foot at farthest; a thing of that kind would be a novelty now, for in many cases you will find four courses to measure 13 in., 13½ in., and 14 in. Bricks are (or ought to be) made by one standard mould, therefore the evil rests with the slobering fellows who lay them, and the mortar. I say mortar, but should have said muck with a lime-bag shaken over it.

In looking over the new Buildings Act, as it is called, I find that great stress is laid on making buildings secure from fire. Pray who looks to this part of a building, one of the most essential? I cannot see any improvement.

A friend of mine stated to me and others, that at the back of a house in Pelham-crescent, Fulham-road, there is a furnace set in the coach-house, for melting copper. Well knowing the immense heat required for this metal, I venture to say the building is unfit for its purpose, and it is contrary to the meaning of the Act.

Your correspondent "V" states, he saw men carrying up foundations of party-walls, to all appearance two bricks thick, but in reality built of 4½ in. work on each side, leaving 9 in. space between, and this is filled up with small stones, broken bricks, and other rubbish, and no bond for five or six courses. He may well say such work as this is a disgrace.

I am, Sir, &c. C. W.

Fulham, May 11, 1846.

LICHENS ON STONE WORK.

SIR.—One of your constant readers in the country, wishes to know if there is any chemical or other process, by which the lichen on sand-stone structures can be removed, without injuring the surface, or colour of the surface.

Perhaps you will also be kind enough to say, if lichen is a preservative of stone or not, as there appears to be some difference of opinion on this important point. Most instances which have come under my own observation, tend to shew that *it preserves;* however, I incline to think that much depends upon the nature of the stone to which it attaches itself. The surfaces of some sand-stone will not receive lichen, while others will; and this is observed frequently in the same building, and where all the stones used in the structure were out of the same quarry. How is this to be accounted for?

Your attention to the above will oblige your old correspondent, FRANK TYRRELL.

Newcastle-on-Tyne, 16 May, 1846.

CONVERSION OF AREAS.

SIR,—There are two triangular orifices in the side of a reservoir of water, having their bases in the same horizontal line; the sides of the one are twenty-two, twenty-eight, and thirty-four inches respectively; and those of the other, twenty-eight, thirty-two, and thirty-six inches. Now it is intended to build these up, and to form a circular aperture of equal area to them both.

Will you, or any of your numerous correspondents, inform me how to obtain the diameter of the circle, by the method of conversion, of which a specimen was given by your correspondent in No. 168 of THE BUILDER? By so doing, you will much oblige yours, &c.,

A BUILDER.

STAINED GLASS, WESTMINSTER ABBEY.—In reply to several correspondents, we are able to say that the stained glass for the south transept is far advanced, and will shortly be put up. The portions to which one inquirer refers, as having been fixed and taken down again, were placed there only temporarily.

Miscellanea.

RESTORATION OF THE CHURCH OF ST. MARIE, CLIFTON, NOTTS.—This church has been repaired and restored, under the superintendence of Messrs. Cottingham and Son, and was re-opened for divine service a fortnight ago. The piers and arches of the tower, with the arches in the nave abutting thereon, in which the most alarming fissures had taken place, have been restored to their original form, the masonry having been for the most part re-worked, and thorough bonding stones inserted. The disruptions which had taken place, from the weight of the tower crushing the piers, had caused the arches and pillars of the nave to swerve considerably westward: in two instances the pillars were more than a foot out of the upright; all these have been restored to a perpendicular position without the removal of a single stone, by the expansion and contraction of heated bars of iron. The roofs throughout have been restored in oak, with new stone corbels inserted to receive the helves and bearing posts; and the feet of all the principal rafters have been shod with cast iron. The floor of the entire church has been laid with encaustic tile pavement, enriched with armorial bearings. A new carved wood ceiling under the tower, the new seating of the church with low, open benches, a Litany desk, pulpit, font cover, doors to the north porch and tower, staircase, with wrought metal work, are some of the most prominent features of the restoration.

MANCHESTER SCHOOL OF DESIGN.—Mr. Wallis, the late master at this school, has recently issued a farewell letter, detailing the circumstances which led to his resignation. It appears that there was a disagreement with the council and director at Somerset House, respecting the system of instruction. The London council have lately begun to teach the figure simultaneously with the other branches of education, and in a manner which Mr. Wallis considers is more likely to induce bad than good results. He preferred to let the student commence with ornamental drawings, confining the figure to those whose pursuits rendered it an essential advantage, and leaving it till the conclusion of the students course, when it would be taught on sound principles, commencing from the skeleton. Accordingly, and as the Manchester council did not feel inclined to dispense with assistance from Somerset House, Mr. Wallis resigned, a step which has been greatly regretted in Manchester. Mr. Jackson, the active honorary secretary has also seceded. Mr. Wallis had a handsome testimonial presented to him on his retirement. He is now engaged in forming a separate school.

BUILDINGS WITHIN THE BOROUGH OF MANCHESTER.—We learn from Captain Willis's police statistics, that the number of buildings, on the 31st December, 1845, within the borough, were 50,744. He classifies them as follows:—factories, 123; foundries, 43; warehouses and workshops, 3,813; dwelling-houses, 41,606; shops used as dwelling-houses, 4,872; cellar dwellings, 5,385; places of worship, 97; public schools, 106; military barracks, 1; banks, 16; markets, 14; railway stations, 4; gas stations, 5; workhouses, 2; infirmary, hospitals, and dispensaries, 7; night asylum, 1; lock-hospital, 1; penitentiary, 1; public institutions, 27. The cellar dwellings, being only portions of other dwellings, are not included in the gross total.—*Manchester Courier.*

THE ARRANGEMENT OF KITCHENS.—M. Soyer, the *chef de cuisine* of the Reform Club, is just completing a new work on his art, which contains plans of kitchens, to different dimensions, showing the arrangement of the necessary apparatus, and drawings of stoves and ovens in the kitchen of the Reform Club. This is a department of the architect's pursuit to which less attention has been paid than necessary, and we shall therefore recur to the book at an early opportunity.

FIRES.—The number of fires that have taken place in the metropolis and its suburbs since the commencement of the year, according to the records kept by the brigade authorities, amount to more than 300.

MODERN PICTURES.—Recent sales by auction of the works of living painters have established the fact, that those who encourage modern art with judgment are investing their money very safely, and at good interest.

OXFORD ARCHITECTURAL SOCIETY.—A meeting was held in the Society's Room on Wednesday evening, May 6th, the Rev. the President in the chair. After the election of new members, the report of the committee was read. It related chiefly to the progress of the works at Dorchester church, and announced the gratifying fact, that some members of Oriel College had undertaken the restoration of the west end of the south aisle, including the elegant buttress at the south-west angle, with the adjoining porch and window. To this purpose they have determined to apply the proceeds of a terminal subscription, amounting to about 80*l.* per annum. Mention was also made of an offering of gratitude from the junior members of Lincoln College to their chapel, in the shape of a handsome brass eagle-desk, of the value of nearly 80*l.* The design for this praiseworthy gift was laid before the Society. Fifty copies of an engraving of the ancient Guestern Hall, at Worcester, had, it appeared, been received from the Rev. W. Digby, Canon of Worcester, and distributed among the most active members of the society. They might, it was hoped, by making that interesting building better known, promote its restoration. Mr. Freeman, of Trinity College, then read a paper "on the Antiquities of Purton Church, Wilts, with Notices of some neighbouring Churches."

SALE OF ST. BENET FINK.—At the beginning of the week, Mr. Pullen sold by public auction the church of St. Benet Fink, Threadneedle-street. The six stone columns with carved capitals, placed along the two sides of the building, and supporting the roof, realised 11*l.* 18*s.* 6*d.*; and the altar windows at the east end, having in the centre a coat of arms in stained glass, with the date 1695, brought 2*l.*

MEETINGS OF SCIENTIFIC BODIES

During the ensuing Week.

MONDAY, May 25.—British Architects, 76, Grosvernor-street, 8 P.M.; Geographical, 3, Waterloo-place (anniversary), 1P.M.; Linnæan, Soho-square (anniversary), 1 P.M.

TUESDAY, 26.—Civil Engineers, 25, Great George-street, 8 P.M.; Syro-Egyptian, 71, Mortimer-street, Cavendish-square, 8 P.M.

WEDNESDAY, 27.—Society of Arts, Adelphi, 8 P.M.

THURSDAY, 28.—Royal, Somerset House, 8½ P.M.; Antiquaries, Somerset House, 8 P.M.

FRIDAY, 29.—Royal Institution, Albemarle-street, 8½ P.M.

NOTICES OF CONTRACTS.

[We are compelled, by the interference of the Stamp Office, to omit the names of the parties to whom tenders, &c. are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent Garden.]

For the erection of a tower for a lighthouse on the Heugh, or Headland, at Hartlepool.

For lighting the City of Bristol with gas for seven years, from 29th September, 1847.

For the erection of National Schools at Great Waltham, near Chelmsford.

For the erection of the new workhouse at Ashbourne (extension of time).

For the erection of new works for the Carlisle Gas Light and Coke Company, in Borough Mile Field.

For the erection of a station-house at Huddersfield, for the Huddersfield and Manchester Railway.

For all or any of the several requisite works in the erection of a church at Heeley.

For taking down and erecting a farm-house and farm-buildings in Corton, Suffolk.

For erecting a lodge to the cemetery at Coventry.

For the erection of several lodges on the Nottingham and Lincoln Railway.

For 300 tons of the best Hartshill stone.

For the masons', carpenters', slaters', plasterers' and plumbers' works of a free church Manse, to be erected at Redcastle, near Inverness.

For repairing, and keeping in repair, the Tongue-road, in the county of Sutherland.

For the erection of part of an extensive set of office-houses on the farm of Ardintrive, near Oban.

For laying down about 850 yards of 5-inch cast-iron gas-main for the Teignmouth Improvements Commissioners, and for relaying another main of about same length.

For the construction of sewers in Finch-lane, Nicholas-lane, and Angel-court, City; also for cleansing and repairing City sewers for three years.

For the erection of a new bridge over Calf Lake, Burn, in the parish of Lochmaben.

For supplying the trustees for repairing, lighting, &c. Grosvenor-place, and the squares and streets adjacent, with flints, stone, gravel, granite, &c.

For erecting a gas-work for Inverleithen, County Peebles.

For executing repairs on the stone pier at Newhaven.

For finishing ten third-rate houses at Islington.

For supplying the Committee for Paving, &c. the parishes of St. Giles's-in-the Field, and St. George's, Bloomsbury, with granite, gas-posts, copper lanterns, fittings, &c.

For the iron-work of a condensor and tar-tank for the Commercial Gas-light and Coke Works, Stepney.

For building a new workhouse at Kensington (extension of time.

COMPETITION.

The directors of the Birmingham Church of England Cemetery will give a premium of twenty guineas for the best design, and one of ten guineas for the second best design, for laying out and ornamenting the grounds at Warstone, and for the erection of a suitable chapel, entrance-lodge, and other buildings thereon, for the purposes of a cemetery. Buildings in the Saxon or Gothic style of church architecture preferred.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At Little Bentley, Essex: 1,500 very capital larch, and 300 ash trees.

At Thaxted, Essex: 225 oak trees, and 400 useful seconds.

At Stansted, Mountfitchet, Essex: 270 oak trees and saplings; 100 ash, elm, poplar, &c.

At Hadstock, near Linton: 300 capital oak trees, with topwood.

At Didlington, near Stoke Ferry: an assortment of ash, elm, oak, alder, poplar, willow, &c.

At North Burlingham, near Blofield, Norfolk: a quantity of superior larch and spruce poles, ash and beech timbers, poplars, willows, &c.

At Shortgrove Park, Newport, Essex: an assortment of ash, oak, elm, birch, maple, &c.

At Weeley Hall, near Ipswich: a large quantity of oak trees, seconds, bavins, poles, &c.

At Beaumont, near Thorpe: a very extensive and first-rate bankrupt builder's stock in trade.

At Steeple Bumpstead: 80 large oak, 100 elm, 100 ash trees, &c.

At Amberden Hall, Debden, Essex: 232 oak, 35 ash trees, and 130 oak saplings.

At the estate of Inverary, Argyleshire: a large quantity of growing and cut timber.

At Ickworth Park, Suffolk: about 200 oak trees, with poles, &c.

At Doncaster: the stock in trade of extensive marble and stone works.

At Ely: a large quantity of excellent building materials.

At Charles-street, Long-acre: the valuable building materials of six houses, &c.

TO CORRESPONDENTS.

"*W. C.*"—Are any of the new buildings, St. Augustine's College, worthy engraving?

"*E. J. N.*"—The method of taking out quantities from drawings can scarcely be taught by a book. Obtain verbal instruction from a qualified person.

"*W. Burgess.*"—The model has been seen by a number of persons. We will take an opportunity to send it to one of the Archæological Meetings, but cannot promise further.

"*Transparent Window Blinds.*"—A correspondent asks, "What is the process of painting transparencies for window blinds; I mean the preparation of the canvas, what colours are used, how mixed, and whether the whole is made transparent *afterwards* by varnish; also whether I should have to pay excise duty for painting a blind, *as oiled canvas?*"

"*Worms in Wood.*"—A correspondent wishes to know how to destroy worms in a piece of furniture. Whale oil, it is said, has been applied with success.

"*J. X. H.*" (No. 16), will find notice of the tables, p. 214, *ante*.

"*R. S.*"—Unless the building be "insulated," according to the meaning of the Act, a bow-window of timber will not be permitted, even if covered with metal or slate.

"*R. F.*"—Windows should not be permitted in the wall, unless the owner of the shop will give an undertaking to "R. F." to close them up at any time on receiving notice to do so.

"*Alpha.*"—Our old friend's communication reached us too late for present number. We will give it consideration.

"*H. W. D.*" declined.

"*R. N. W.*" "ϕ." next week.

Received.—"J. A.," "R. T.," "S. W.," "The History and Prospects of the Railway System, by Samuel Sidney." Edmonds, 154, Strand, 1846); "Health of Towns, as influenced by Defective Cleansing and Drainage, by W. A. Guy, M.B." (Renshaw, Strand, 1846).

ADVERTISEMENTS.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.

Manufactured by J. B. WHITE and SONS, of Millbank-street, Westminster; and sold at their warehouses—Earl-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

QUICK DISPOSAL OF HOUSE AND LANDED PROPERTY.

BY means of an Extensive and Classified Buying Connection, to whom we can immediately offer what may be placed in our hands, we effect Sales of Property with the greatest facility, and as we make no charge until a sale is effected, it is to the interest of all proprietors of house and landed property, desirous of selling, to register such with us, BECKWITH and SALMON, Auctioneers and Estate Agents, 25, Bucklersbury.

By Her Majesty's — Royal Letters Patent

BAILLIE'S

PATENT ROUNDED RIM LOCKS.

WITH SECRET AND SECURE FIXINGS.

THIS CHEAP and USEFUL ARTICLE, obviating the unsightly appearance and insecurity of the common rim lock, can be obtained of any respectable ironmonger in town or country, or from the sole manufacturer, Mr. EDWARD WRIGHT, Wolverhampton.

TO ARCHITECTS AND BUILDERS.

COLLINGE'S PATENT HINGES.—Sole Manufactory, 64, BRIDGE-ROAD, LAMBETH, where a great variety are always on view, for Church, Park, Coach-house, and all other Doors and Gates, of large or small dimensions, a gate of a ton in weight moving with these hinges as easily as a wicket; they are also admirably adapted for drawing-rooms, being highly ornamental, and folding-doors fitted with them may be removed and replaced in an instant. Rising and spring Hinges, on the most improved principle, and very superior Fastenings for exterior gates, at moderate prices. To be seen at Charles Collinge and Co.'s Patent Axletree, Sugar-mill and Spherical-hinge Manufactory, 64, Bridge-road, Lambeth.

PATENT WINDOW BLINDS.

TYLOR and PACE manufacture every description of WINDOW BLINDS entirely upon their own premises, by the aid of steam machinery, insuring the best materials and workmanship, at the lowest cost. Patent metallic gauze and perforated Zinc Blinds, in mahogany frames, at 1s. 8d. per square foot; ditto, in metal frames, 1s. 2d. per square foot. A large and choice assortment of Transparencies, mounted, from 10s.; Holland Blinds, on plain or spring rollers. Outside Shades, Venetian and Sun Blinds of every description.

TYLOR and PACE'S Show-rooms, 53, Cornhill, entrance St. Peter's-alley.

HERRING'S PATENT WINDOW for hanging the Sashes, whereby they may be instantly disconnected from the Frames, without removing the Beeding. It is now being applied in Palaces, Castles, Mansions, first-rate Houses, Villas, &c. It is universally approved and adopted by every Architect that has seen it. Builders in the Country will have a full-sized Window forwarded on receiving an order and reference, and taken back if returned within eight days free. To be seen daily. Licences and other particulars had of the Patentee, 14, Kingsgate-street, London.

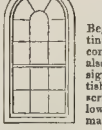
This invention is exceedingly simple, increases the cost but slightly, and appears to answer the purpose well.—BUILDER, 28th February.

A Premium of 5*l.* will be given to the first fitter-up of a first-rate House with this Patent, and in proportion for second, third, and fourth-rate Houses.—March 20, 1846.

TO BUILDERS, MARKET GARDENERS, AND OTHERS.—1½ INCH OVOLO SASHES

MADE and GLAZED with CROWN GLASS at 9½d. per foot superficial; ditto, with Frames and Pulleys to hang double, and Sunk Oak Sills, at 1s. 2d. per foot superficial; Lap Lights for hot-houses, conservatories, &c., made and glazed at 8½d. per foot superficial.—Address, W. PATTEN and Co. 20, Old Fish-street, Doctors' Commons, London; sole manufacturers of Anti-Corrosive and Mineral Paint.

SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.



JOHNSON & PASK,
1, AMWELL STREET,
Clerkenwell,

Beg to state that they continue to make Sashes, glazed complete, at 10½d. per foot; also, Shop Fronts to any design, and with the best British plate-glass. Every description of joinery on the lowest terms, and of the best materials and workmanship.



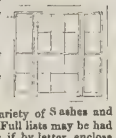
A full list of prices forwarded by return of post to any part of the country.

TO BUILDERS AND CARPENTERS.

CHAS. W. WATERLOW,



Sash Maker and Joiner to the trade, 121, Bunhill-row, returns thanks for the liberal patronage awarded him, and begs to announce he has devoted a portion of his extensive premises to the sale of ready-made Doors, of which he has upwards of 400 always on view, and a variety of Sashes and Frames on the lowest scale of prices. Full lists may be had on application at the counting-house; if by letter, enclose postage stamp.—N.B. Glazed goods securely packed for the country.



DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

SASHES primed, glazed, and sent to any part of London at 6d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.

FOREIGN SHEET 5d. per foot.
BRITISH CROWN 5d. per foot.

Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Shew-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.

Dry and Good Colours of the best quality; Brushes Dryers, and every article used in the Trade Warranted.

VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.

For complete lists priced.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

WINDOW GLASS, LEAD, VARNISH, and COLOUR MANUFACTORY.—Crown Window Glass, in squares under two feet, 4½d. per foot; glazing, 5d. per foot; sheet glass, 4d. per foot; best white lead, 26s.; seconds, 24s.; thirds, 22s. per cwt.; linseed oil, 2s. 2d.; boiled oil, 2s. 6d.; turpentine, 3s. 9d.; fine oak varnish, 10s.; carriage, 12s.; copal, 14s.; body copal, 20s.; gold size, 10s.; paper varnish, 10s.; linseed oil putty, 7s. 6d. per cwt. per firkin; patent dryers, 42s.; black paint, 28s.; lead colour, 24s.; Oxford ochre, 42s. per cwt.; best pan water-closet, 34s. complete; ¾-brass cocks, 2s. 8d. each. Milled sheet lead, patent pipe, beer-machines, tapping-cocks, and brushes and colour of every description. Thomas Millington being the manufacturer, can supply a much better article than most other houses. Address, THOMAS MILLINGTON, 87, Bishopsgate-street Without, London.—Established upwards of 90 years.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery

Best Patent Cut Clasp.

3d.	4d.	6d.	10d.	20d.
5d.	7d.	8d.	1s. 6d.	2s. per 1000.

Best Sheet Cut Floor Brads 16s. per cwt.
Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6d½., 7d., 8d. per inch. Self-acting Kitchen Ranges with Oven and Back Boiler. Wrought Bars and Bright Fittings.

3 ft., 3*l.* 3s.	3 ft. 6 in., 3*l.* 12s. 6d.	4 ft., 4*l.*

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3*l.* 6s.	3*l.* 13s.	3*l.* 16s.	4*l.*	4*l.* 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5*l.*	5*l.* 15s.	6*l.* 5s.	6*l.* 10s.	7*l.*

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 3½d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

BRIGHT REGISTER STOVES, with Steel and Ormolu Ornaments, for 4*l.* 15s., cast at GREEN and CONSTABLES, 36, King William-street, five doors from London-bridge.

HOT WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories, and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brick-work, may be seen in action upon the premises. BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

PATENT WOOD CARVING OFFICE.

THE Proprietors of the Patent Method of producing Wood Carvings beg to announce the removal of their Offices from No. 3, Henrietta-street, Covent Garden, to No. 444, West Strand, where specimens in every variety may be seen.

GRAINING AND WRITING FOR THE TRADE.

MESSRS. WOOD AND COMPANY, Grainers and Writers to the Trade only, by contract, measure, or otherwise.

Offices, 11, St. Benet-place, Gracechurch-street, City, and 62, Waterloo Bridge-road. All letters post paid.

N.B. Workmen sent to any part of the kingdom.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—Wyatt, Parker, and Co., Agents. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

DAVEY'S PATENT SLATE RIDGES and HIPS are very superior in appearance to lead, as well as more durable and much cheaper, and are admitted to be the most valuable articles for the purpose hitherto invented. They consist of two side pieces and a roll, either united together to form one solid piece, or in separate parts, and in lengths of from four to six feet. The roll is made of various sizes, perfectly round, and in the strongest way of the slate. They may be purchased of the patentee, W. DAVEY, Broad Quay, Bath, or of any slate dealer in London or the country. Parties ordering a cargo of roofing slates may procure these ridges at the cheapest rate from Mr. JAMES WYATT, Port Penrhyn, Bangor (where they are manufactured), of whom and of the patentee further particulars and prices may be obtained.—Be particular to order DAVEY'S Patent.

HIP TILES to suit slate roofs in colour; Ridges, with plain or rebated joints, roll tops, and vertical ornaments; drains, many sizes, with plain or socket joints; paving in squares, hexagons, octagons, &c., different colours; roofing, in Grecian or Italian styles, other devices also, or plain; conduits, which do not injure pure water; fire-bricks and tiles; clinkers, and out-door paving; sundry wall-coping, garden-borders, chimney-tops; also tubular and other flues of peculiar material. No agent, but a depôt at 22, WHITEFRIARS-STREET, FLEET-STREET, LONDON, under Mr. PEAKE'S personal care, to supply genuine TERRO-METALLIC goods at fair prices as per quality; also, additional Stock at No. 4 Wharf, Macclesfield-street, South, City Basin.

The TILERIES, TUNSTALL, STAFFORDSHIRE, are near the centre of England, whence boats are sent direct to any inland place; or to the Mersey for the coasts, the colonies, and elsewhere.

BRICK MACHINE.

JONES'S PATENT MACHINE is acknowledged by old-experienced workmen to turn out far superior Bricks to what can possibly be done by hand. Expedition and cheapness guaranteed. They are moulded stiffer, put in the walls at once to dry, and will bear two high a day. So that nearly double the quantity is in process of drying, and consequently less covering required. Contracts for brick-making, by machines, entered into, and licenses granted.—Apply to EDW. JONES, Queen's Wharf, King's-road, Camden Town.

CAEN STONE.

LUARD and BEEDHAM have a quantity of the above stone, of the best quality, direct from their Quarries at Allemange, which may be inspected at the Norway Sufferance Wharf, Greenwich.—Further particulars at Mr. G. GATES', 18, SOUTHWARK-SQUARE, SOUTHWARK.

MARBLE CHIMNEY PIECES.—The WESTMINSTER MARBLE COMPANY have this spring, restocked their show-rooms with a great variety of chimney-pieces of quite a new design, with the best quality of Italian Marbles selected expressly for their works, and will be sold to builders at such reduced prices that they will realize a great saving by forwarding their orders to the Westminster Marble Works. An unabated zeal will be maintained to continue the patronage so liberally shown to this Establishment.—Address, Earl-street, Millbank.

TO ARCHITECTS, BUILDERS, AND THE PUBLIC IN GENERAL.

C. DEBAUFER and SON beg to call the attention of architects, builders, &c., to their general assortment of Gas Lamps, Pendants, Hydraulic sliding Pendants, Gas Brackets, Pillars, and every article connected with gas apparatus, at their Manufactory and their Rooms, 10 and 11, Creed-lane, Ludgate-street.—A liberal discount allowed to architects and builders.

PAVING, 2s. 9d. PER SQUARE YARD Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27s. 6d. per ton.

TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorized CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced.

I. FARRELL, Secretary.
Stangate, near Westminster Seyssel Asphalte Company.

Bridge, Jan., 1845.

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 20s. per gallon.

STEPHENS'S LIQUID OAK, MAHOGANY, ROSE, and SATIN WOOD STAINS, for Staining various sorts of Inferior Woods, so as to give them the appearance and character of the more costly and ornamental kinds; also for reviving the natural colour of Wood Carvings and Panellings, and other ornamental Wood Work, when such has become faded from age or other causes.

IN THE BUILDING AND DECORATING NEW CHURCHES, where it is desirable to give to the cheaper kind of Woods the appearance of Antique Oak, or to make Deal assume the character of Oak Panelling, whereby the effect of the more costly may be produced by the use of a cheaper material, these Stains will be found more effective than any means hitherto employed.

IN OLD MANSIONS AND HALLS, where the Wood Carvings and Panellings have faded, the applications of these Stains will be found to revive and bring back the rich natural colour, and which colour may be varied from the lighter to the deeper shades of the most Antique Oak.

The BIRCH WOOD, which has a fine natural grain, with little colour, is particularly suited to the application of these Stains; and the appearance which it assumes after Staining is so near that of the natural wood, that is is only when the grain and colour of the latter is particularly fine that it is preferred. Beech, Birch, Elm, Ash, and other Woods, English and Foreign, receive the Stains and produce various imitations.

For the exposed Timbers of the inside of the ROOFS of CHURCHES, for which north country Timbers and Deals are generally used, by brushing them over with the Stain, which operation is very rapidly, and of course economically, effected, the appearance of an Oaken Roof will be produced.

For colouring the backs of the Seats, Pews, the fronts of Galleries, the Pulpit, &c., it is equally advantageous.

Prepared by HENRY STEPHENS, and may be obtained at 51, Stamford-street; at the Office of "The Builder," 2, York-street, Covent-garden, and in Manchester, at CRAKE'S MARBLE WORKS, Garratt-bridge, David-street, at which places specimens of their application may be seen.

HEAL & SON'S LIST OF BEDDING.

CONTAINING a full description of Weights, Sizes, and Prices, by which purchasers are enabled to judge the articles that are best suited to make a good set of bedding. Sent free by post, on application to their establishment, the largest in London, exclusively for the manufacture and sale of bedding (no bedsteads or other furniture being kept).

HEAL and SON, Feather Dressers and Bedding Manufacturers, 196 (opposite the Chapel), TottenhamCourt Road.

FRENCH PAPER HANGINGS.—All the Newest and most Splendid Patterns at the Reduced Duty of 2d. per yard, on view; and orders taken at MARKS and Co.'s Warehouse, 59, Princes-street, Leicester-square. Carved Leather and Carton Pierre Ornaments, and Utrecht Velvets, at the same Reduced Duties.

PAPER HANGINGS.

BUILDERS, ARCHITECTS, SURVEYORS, and Others, may select from a Stock of 80,000 Pieces of Paper Hangings, always ready, in decorations, Golds, Flocks, Satins, Damasks, Hand and other Marbles, Oaks, &c. &c., at unprecedented low prices, terms cash, at W. LESCHALLAS'S, 32, Budge-row, corner of Size-lane, City.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,
Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, aving on all occasions given the greatest satisfaction.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.
PATENT SAFETY IRON SLIDING SHUTTERS.





The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 118, Old Street, London; or at the Licensees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using BENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licenses Granted.

REDUCTION IN THE PRICE OF
BUNNETT AND CORPE'S
PATENT REVOLVING IRON SHUTTERS.

THE validity of this Patent being completely established, the Patentees have much pleasure in stating that the very extensive demand, and the employment of improved machinery in the manufacture, have given them an opportunity (of which they gratefully avail themselves) of making a considerable reduction in the price of this well-known and tried invention, thereby rendering them the cheapest as well as the best iron shutters in use. Every improvement suggested by practical skill and most extensive application has been adopted, and no effective REVOLVING IRON SHUTTER can be constructed without infringing B. and C.'s patent. The worm and wheel, as patented by them, being the only safe, durable, and efficient mode of raising and lowering such shutters, these shutters can be applied horizontally, either above or below the window, or vertically, as introduced by BUNNETT and CORPE, in some of the largest establishments: they are made with bent or corrugated laths, if required.

BUNNETT and CORPE also manufacture
REVOLVING WOOD SHUTTERS,
with their patent raising machinery, or with counterbalance weights, and with proper metallic hinges, without which no shutters can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop Fronts fitted in a superior manner with Iron Shutters, Patent Brass or Zinc Sashes, Moulded Engraved Stall Board Plates, best Plate Glass, and internal Brass Fittings of all kinds, on the most advantageous terms. Estimates given and contracts taken in Town or Country.—All kinds of metal works executed to any design. Metal Drawing, Rolling, and Stamping for the Trade. OFFICE, 26, LOMBARD-STREET, LONDON. WORKS, at DEPTFORD, KENT.

FINE ARTS.

By Her Majesty's Royal Letters Patent.

LORIMIER'S TRANSPARENT PLANES for Perspective Drawing; BENJAMIN WEST, Patentee.

"This Instrument will enable Artists and others to make any Drawing, whether from Nature or Models, in perfectly true perspective, so that a likeness or landscape may be taken in a few minutes absolutely perfect. It is used by her Majesty's Royal Sappers and Miners, Chatham. To Travellers it would be found serviceable, since it can be employed without the knowledge of drawing."—*Art Union.*

Price 18s. and 28s. Apply for Agents to BENJAMIN WEST, 2, St. James's-walk, Clerkenwell.—Sold by BARRITT and Co., 173, Fleet-street, London; GRIFFIN and Co., Glasgow, and by all Fancy Stationers, &c.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 16, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

IRON BRIDGES, PIERS, &c.

*** For the Numerical Explanation of DEDGE'S PRINCIPLE, see the "Mechanics' Magazine," No. 1172.

THIS system removes from the Arch to the horizonal line the horisontal force of the whole Bridge, which makes the roadway as powerful as the arch itself, and the arch, with half the material, more than double its original power. The pressure on the key-stone of the arch is the horizontal force of a Bridge, which acts directly on that point as a dead load of self-destruction; and it has thrown down, within the last eighteen months, nearly sixty arches of Viaducts and Bridges.

EXAMPLE:—The Menai Bridge, whose depth is 1-14th of its length, and the suspended weight 800 tons, its horizontal force is 2,800 tons of self-destruction on the centre; hence it would require but a small portion of the material and cost of that bridge to construct one over the Menai Straits on this plan, that would possess far greater power and stability than the present structure.

This principle has been fully tested nearly ten years, by the construction of fifteen public bridges for the Government and others in Great Britain. It is also established in India.

Bath, 3rd April, 1846.

HOLBORN AND FINSBURY SEWERS, MIDDLESEX.

THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persons about to Purchase or Rent Houses or Property, or take Land for Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Persons to apply for at the above Office. By the Court,

STABLE and LUSH, Clerks.

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDDLESEX, No. 1, Greek-street, Soho-square.

TO BUILDERS and Others interested in buildings or in ground for building upon, within the district under the jurisdiction of this Court, drained by watercourses falling into the river Thames, between the city of London and the parish of Fulham.

The Commissioners hereby give notice, that by an Act of the 47th Geo. III. (chap. 7, local) it is required that, previously to the making of any new sewer in any street, lane, or public way, or in any part intended to become a street, lane, or public way, or to carry or drain off water from any house, building, yard, or ground, into any sewer under their management, or within their jurisdiction, a notice in writing shall be given to them, or to their clerk at their office, and that such new sewer or sewers shall be constructed and made in such manner and form as shall be directed by the said Commissioners, and not otherwise.

And, in order to prevent the serious evils and inconveniences that must arise from ground proposed to be built upon being excavated at too great a depth, the Commissioners have directed that, upon application being made at this office previously to the sinking of such ground, information shall be given as to the lowest depth at which the same can be drained.

And the Commissioners do also give notice that, whenever the lower floors or pavements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any sewers, or drains into sewers, to be made for the service of such buildings.

It is recommended to all persons about to purchase or take houses, or other premises, to ascertain whether such premises have separate and distinct drains into common sewers.

All petitions must be delivered at this office at least three clear days before they are presented to the Commissioners; and all such petitions will be called on in the order of their application, and the name of any party not present when called on to support the application will be struck out, and the proceedings must in consequence be commenced de novo.

All communications made with any sewer without leave of the Commissioners will be cut off, and the parties making the same will subject themselves to a fine.

The provisions of the Metropolitan Buildings Act (7 and 8 Victoria, c. 84) do not supersede the authority of the Commissioners of Sewers in the above respects, but their powers are expressly reserved, and their regulations made subservient to the purposes of that Act. The execution of such works, under the superintendence of the district surveyor alone, cannot therefore warrant the making of any sewers or drains within this commission, nor relieve the parties making them from the penalties above mentioned.

By order of the Court,
LEWIS C. BERTSLET, Clerk.

The Builder.

No. CLXXXIII.

SATURDAY, MAY 30, 1846.

IF those persons who are now clamouring loudly, against the contemplated injury to the Triumphal Arch at Hyde Park Corner, had spoken out long ago, when we first drew attention to the error about to be committed, it might have been prevented with less difficulty than now. At that time our contemporaries made no response. Every one felt that the intention was preposterous, but no one but ourselves thought it worth while to say so. Now that the scaffolding is up, the brickwork required in the upper part of the archway to carry the proposed pedestal is commenced, and all the arrangements completed, pens are set busily to work, and our arguments in objection are re-produced on all sides.

Coincident with the publication of our last number, containing further strictures on the subject, reports appeared in the daily papers of a conversation in the House of Commons to the same effect.

Lord R. Grosvenor said, the public some time ago found, that a quantity of scaffolding was erected about the arch at the top of Constitution-hill, and they were informed that it was intended for the elevation of an enormous equestrian statue of the illustrious duke, which was very much too large for the place on which it was about to be placed. Very great objections to this had been made, and on inquiry he had been told that the arch was found to be not strong enough to bear the statue, and that an outlay would be necessary to render it so. That being the case, he and the public had been delighted to hear that the plan of placing the statue on the arch had been put a stop to. Since then, however, it had again been resolved, he believed, to place the statue there. His question, and what the public wished to know, was, whether that part of the town was to be defaced by placing this statue in that situation?

Sir R. Peel said, some time ago subscriptions had been proposed to be made for erecting an equestrian statue to the noble duke, and a committee had been appointed by the subscribers to direct the application of the fund. But before the subscriptions were raised, a communication had been made to his late Majesty King William IV., who had been requested to state whether, in the event of the proposed subscriptions being raised for a magnificent equestrian statue to the Duke of Wellington, his Majesty would give his consent to its being placed on the arch at the top of Constitution-hill. Subsequently, a similar request had been made to her present Majesty, and he believed that Lord Melbourne, who was then Prime Minister, had been authorized to communicate to the committee, that her Majesty would confirm the intention of her Royal predecessor. Therefore the subscriptions had been raised after two successive sovereigns had declared, that they had no objection to the proposed site of the statue. He would not give any opinion on the question. The noble lord was of opinion that the statue, if placed as proposed, would disfigure the neighbourhood. The subscribers, on the contrary, thought it would be a very great ornament to the neighbourhood. (A laugh.) In fact, they ought to have withheld their subscriptions if they disapproved the site on which it was proposed to place the statue. *He had felt disposed to think that a better site might be chosen.* However, there was great difference of opinion as to the best mode of placing the statue. Then the architect's opinion as to the strength of the arch was to be considered, and on the matter being brought before him (Sir R. Peel), he had proposed, on the part of the Crown, to give almost any other site that might be agreed upon. The statue might be placed either between the Athenæum and the United Service Clubhouses, or in the immediate neighbourhood of the Duke of Wellington's residence, or near the Horse Guards. He had also undertaken, on the part of the Government, to propose to Parliament to vote a sum for the erection of a suitable pedestal (cheers), and that, on the whole, he had thought would have been the more satisfactory mode of settling the matter; but the committee, having again considered the subject, thought, that the consent of her Majesty having been formally signified to them, and considering that many of the subscribers had subscribed with the idea that the site originally fixed upon would not be departed from, it was doubtful whether they had the right to make any alteration in the site, and therefore it was determined by the committee that the site should not be altered.

Mr. Baillie observed, that it was generally reported that the statue was too large for the arch, and that it was consequently to be placed lengthways to the arch (a laugh), so as to look east and west, or at right angles to the road; and what he wished to suggest was, that at all events the statue should be placed properly on the arch.

Sir R. Peel thought, that though there might be better taste, there was something insidious in the suggestion; for if the statue were placed as the hon. member suggested, it might not be very convenient for those who passed under. (A laugh). The statue must be placed longitudinally with respect to the arch, if it were placed there at all.

Not a single member was there who would open his lips in defence of the proposed site, although Sir Frederick Trench was present, on whom the responsibility seems to rest: all agreed that the premier's offer of another site and a fitting pedestal should be accepted, and yet, in the face of this unanimous objection, an enormity is to be perpetuated which will long remain a disgrace to the metropolis, and the laughing-stock of foreigners.

Since then Sir Frederick Trench has published a letter in the *Times*, to correct certain inaccuracies in the speech of Lord Robert Grosvenor, but quite fails to touch the main point. "As to the objections to the position," says Sir Frederick, "they must have been very limited, or they would have reached the committee before the year 1845. And as to the question of taste, many of the most competent judges maintain that the position is most suitable; and that the effect will be supremely magnificent, when the outline of this beautiful colossal statue stands in bold relief, backed by an azure or a glowing sky, and I verily believe that they are at least as numerous and as competent to form a correct judgment in matters of taste, as those who are so strongly opposed to placing the statue in this position.

As for myself, with the utmost sincerity I disclaim any pretensions to be ranked in the former class, though I admire and acquiesce in their opinion.

I remember making an application to Sir Herbert Taylor, to ascertain whether his late Majesty entertained the objection which had been suggested to the committee, 'That there was no precedent for an equestrian statue of a subject in such a position;' and Sir Herbert Taylor's answer was, 'that his Majesty had no objection to the position, and that if a precedent was necessary he was ready to make one.'"

A very easy way of getting out of the difficulty. Propriety and fitness however, depend on something more than kingly will. *Le Roi le veut*, will not turn ugliness into beauty; or prevent the sneers of posterity.

Even the *Literary Gazette* who has from the commencement, watched over and kindly petted the project, and who blew the first trumpet to announce the completion of the statue, feels compelled now to admit, that "though the arch may probably be the most distinguished position in London (too fixed, we *fear*, to be changed), we have always been of opinion that a pedestal peculiar to itself, in a very public and commanding site, would be preferable."

We have received several letters on the subject, but have room only for one, the shortest:—

MR. EDITOR,—A few weeks since you indulged your lively vein in your leading article, giving the public to understand you could enjoy a joke as well as the rest of the world. Now I cannot see why you should wish to deprive that respectable class, the omnibus cads, of a joke, which they will assuredly make amongst one another, if the Wellington statue should attain its at present intended site. Depend upon it, the cad Jem will say to the cad Bob, as they chevy up Piccadilly, "I say, Bob, which duke do you mean? the iron duke, or the brass duke?"—seeing that one will be a fixture on one side the road, whilst the residence of the other is just opposite. I quite agree with you, that it is in bad taste, and very ridiculous, to place the statue on the top of the arch, but for all that, it is a pity the cad's joke should be prevented: it is of much less consequence (as the committee think) that the arch should be spoilt.—I am, Sir, &c.,

AN OLD SUBSCRIBER.

The proposition has not a single redeeming point; public opinion is unanimously against it; and we do hope, that either through Government interference, or the good sense of some members of the testimonial committee, the contemplated destructive act may be prevented even at this the last moment.

Lord Francis Egerton, as a subscriber, has protested in the strongest terms against the proposition. Why does not his lordship call a meeting of the subscribers?

AWARDS OF OFFICIAL REFEREES.

HOSPITALS—FIRE-PROOF FLOORS.

WITH regard to a building about to be added to University College Hospital in Upper Gower-street, in the district of St. Pancras, Mr. Ainger submitted a requisition, setting forth—"it is provided by the Metropolitan Buildings Act, in Schedule C, Part I, that 'hospitals' are to be deemed to belong to the third, or public building class, and further, in Part 6, with regard to buildings of the third class, that 'the floors of the halls, passages, stairs, and landings, and all other ways of ingress and egress to and from all apartments used for public congregation, must be wholly constructed fire-proof.'

And whereas it is hereby declared, that there is not intended to be any apartment of the said building to be used for public congregation.

And whereas a doubt has arisen whether under such circumstances the rule for fire-proof floors and stair-cases applies to the building in question.

Now I, the said Alfred Ainger, being of opinion that, inasmuch as the said building is not to be used in any part thereof for public congregation, or for the assembly of persons in large numbers for any purpose, a compli-

ance with the above quoted rule is not required; and moreover, that such a compliance would not add to the security or efficiency of the said building for the purposes of the Metropolitan Buildings Act, do refer the same to the official referees."

The Referees determined, "that the wards of a hospital are rooms or apartments used for public congregation, within the meaning of the first recited Act, and that the stairs, landings, and floors in question *are* subject to the rule in Schedule C, part 6, as to fire-proof accesses and stairs to buildings of the third class."

WOODEN PENTHOUSES IN FORECOURTS.

A "pent-house," or projection of wood, was made to and in front of a butcher's shop, situate No. 1, Frederick-place, Kingsland. It consisted of three upright posts of wood, of the height of eight feet, fixed into the ground at a distance of eight feet from the front of the house, and supporting a flat roof covered with zinc; the length of such roof and cornice being 15 feet 3 inches; the width or extreme projection from the wall being 8 feet 3 inches; and the total depth of architrave and cornice being about 15 inches.

The district surveyor contended, "that inasmuch as the said 'pent-house' or projection is of wood, and projects more than 18 inches from the face of the wall, in a street of greater width than 30 feet, it is constructed contrary to the provisions of the Metropolitan Buildings Act, as laid down in Schedule E. And further, that although 'porches,' 'porticoes,' 'shop-fronts,' or 'open enclosures,' may stand beyond the general line of fronts in any street or alley, yet that they must be 'built of brick, tile, stone, artificial stone, slate, cement, or metal, or other proper and sufficient fire-proof materials, and must not be built so as to overhang the ground belonging to any other owner, or so as to obstruct the light and air, or to be otherwise injurious to the owner or occupiers of the buildings adjoining thereto, on any side thereof.' And inasmuch as the said projection is not built of 'brick, tile, stone, artificial stone, slate, cement, or metal, or other proper and sufficient fire-proof materials,' and inasmuch as such projection must, to *some extent*, obstruct the light and air of the adjoining property to the north, the said district surveyor contended that under these clauses of Schedule E, this projection must be considered contrary to the Act."

The owner said, "that inasmuch as there previously existed three posts, fixed in sockets, which supported an awning or covering of canvass; that as the said covering is solely for the purpose of trade, and as it stands solely on ground belonging to the house to which this addition is made (in fact, standing back 2 feet from the line of fence), and inasmuch as he can obtain the consent of the adjoining owner and occupier to the erection of this projection, he contended that it should not be considered as opposed to the provisions of the Metropolitan Buildings Act, or be considered injurious to individuals, or to the public."

The official referees awarded, "that the pent-house, or projection in question, not being a shop-front of wood, projecting only to the extent of ten inches as to its pilasters and stall-board, and one foot six inches as to its cornice, from the front of the building from which it projects, must be in every part thereof as to its component materials, and in every other respect, in conformity with the rule in schedule E of the first-recited Act, as to projections from external walls not forming part thereof."

LANDING PLACES.—PUBLIC STAIRS.

With regard to a certain wooden staircase, proposed to be erected from the flat, and against the terrace wall in front of Mr. Flight's house, situate at the east end of the Adelphi-terrace, and to abut on a warehouse situate on the Adelphi-wharf, Mr. Barron, builder, and the district-surveyor submitted a requisition, setting forth, that "the said staircase is proposed to form a communication between the said flat, or terrace, and the thoroughfare beneath the same, and is intended to be used for the accommodation of the public frequenting the steam-boat pier in connection therewith; that the district-surveyor was of opinion, that inasmuch as the said staircase would overhang and cross the public way, such staircase ought to be built of incombustible materials; and, moreover, that being for the use of the public who might congregate thereon in large numbers, the same must (as prescribed in schedule C, part 6) be wholly supported, constructed, formed, made, and finished fire-proof. Now the said William Barron being of opinion, that the works in question are not (except as regards any operation to be performed to the buildings in connection therewith, irrespective of the construction of the said staircase) liable as to their dimensions and materials to the rules of the said Act, but that the said works, being in the nature of a bridge in connection with two buildings, are works falling within part 1 of schedule B of the said Act, and in respect of which no specific rules are prescribed in the said Act; and being further of opinion, that if the said works are made sufficiently strong, no danger is to be apprehended on account of the materials thereof, we do hereby refer the matter to the said official referees, and request them by their award to determine,—

1st. Whether the works in question are liable to the rules of the said Act in respect of the materials thereof, and to the supervision of the surveyor of the district, or whether such works do not come within the scope of schedule B, as aforesaid; and,

2ndly. Whether, if such works are within the said schedule, the same may be built of the materials and in the manner proposed, subject to the special supervision of the official referees, as provided under sections 7 and 16 of the said Act."

The official referees awarded as to the first question, "That the works in question are not liable to the rules of the Metropolitan Buildings Act, in respect to the materials thereof, nor to the supervision of the surveyor of the district, except as to any operation, in connection with the proposed constructions, which may affect the walls of buildings which are liable to his supervision, but that such works come within the scope of schedule B, as being in the nature of a bridge.

"As to the second question—That such works being within the scope of schedule B, the same may be built of the materials and in the manner proposed, subject to the special supervision of the official referees under sections 7 and 16 of the said Act." Expenses to be paid by Mr. Barron.

ILLUSTRATIONS OF ANCIENT ARCHITECTURE,

IN THE LINE OF THE GREAT WESTERN RAILWAY.*

NEAR Oxford, and in the lower part of the Vale of Berks, the Norman style is perhaps more frequent than elsewhere, and in the neighbourhood of Bath and Bristol the perpendicular style prevails. When present, the Norman is most commonly confined to an occasional door or window, to the arch between the nave and the chancel, to the font, or to the lower parts of the walls. Whole churches of the early English, as of the Norman period, are not common. This style appears in such additions as chapels and chancels, lancet windows, and in the double or triple east window sometimes inserted into a Norman chancel. There are some good fonts of the early English period. Examples of the transition into this style from the Norman, and which prevailed at the end of the twelfth and beginning of the thirteenth centuries, though very curious, and not very uncommon, are not always graceful; and it is a marvel how the most elegant of the styles should have arisen from so unpromising an origin. A complete decorated church is a rarity; but detached examples of the style are extremely common. The older parts of the nave, the aisles, the piers and arches between the nave and aisles, are frequently decorated, as is commonly the piscina on the south side of the altar, and the stone stalls that accompany it. The best monumental effigies are of this period; carved armorial bearings, enamelled tiles, stained glass, are rarely earlier; and there appear occasionally a few windows of singular beauty in the transition style between the early English and the decorated, which marked the last thirty years of the thirteenth century. During the next period many new buildings were constructed, and probably an equal number were rebuilt. It is very rare, indeed, to find a church containing no work in the perpendicular style; it commonly forms three-fourths of the whole: frequently, indeed, the font, the arch into the chancel, or the lower part of the walls, are the only remains of the older building. To this period is due much of the tabernacle or carved wood-work of rood-lofts and stalls. The porch is rarely earlier than the decorated, and most commonly in the perpendicular style. The crosses in the church yards are generally perpendicular.

It should be observed, that the system of pronouncing upon the date of a building from the evidence of its style, proceeds upon the assumption that the builders adhered to the style of their own age, and did not imitate, either in additions or repairs, the styles of the ages preceding them. This assumption is no doubt generally well founded, but now and then an example occurs in which the rule appears to have been violated. Such a case is found in the district under consideration at Dorchester, where a small round-headed Norman niche, with a bold chevron moulding, appears in one of the decorated buttresses on the north side of the chancel. It would seem, moreover, from the disposition of the stones, that the niche has not been removed and inserted from the wreck of an older structure, but has actually been executed in the decorated period. A case, apparently at first sight parallel to this, occurs at Iffley, between Dorchester and Oxford. Here the Norman chancel has been lengthened by an early English addition, and in the apex of the new gable is a decided Norman niche. In this case, however, it seems probable that the niche stood in the original Norman gable, and was removed and replaced with the other materials of the wall when the chancel was lengthened. It has also been supposed that the well known Deans'-gate, at Bristol, has been reconstructed in the days of the perpendicular style, to replace an original Norman work. There seems, however, no sound reason to regard this supposition as well founded.

In examining doorways, and especially those of Norman date, care should be taken not to confound an addition with the original work. The arch stones or voussoirs of these doors commonly run the whole depth of the arch, including all or most of the mouldings, whereas the label or dripstone, and sometimes the outer moulding, is composed of a distinct set of stones, fitted upon the convexity of the regular arch. This separation enabled the repairers to remove and replace the dripstone, without disturbing the arch. Thus at Bristol, the whole of the work above the Deans'-gate, down to the stones of the arch, is of perpendicular date; and a similar repair appears to have been performed upon the chancel south door at Ipsden; and in the addition of a decorated dripstone to a Norman doorway at Warborough. Sometimes, as in the south door of Whitchurch, near Pangbourne, and in the north door of Bitton, near Bath, the large Norman opening is filled up with a later and smaller door-case.

The following churches, all standing within an easy distance of the railway, will be found to present the most perfect examples of the several styles.

Of the Norman, Upton-Chalvey, the parish church of Slough; the nave of Clewer, near Windsor; the ruins of Reading Abbey; the south door and parts of the nave of Caversham; the font of Mapledurham; the south and very curious door of Tidmarsh; the font, south door, and chancel, north wall, of Compton; the font, nave, and north aisle of Stanford-Dingley; the nave, part of the chancel, and font of Frilsham; parts of the nave and the south door of Whitchurch; the tower, nave, and chancel of Goring; the north door of Moulsford; the nave, north door, chancel, and font of Newnham-Murren; the fonts of Benson and Nuffield; the chancel of Checkendon; the font and parts of Ipsden; the whole of St. Leonard's, Wallingford; the nave and chancel of Crowmarsh; the tower, nave, and transepts of Cholsey; the south door, nave, and parts of Aston-Tirrold; much of Aston-Upthorpe chapel; the greater part of the nave of Blewberry; the chapel of Upton; the south door of Brightwell; the chapel of Satwell; the north and south doors, and a north window at Appleford; the western end of the north aisle at Dorchester; the church of Sandford; the tower, part of the nave, and the font at Sutton-Courtney; the south side of the nave at Chilton; the font of East-Ilsley; the old font at

* From "History and Description of the Great Western Railway, including its Geology, &c.; with numerous Views." See p. 249, *ante*. Bogue, Fleet-street.

Lockinge; a desecrated chapel in Wantage; and doors at Sparsholt, East and West-Challow, Faringdon, Shillingford, Hatford, Charney, Denchworth, Little-Coxwell, Wolstone, South-Marston, Bathford, Bitton, and Queen's-Charlton. In the upper part of the vale the Norman style becomes less frequent, and towards Bath and Bristol it is comparatively rare. The neighbourhood of Cirencester is very rich in Norman churches, and the ruins of Malmsbury Abbey are chiefly Norman. The tower of St. John's, Devizes, is Norman. Chippenham has a fine Norman arch into the chancel. Recently the bases of some columns, apparently in this style, have been brought to light at the east end of the Abbey Church, Bath. Queen's Charlton, near Keynsham, has a Norman central tower, and a very singular detached gateway, with the chevron moulding, remains in the village. At Bristol, the chapter-house and Deans'-arch are the principal Norman remains, but the east end of St. James's, though much concealed, is very perfect, as is the font at St. Philip and St. Jacob.

It is probable, that by far the greater number of the churches throughout England, were rebuilt, or more or less extensively repaired, during the Norman period. In many cases the masonry, always of a substantial character, remains but little changed; in others, the old carved and dressed stones are seen built up into the later parts. In the absence of ornament the Norman work may be detected by the thickness of the wall, by the absence of buttresses or by their extreme flatness when present, and occasionally by the appearance of herring bone, and other oblique patterns, in the masonry; such, for example, as those seen in the Keeps of Guildford, Castleton, and Penline, in the old church at Leicester, and in both nave and chancel of the ruined church of Cogan, near Cardiff. These patterns are borrowed from the Roman works. Frequently the font, and sometimes the doorways, or the arch into the chancel, are the only parts preserved of the old Norman structure. The windows were inconveniently small, and have generally been removed. Sometimes, however, where two have been converted into one, the old Norman jambs remain, and part of the arch, and may generally be detected, as in the chancel at Newnham-Murren. At Goring, the whole lower part of a very heavy Norman wall has been removed, and three very early pointed arches have been introduced below, which open into a later aisle, and carry a heavy Norman clerestory. This is a very remarkable example of what is by architects called under-pinning. Another, though far less complete example, may be seen in the south-eastern arch of the nave of Sutton-Courtney.

Besides the ordinary Norman features of the churches enumerated, there occur a few of peculiar character. Thus at Goring, a well-stair ascends in a singular cylindrical turret, appended to the south-western angle of the tower, and terminated by an original Norman cone and ball. At Crowmarsh is a singular Norman piscina and bracket near the altar; and at Long Wittenham, Dorchester, Warborough, Childrey, and Avington, are fonts with leaden bowls of Norman date, and embossed with rude patterns and figures. The chapel of Woodcote, and the churches of Remenham, Checkendon, Swyncombe, Padworth, and Finchamsted, present examples of the semi-circular eastern apsis, a rare peculiarity, and one which, in England at least, appears to be confined to the Norman period. The examples of pointed and very late Norman, or of the transition from the Norman to the early English style, are here tolerably numerous. In the more beautiful class of examples the semi-circular arch is combined with reduplicated bands of early English mouldings and ornaments, and detached columns, sometimes of black marble, but the examples most common in this part of England consist of a combination of the Norman jambs and columns, with the pointed arch, as in the chancels of Streatley and Crowmarsh; the nave and south door of Basildon; the north wall of the nave, north aisle, and chancel of Ipsden; the font and chancel arch of Rotherfield-Peppard; the nave of Englefield; the font and parts of Aston-Tirrold; the chancel and southern side of the nave of Blewberry; parts of the south chapel at North-Moreton; the nave of Benson; the south door and aisle of Brightwell, Berks; the church of St. Nicholas, Abingdon; the nave of Harwell; the tower of Farringdon, and the nave of Letcombe Regis and Stratton St. Margaret's.

PROFESSOR WILLIS ON ECCLESIASTICAL ARCHITECTURE.

On Tuesday, the 19th inst., Professor Willis delivered his fifth lecture. He commenced by remarking, that historical investigation and the consideration of ritual had been too much neglected by antiquaries; he had therefore endeavoured, so far, to give them a series of essays, as he might call his lectures, upon the early history of ecclesiastical architecture. He should, however, in the next lecture, enter upon the subject of style. On the present occasion he would give them an account of an English cathedral, shewing the various stages of its erection by the models then upon the table; and he had chosen Canterbury Cathedral, because we knew the history of almost every stone in that fabric. Remarking upon the origin of various portions of an ecclesiastical edifice, he said that people had been accustomed to believe, that each part was raised by some particular prelate, ascribing such parts as had progressed gradually through a number of years, to some unknown benefactor.

Canterbury had been the first seat of Christianity in England, and there Augustine erected a church upon the site of a pagan temple. After the Saxon cathedral was destroyed, Lanfranc, Archbishop of Canterbury, who had previously been Abbot of Caen, undertook to rebuild it, and the professor had found that St. Stephen's Church at Caen, and the English cathedral corresponded in plan and dimensions. Lanfranc's church was parallel triapsal, but the smaller apses projected eastward, near the ends of the transepts. The eastern arm was of no great length, the choir extending, as it did in the basilicas, in all churches of this period, and still at Westminster, far into the nave. Two floors being found necessary for the chapels, the apses were so divided, and the transept also had an upper floor, supported by a column in the middle, examples of which in other edifices were still standing.—After Archbishop Anselm came to the see, he took down the eastern arm of the cross, and added what was almost an exact copy of the previous church; for the length of the eastern arm was greatly increased, and it had transepts of its own. The Professor said he knew but one example of a church with double transepts out of England, and there was little reason to doubt, that the archbishop took the idea from the monastery at Clugny, then lately erected, and the abbot of which was a friend and correspondent of Anselm. The extended portion was raised upon a crypt of large dimensions, and the aisle was carried round the apse, which was not the case in Lanfranc's church. The choir was now confined to the eastern arm.

Anselm's building having been destroyed by a great fire, described in a graphic manner by Gervase, and recalling that of York, the monks seem to have been paralyzed by the event, and carried on the service for several years in a choir in the nave, occupying the same position as that of Lanfranc. At length William of Sens, a Frenchman, was chosen in a competition of architects, and the columns and arches were taken down, which the injury they had suffered rendered necessary. Gervase's account of these proceedings, and of the previous buildings, was minute and valuable.

In English churches great attention had always been paid to placing altars towards the east; consequently this consideration, and the desire to preserve the tombs of the saints, materially influenced the alterations of the plan. The spot where Becket fell was in the northern transept, and there the central pillar and the vault, before alluded to, were cleared away for an altar. The Trinity Chapel at the east also was enlarged considerably, for Becket's tomb and shrine, and an upper range of trefoiled windows was placed above those of the aisles. But, before the completion of these works, an accident happened to the architect, by which he was completely disabled, and they were carried on under another William, an Englishman, who seems to have followed the general plan of his predecessor, and carried out the decoration, wherever the work would be in immediate contact, but in other places, as the aisles, seems to have given more scope to his own imagination. Now, between the works of these two architects, there were, notwithstanding, some curious differences. The steps rising beyond the altar, on which stood the patriarchal chair, actually concealed the bases of the columns, and the crypt, in which was Becket's tomb, became of very lofty dimensions.—The professor recommended, that in all examinations of buildings, the crypt should be considered of most importance, as in that part the original plan was generally preserved.

Attached, at this part of the plan, were certain chapels, which being too precious to be destroyed, it was necessary to contract the width of the church. The aisle, or *procession path*, was carried round the apse, and lastly, at the east, there was the circular building called Becket's crown. Thus his auditors would see how this extensive building gradually arose, and how it was influenced by considerations of ritual, and others arising from the murder of Thomas á Becket, whose shrine, elevated like that of the confessor in Westminster Abbey, was the cause of great wealth to the church. The number of towers about the building was greater than in most cathedrals; and, in his opinion, the destruction of the western tower of Lanfranc's to erect one similar to the perpendicular tower at the opposite side, was an act which could not be approved of.—In the course of this lecture, the professor read translations from Gervase and other chroniclers, which may be found in his valuable book on the cathedral, lately published.

SCULPTURE FOR THE SOUTH FRONT OF THE BRITISH MUSEUM.

Sir,—In continuation of my suggestions on this subject inserted in last week's number of The Builder, I would call your attention to the feasibility of still further enriching the appearance of the south façade of the Museum, by introducing a sculptured frieze, expressive of the uses and objects of the building, along the whole length of the main walls of the building, behind the colonnade, which latter appears to be at present simply ornamental. I would therefore propose to turn it to some further account, by making it a useful screen and protector for sculpture—applied as in the Parthenaic frieze in the Elgin collection, and by introducing appropriate figures or groups, of imposing proportions, at intervals within the shelter of the colonnade.

I see no reason why the example shewn in the façade of the Museum at Berlin, should be neglected—only substituting the more severe enrichment of sculpture, for the mere pictorial decoration adopted on the wall of that building.

It may be, that the area contained between the south façade of the *National* Museum and Great Russell-street, affords a fair opportunity for improving on what has been done in the area fronting our *National* Gallery; and I think there is no difficulty in fixing the sites for two well-proportioned fountains, and a statue of the monarch under whose auspices the Museum will have been completed. It may, perhaps, be asked, whether the internal quadrangle of the building should not have a central fountain at least, if nothing further be introduced to enliven its present somewhat monotonous effect.—I remain, Sir, &c.,

May 18, 1846. ϕ

The Power of Speech.—We are, most of us, far from justly estimating the power of speech even in its humblest form. The very commonness of this gift, as of all our greatest blessings, has led, as usual, to its depreciation. And yet, did "too much familiarity" allow us to see it, it is truly a wonderful thing that results so vast can be produced by means so simple; that a word dropped lightly should sink into the hearts of thousands, and change more or less, their minds and lives; that no time or space can terminate,—nay, that time only strengthens, as space spreads, its power. To few, doubtless, are such "winged words" given; but in kind, if not in degree, are all men heirs of this faculty, and did they rightly judge its value, it would be less wasted, still less abused. The steam, which, if compressed, would do the world's work, escapes with loud noise and palpable mist. It may glitter in the sunbeam, but it diffuses itself unprofitably abroad.—*Dr. Hodgson's Second Address to the Liverpool Mechanics' Institution.*

RAILWAY JOTTINGS.

From official returns, it appears that the amount of traffic for the week before last, on nearly 1,800 miles of railway, was 138,933*l.*, thus accounted for:—76,451*l.* for the conveyance of passengers only, 35,774*l.* for the carriage of goods, and the remainder of 26,708*l.* for passengers and goods together, not respectively apportioned; being an increase over the corresponding week of last year of 25,383*l.*——The *Times* thus sums up the capital likely to be wanted for the bills, of which the preambles are already proved:—"Irish railway bills read a third time in the House of Lords, 3,063,000. English and Scotch railway bills, read a third time in the House of Commons, 10,982,000*l.* Total read a third time, 14,045,000*l.* Preambles of other Irish railway bills proved in the House of Lords, 9,686,082*l.* Preambles of other English and Scotch railway bills proved in the House of Commons, 15,929,809*l.* Total, 25,615,891*l.* Grand total of capital for which preambles have been proved, 39,660,891*l.*"——It appears from a report of the Board of Trade, that the number of accidents on railways, attended with personal injury or danger to the public, arising from causes beyond the control of passengers, were, during 1844, ten killed and seventy-four injured; owing to their own negligence or misconduct, seven killed, nine injured. The proportion which the number of passengers killed bears to the total number carried is:—In 1840, one in 274,085; in 1841, one in 352,073; 1842, one in 4,271,689; 1843, one in 8,524,175; 1844, one in 3,036,305; and in the first six months of 1845, one in 8,360,275.——At two special meetings of the Birmingham and Midland Companies, recently held under the provisions of the "Relief Bill," for the consideration of the several projects of branches, &c., now before Parliament; the amount of capital represented in the rooms, taken collectively, was no less than 10,000,000*l.*——The Wearmouth Dock Company have assented to the sale of their dock to the Newcastle and Darlington Junction Railway Company.——The bill for improving the ferries across the Humber in connection with the Great Grimsby and Sheffield Junction Railway, gives the company power to establish steamers and to erect works on the Lincolnshire Coast within seven years. On the other hand, it restrains the Dock Company at Hull from erecting similar works, and the company themselves from constructing works below high water mark without the consent of the Commissioners of Woods and Forests. The bill provides minutely for the rate of tolls on all sorts of goods, cattle, &c.——The transit of stone from the Purbeck quarries to the several railway termini at Poole, is about to be facilitated by the formation of a tram-road from near Worth, to the waters of Poole harbour.——The middle arch of the Preston viaduct has been repaired, and the road over it restored.——One of the arches of the Skew-bridge over the Lewes-road, which had also been affected by the wetness of the season, is about to be rebuilt.——A large embankment on the Lancaster and Carlisle railway, near Wreay, south-west of Carlisle, also lately gave way and destroyed several farm buildings near its strong breast wall.——The foundation-stone of the new Tunnel-bridge, over the river Conway, for the Chester and Holyhead Railway, was laid on Friday before last.——A station is to be erected at Shenfield for the Eastern Counties Railway.——The fact that Romford, Brentwood, &c., on the Eastern Counties line, now carry on a thriving trade in milk with the metropolis, is a striking illustration of the creative effect of railways on the trading resources of a district. Not many years since, the inhabitants of the district in question would have ridiculed the idea of such a trade.——The Eastern Union was lately opened and part of the carriages for the traffic of the line have arrived at Ipswich. The temporary station is in rapid progress, and the spot presents a scene of much animation.——The works on the Caledonian Railway are in active progress along its whole extent. There are upwards of 7,000 men at work on the line, and there is every prospect of a great portion of it being open for traffic in the summer of 1847.——The whole of the North British line from Berwick to Edinburgh is expected to be opened on the 1st of July.——A trip from Leicester to Edinburgh *via* Newcastle by rail and thence by steamer, is in contemplation for the 23rd of June next. The expense of transit will be less in proportion than that of any similar excursion. Special trains to London and Leeds are also shortly to be announced, and we perceive that a cheap and expeditious holiday trip from Liverpool to London is to take place on the 30th instant, returning on the 13th of June, and on the 1st June returning on the 8th, thus allowing parties fourteen days in the one case, and a week in the other, to see the lions of the great metropolis.——The Newcastle and Carlisle Company have commenced running cheap trains on Sundays to all the stations along their lines, at the low rate of one half-penny per mile.——The directors of the Lancaster and Carlisle Railway announce, that having now given to the Lancaster Canal Company, the requisite notice of their intention to take possession of the Lancaster and Preston line on the 1st of July, the present charges on that line will be thenceforth considerably reduced.——The Great Western Company are building a class of passenger engines 25 tons in weight with driving wheels of 8 feet diameter, which will be equivalent to 120 tons at seventy miles an hour!——One of Stephenson's patent six-wheel engines lately ran from Birmingham to Wolverton, a distance of fifty-two and a half miles, in one hour and ten minutes with a train containing 100 tons of goods. When the engine reached Ackemon-bridge, near the station, the funnel was struck down, its height having exceeded by 6 inches the altitude of the arch of the bridge.——The site of the Lincoln station for the Nottingham and Lincoln line will cost the Midland Company, it is said, but little short of 20,000*l.* It will include an area of ten or twelve acres. For one purchase they have already given 6,000*l.*, for another 5,500*l.*, and for a third they are at present in treaty.——The South Eastern Company have kindly offered their spare land for allotments for the labouring poor.——It is pleasing also to hear that the Southampton and Dorchester, and the Wilts, Somerset, and Weymouth Railway Companies have resolved not to injure that venerable piece of antiquity the Amphitheatre in Fordington-field, near Dorchester. Both lines will pass within a few feet of it.——Some idea may be formed of the quantity of coke that will be made at the Blackwall Terminus of the Thames Junction Railway, from the fact that forty coke ovens are now in course of erection, and when they are completed, forty more will be erected.——The electric telegraphs, those "Highways of thought" as they have been aptly called, are rapidly pervading the whole face of the country. The communication from London to Masborough is nearly completed. Leeds, Manchester, and York, are fast approaching towards their electrical community of intercourse, and in fact, on almost every line of railway they are running along like nerves associated with these arteries of commerce. Some recent novel feats of this wonderful invention have been the subject of gossip, and are not unworthy of record as the first glimmerings of a new world of wonders. The solicitor to a bankrupt's assignees at Southampton, lately communicated with the Commissioner of Bankrupts at Serjeant's-Inn through the electric telegraph, and thus procured an adjournment of his case, which it would otherwise have been impossible to have accomplished. Mr. Smith, of Serjeant's-Inn, to whom the express was forwarded, has stated, that on one occasion he had a message from Southampton reduced to writing and delivered at his office in seventeen minutes after its dispatch from Southampton. It is also said, that a pay-serjeant at Portsmouth, who had absconded after robbing his captain, was secured at the London terminus of the South Western, to which his flight was notified by telegraph, while thus on his way to his own doubtless very unexpected capture.

The taking down of the spire of the Cathedral of St. Denis has just been completed. Each workman receives a present of 50 francs for the danger he has incurred. The Commissioner of Civil Buildings is to proceed to St. Denis this week, to decide what is next to be done.—*Paris paper.*

NEW ATMOSPHERIC RAILWAY,
WITHOUT A LONGITUDINAL VALVE.

At a meeting of the Society of Arts, on May 20th, a paper was read explanatory of an invention by Mr. C. H. Collins, and for which he has taken out a patent.

The object of this invention is to prevent the loss of power caused by the leakage of air through the longitudinal valve, still in use in atmospheric railway schemes; and Mr. Collins aims at the accomplishment of this very desirable object by boldly dispensing with the longitudinal valve altogether, or at least by destroying its unity, and cutting it up, as it were, into a multitude of small valves, ingeniously protected by air-tight apparatus,—through which, nevertheless, the power of the interior appears to be effectually conveyed to the exterior purpose, so as to accomplish all the ends of the ordinary atmospheric machinery, without *its* disadvantages, at least, if not without equivalent disadvantages of another sort.

The traction-pipe is first of all provided with longitudinal slits, of about 25 feet each in length, which slits are divided from each other by an equal length of entire pipe. But each slit is covered by an air-tight box, bolted on bottom up along the slit, and with no opening whatever, except at each extremity, to which is fitted on an air-tight slide-valve. The traction-pipe, as usual, is laid between the rails, the slit and boxed side uppermost; while through each box thus superimposed (but not through the pipe), *an iron "driving rod,"* longer than any one box or slit, threads its way, running from one to the other, of course, through their valved extremities, the rod exactly fitting the rectangular apertures, closed on all other occasions by the sliding valves. On this needle-like rod are a two-fold series of *notches*, corresponding to a two-fold series of *forks*, provided with friction-wheels, and working in sockets with springs; one series being fixed on a stage, or bar, *in the interior of the pipe*, supported at one end by the piston, at the other by a false piston, and between these by a wheel running along the under surface of the interior of the pipe. The other *series* is similarly fixed on a bar, running parallel with the pipe, the slits, the boxes, and the piston-stage, but *connected with the carriage*; and the carriage-bar and the piston-bar, as well as the driving-rod, are *longer* than any *one* box, or than any *one* of the slits which the boxes cover, so that when a box is right between them, they project beyond its valved extremities, and the two end-forks of each are about 30 feet apart, while between these extremities the forks correspond with the notches of the driving-rod, so that when one is in gear the others also would, unless prevented.

The extremities of each box are sloped, or inclined, both within and without, in such a way that the forks within the pipe, while sliding freely in their sockets, as their springs urge, and as their friction-wheels permit, rise through each slit along one of the inclined extremities of each box, run along the interior of the box, and dip again along the other inclined extremity into the pipe, and along its unslit inner surface. The forks outside, in like manner, rise along one of the sloping ends of each box, run along the top, and again fall along its other sloping end, and run along the top of the unslit part of the pipe.

The forks of the piston-bar within, the notches of the needle-like driving-rod, and the forks of the carriage-bar without, thus work in mutual connection, so that, although the interior forks quit the notches of the driving-rod every time they are made to dip out of the boxes, or the slits which they cover, into the unslit pipe itself, and although the exterior forks only gear with the notches of the driving-rod when they fall along the sloping end of one box, and are made to quit them when they rise along the sloping end of the next, yet one at least of the forks of each set will always be in gear with the driving-rod,—the first one being always in gear before the last one quits its hold.

Thus, while the driving-rod threads its way through the box valves, impelled by the onward movement of the piston, communicated to it by the piston-stage-forks in the interior, the same notched driving-rod, thus driven itself, will impel the carriage by means of the gearing of the carriage-bar-forks with its appropriate series of notches. And thus, while

so impelled and so impelling, the only apertures through which it is possible for air to have access are those at each extremity of the close and air-tight boxes covering the longitudinal slits in the traction-pipe; and these, by an ingenious and effective mechanism, are *opened*, if we can call it so, only while they are filled or closed by the air-tight fitting driving-rod, as it threads its way through them. And finally, thus, in what from the working of the model would appear a practicable manner (though there are some objections in the way), has the formidable difficulty of connecting the piston within the traction-pipe with the carriage without, in the absence of any continuous slit in the pipe, been overcome.

In an equally simple manner other, though minor, difficulties have been surmounted. Thus, air is prevented from entering the antecedent vacuum of the traction-pipe through the boxes covering the slits, while the piston is passing beneath them, by the requisite operation of a double piston and a spring. Thus, also, the driving-rod is supported independently of the gearing of its notches, by another piece of mechanism; and besides other appropriate and necessary devices, there is a modification of the whole invention, which consists in the formation of, or recurrence to, a continuous slit or longitudinal groove in the traction-pipe, but covered by a series of continuous air-tight boxes, running each a length of 25 feet or so, first on or towards one side of the slit or pipe, and then for an equal length towards or on the other,—the rod threading its way through them, and entering and exiting through valved apertures, to the same effect as before, in connection with similar forks, but without springs, or in connection with "griping instruments or pincers" instead of forks at all. But into these minutiæ we cannot here enter.

THE ART UNION QUESTION AMONGST THE PEERS.

In the House of Lords, on Friday the 22nd instant, the Duke of Cambridge presented a petition from the committee of the Art Union of London, praying for the permanent legalization of art unions. The illustrious Duke strenuously supported the prayer of the petition in a very able speech. In Hanover, where some years ago he had assisted to establish a similar institution, the greatest advantage had been found to result, and it was impossible to deny that great good had been effected by the Art Union of London.

Lord Monteagle said, that he wished to call the attention of her Majesty's government to this petition, which was the first of a series that would be presented on the subject, representing the feelings of not only the artists of the country, but the great body of those who were interested in the fine arts. The committee of the House of Commons, appointed in 1835, had made inquiries, which showed that art unions had been attended with the most beneficial consequences wherever carried out. The amount of capital which had been devoted to the purposes of art by the art unions, exceeded all the votes which Parliament had ever given for that purpose. They had done more for the promotion of art than the Legislature ever had done. They had applied their encouragement to every branch of art; they had given prizes, as government had done, for the best designs; they gave prizes also for the best productions in bronze and marble. They had extended, too, their association over the greater portion of the earth; and a letter had been received that very day from China, giving an account of the establishment of a branch of the art union in that empire. It was scarcely to be believed that, in defiance of all the experience which they had had on this subject, any doubt should exist as to the desirableness of legalizing art unions. A committee had been appointed by Parliament, who had laboured sedulously for two sessions, and they had reported in the most unqualified manner, that these associations should be legalized. It appeared that the art unions were as anxious as any society to prevent abuse; they did not wish to encourage lotteries, but they prayed their Lordships to give their sanction to a bill authorising the Crown to grant a charter, subject to such conditions as might be proposed. That was the utmost extent of their request; and when their lordships considered that they had released parties from debts contracted at race-courses and gambling-houses,—and when they considered that they had, in the course of last year, interfered to protect a great body of the people—those connected with the newspaper press—the artists of this country were not asking their lordships too much, to afford them a similar protection.

Lord Brougham said, that he was grateful to his noble friend, and to the illustrious Duke, for having brought forward this subject, for he believed there never was a grosser delusion than that which some few individuals entertained, namely, that because exemption was to be given to art unions, a similar exemption ought to be given to other tradesmen, such as carpenters, blacksmiths, &c. (Hear.) The fact was this: those tradesmen dealt in articles which were always in general and effectual demand, but articles of taste seem to require some extraordinary encouragement. We had already founded the Royal Academy for the purpose of giving encouragement to the arts. No doubt the Royal Academy had been of much use to the fine arts. Perhaps it would have been of more use if it had been a little less exclusive, and if a greater encouragement had been given to those who were not members. (Hear.) He believed that these art-unions had been the means of expending far more money in the encouragement of the arts, than had ever been given by the munificence of the country.

Lord Ashburton presented a petition from the Society of Artists in Water Colours, to the same effect.

The Marquis of Lansdown presented a similar petition from certain artists of the United Kingdom; amongst the names he saw those of Eastlake, Roberts, Ross, Landseer, Westmacott, and Barry. (Hear.) He thought that the time had now arrived for some permanent legislation on this subject. That question ought to be kept entirely separate from the question whether such a description of rewards tended to affect in any way the higher branches of art. That question was one which might safely be left to the discretion of individuals to decide. Parliament ought only to take care that these societies did not, for the purpose of profit, establish lotteries. He believed that it would be easy to frame a bill prohibiting these societies from entering into such speculations. He concurred with his noble friend, that authority ought to be given to the government to grant charters to those societies, after a full preliminary inquiry had been had in each particular case.

The Marquis of Northampton presented a petition in favour of legalizing art unions, from the members of the Royal Birmingham and Midland Counties Art Union.

Lord Monteagle presented similar petitions from the Society of British Artists, and from Macclesfield.

NOTES IN THE PROVINCES.

At a meeting of the society for promoting the enlargement, building, and repairing of churches and chapels, held on the 18th instant, it was determined to grant money to sixteen parishes and districts, for the increase of church accommodation in some of them, and for the erection of six new churches—at Postwood, near Southampton; Cottmanhay, near Nottingham; St. Luke, in the parish of Leek; Newcastle, in the parish of Clun; and St. James, Burnley, and East Compton, in the parish of Oldham, Lancashire; containing in all a population of 13,787. The chapel of St. Ann, Bishop Auckland, and the parish churches of Tretherne, near Dursley, and Brimington, near Chesterfield, also are to be rebuilt with enlargement; Jesus Chapel, St. Mary, extra Southampton, and the church at Hemyock, near Wellington, enlarged; and the churches at Maddington, near Devizes; Alborough, near Harlestone; Lyddington, near Swindon; Sutton-on-Derwent, near York; and Radcliffe, in Lancashire; reseated.——The Birmingham Church of England Cemetery Bill received the royal assent on Thursday week. By one of its clauses, power is granted to the rector or incumbent of any church in the town, to refuse further burials in the churchyard should it become overcrowded.——The sum of 3,200*l.* has been subscribed in aid of the fund for the erection of the new church of St. Barnabas, at Ipswich.——The new college at Marlborough, for the education of the sons of clergymen and others, will be completed and ready for pupils by July next.——Ford Abbey, Chard, once a celebrated monastery, is about to be sold by auction.——A workhouse will shortly be required for the Runcorn Union.——The foundation-stone of the monument (a place of worship), to John Knox, at Edinburgh "on the spot where he lived and died in that city," was laid on Monday week. ——The fountain on the Steine, Brighton, is completed.——The baths at Perth are advancing rapidly towards completion, but are likely to be arrested from want of funds. "Yet," says a correspondent of the *Edinburgh Register*, "a population of 20,000 are supporting nearly 300 public houses!"——On the motion of Mr. Dennistoun, the Lords' amendments in the Glasgow Union Arcade Bill were agreed to.——A portion of the old French prison at Dartmoor, has been taken by a company for the erection of a chemical apparatus and the extraction of naptha, ammonia, tar, &c., from the Dartmoor peat. ——The inhabitants of Hull appear to be awakening to a sense of the defective state of the drainage and other nuisances in various parts of their populous town; the mayor has of late "received a great number of letters complaining" of them, and measures are about to be taken for their removal.——Considerable progress has been made with the breakwater at Harwich.——At Middleton, in Lancashire, a great many buildings,—new streets, mills, and separate dwellings,—are at present in course of erection, forming altogether a very marked contrast with the state of this place about a century ago, when, on the very spot now becoming a seat of extensive manufactories, there existed "a noble park, well wooded and watered, abounding in retired groves," where and when "there were seldom heard any other sounds than the huntsman's horn, or the axe of the woodman, whilst Sir Ralph de Assheton lived at the hall of his ancestors in feudal dignity; surrounded by a body guard of honest, bold, and faithful peasantry, who roamed with their chief in his sporting expeditions over the far extended domains of the barons of Middleton." But this is a tale which might be told by many more of our thriving towns and fields of manufacturing and railway enterprize, while, on the contrary, for want of like advantages in position and in means of local and more general intercourse, it surely must be, that such towns as Dartmouth have, at this same moment, so different a story to tell: "There never was a town," says the *Western Times*, "which has been more ill-treated than Dartmouth, nor more undeservedly. There is the harbour, which will accommodate the largest man-of-war, clasping her in its long arms so jealously that the sea shall not even look at her. There it is, an exquisite lake, to which you can see no outlet for the lofty wall of verdure on every side. There are all its acknowledged capabilities for commerce, with capacious quays and docks, and an industrious and enterprising population, crying out for employment. Why are they not employed? There are, above all, the unequalled natural beauties of the scenery, and the healthy air—a compound of sea breezes (with the fog off in most seasons) and of the heathy fragrance which the Dart brings along with it from the Moor. Why don't invalids, and fashionables, and tourists, and summer-loungers, and picturesque hunters, come here? How is it that any body ever goes any where else? There is no scenery like this. It cannot be described; it surpasses imagination." ——It appears to be at length determined that his Royal Highness Prince Albert will proceed to lay the foundation stone of the Sailor's Home at Liverpool, on the 30th or 31st of July next; but there is no reason to think that her Majesty will accompany the Prince.

Rather Extensive.—A New York paper states, that a young artist of Louisville, Kentucky, is engaged on a picture which, when completed, will cover upwards of three lineal miles of canvass! It is a panoramic view of the Mississippi and Ohio rivers.

University College Hospital.—The first stone of the north wing of this hospital was laid on the 20th instant by Lord Brougham, the president of the council of the college. Mr. Alfred Ainger is the architect.

DOORWAY: BICESTER CHURCH, OXON.





Fig. 2. *Fig.* 3.

DOORWAY: BICESTER CHURCH, OXON.

This church, dedicated to St. Eadburgh, was partially rebuilt in 1400, on the site of the former edifice; it is a large structure, with but little worthy of notice; the north porch is a fair specimen of perpendicular work, and is the subject of one of the illustrations in Parker's Glossary; the doorway shewn in the engraving is on the south side of the church; it is an excellent specimen of early English, the foliage of the capitals and the arch mouldings very good; the return of the drip moulding has a very sudden termination, and I am inclined to think it was originally continued as a string.—Fig. 2 shews section of jamb; fig. 3 section of arch mouldings.

In making some excavations here in 1819, the foundations of the conventual buildings belonging to the priory, a vast mass of sculptured fragments, pieces of painted glass, and other relics, were discovered.

FLAXMAN'S SHIELD OF ACHILLES.

Mr. Freebairn has just now produced an engraving of this celebrated work, in eight plates of large size, in a portfolio, which deserve the special attention of all who are interested in high art.* The shield of Achilles, first modelled in 1818, afterwards cast in silver and gilt for George IV., is one of the finest works of modern times. It was justly spoken of by Lawrence, in his eulogium upon Flaxman, as "that divine work, unequalled in the combination of beauty, variety, and grandeur, which the genius of Michael Angelo could not have surpassed."

"Five ample plates the broad expanse compose,
And god-like labours on the surface rose.
There shone the image of the master mind;
There earth, there heaven, there ocean he designed."

The effect on the progress of the arts, produced by this and other of Flaxman's productions, was great and widely spread. "We may affirm," says Cicognara, "that they have mainly contributed to awaken sculpture from a certain monotonous lethargy, and to restore the golden style,—the severity of the antique—which he knew how to apply to his own designs."

The fidelity and beauty of the engravings before us are beyond all praise; were Flaxman alive, he would be proud to see his noble work so nobly transcribed. We sincerely hope that Mr. Freebairn's labours will meet with the encouragement they deserve. A very large sale can scarcely be looked for; it is therefore the more incumbent on the discriminating few to give their aid; and they may rest satisfied, that by assisting to increase the circulation of such a production as this is, they are advancing a good cause. When the works of Flaxman are fully appreciated amongst us by the multitude, the arts will take a high place in England.

The engravings are accompanied by a portrait of the great sculptor, from a model by himself, and the illustrated passage of the Iliad, in Greek, English, German, and French.

* Published by himself, at 23, Mornington-place, Hampstead-road.

ON THE DEVELOPMENT AND CONVERSION OF CONVEX SURFACES.

In No. 168 of The Builder there is given a method of converting the convex superficies of a cylinder and cone into a circle of equivalent area, or of finding geometrically the radius of a circle that shall contain an area precisely equal to the cylindrical and conic developments. This method of conversion, however extensive it may be as applied to right-lined figures, is very limited in its application to solid bodies bounded by curved surfaces; for, with the exception of the cylinder and the cone, together with their various ungulas, hoofs, and frustums, there is no other solid figure so bounded, that admits of a perfect geometrical development or expansion upon a plane. The sphere and its various segments and zones are, it is true, convertible; that is, a circle can always be found to contain an area equal to the convex surface of a sphere, or any segment or zone thereof; but since these bodies are bounded by a convexity of double curvature, they do not admit of a rigorous geometrical development; and for this reason it is not intended to include them in the present inquiry; we shall, therefore, proceed with the consideration of the conic frustum, a figure which furnishes another beautiful application of the principle, so successfully employed in the conversion of the cylindrical and conic superficies mentioned above.

Let AabB be a conic frustum, of which the diameters are AB and ab, the corresponding planes being parallel to each other, and the slant sides, Aa and Bb, equal and symmetrically placed in reference to the diameters AB and ab. Produce the slant sides, Aa and Bb, to meet each other in the point V; then is V the vertex, and AVB the complete cone from which the frustum, AabB, is cut. Here, then, it is obvious, that the convex surface of the frustum is equal to the difference of the surfaces of the containing cones, AVB and aVb.

Put D = AB, the greater diameter of the frustum; $d = ab$ the lesser diameter; l = AV the slant length of the entire cone, the vertical length or axis being VH, and let $\pi = 3{\cdot}1416$, the circumference of a circle whose diameter is an unit; then, since the circumferences of circles are proportional to their diameters, we have

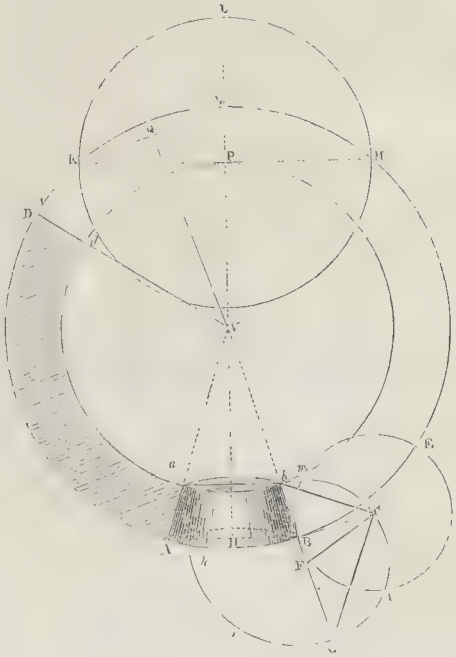
$1 : \pi :: D : D\pi$, the circumference of the greater end of the frustum; and

$1 : \pi :: d : d\pi$, the circumference of the lesser end.

But the convex surface of a right cone is expressed by the product of its slant length and half the circumference of its base; consequently, the convex surface of the whole cone, AVB, is expressed by the term $\frac{1}{2}D\pi l$, and that of the upper cone, aVb, by the term $\frac{1}{2}d\pi \times \overline{aV}$; therefore, by taking the lesser of these expressions from the greater, we get $\frac{1}{2}\pi(Dl - d \times \overline{aV})$ for the convex surface of the conic frustum, AabB, being the same as the rule usually given for that purpose in books of mensuration. But in order to exterminate the quantity $\overline{aV}$ from the above expression, we must find its value in terms of D, d, and l, which are supposed to be given in the problem; and for this purpose, we must have recourse to the similar triangles, AVB and aVb, constituted by a section along VH, the axis of the cone, from which we get, $D : d :: l : \frac{dl}{D}$; that is, $\overline{aV} = \frac{dl}{D}$; therefore, by substitution, the surface of the conic frustum becomes as follows, viz.:—

$$surface = \tfrac{1}{2}\pi(D+d) \times \frac{l}{D}(D-d)$$

Now, it is here manifest, that the member, $\frac{1}{2}\pi(D+d)$ expresses one-half the sum of the circumferences of the ends of the frustum, of which the diameters are D and d; and the other member, $\frac{l}{D}(D-d)$ is obviously the slant distance between the circumferences. If, therefore, we suppose the cone, AVB, to roll itself upon the plane of the paper, about the vertex V as a centre, every part of the convex surface of the frustum will apply itself to the annular segment, ADda; and when the side, AV, on which the rolling motion commences, coincides with DV, the development of the frustum's convex surface will be represented by,



and equal to the annular segment just mentioned; and we have now to shew how, according to the principle we are discussing, we can determine geometrically the radius of a circle that shall contain precisely the same area as the annular segment, ADda.

Let δ represent the diameter of the circle required, then, by the rule for a circular area, we have $\frac{1}{4}\delta^2\pi$; and if this be compared with the area of the annular segment, or the surface of the conic frustum above given, we get

$$\tfrac{1}{4}\delta^2\pi = \tfrac{1}{2}\pi(D+d) \times \frac{l}{D}(D-d),$$

and by expunging the common symbol and extracting the square root of both sides of the expression, we obtain the following form as the germ of construction; that is,

$$\tfrac{1}{2}\delta = \sqrt{\tfrac{1}{2}(D+d) \times \frac{l}{D}(D-d)};$$

an expression which implies, that the geometrical mean between half the sum of the diameters and the slant length of the conic frustum, is equal to the radius of a circle containing an area precisely equal to the convex surface; hence the following construction.

From a, the extremity of the shorter diameter ab, let fall the perpendicular ah, meeting the longer diameter AB in the point h; then is Bh half the sum of the diameters AB and ab. Produce bB the slant length of the frustum directly forward to G, and on B, as a centre, with the distance Bh, describe the circular arc hrG, meeting bB produced in G, and making BG equal to Bh, so that bG is equal to the slant length of the frustum, and half the sum of its diameters extended in one line. Bisect bG in F, and on F as a centre, with FG or Fb as radius, describe the semicircle bCG, and, at the point B, erect the perpendicular BC, meeting the semi-circle bCG in C; then is BC the radius of the circle sought, being a geometrical mean between bB, the slant length of the frustum, and BG, half the sum of its diameters. Upon C, as a centre, with the radius CB, describe the circle BmEI, and it will contain exactly the same area as the annular segment ADda, which is equal to the development of the convex surface of the conic frustum.

The construction of the annular segment ADda is very simple; for since the exterior arc, AD, is equal in length to the circumference of a circle whose diameter is AB, and the interior arc, ad, equal to the circumference of a circle whose diameter is ab, it follows that the angle AVD, at the centre of the sector, bears the same proportion to 180 degrees, or a semicircle, as the diameter AB does to AV, the

slant length of the entire cone, or the radius of the outer arc, AD; that is,

$$AB : AV :: \angle AVD : 180°;$$

and by inversion, it is

$$AV : AB :: 180° : \angle AVD;$$

hence the angle of the sector is known, and being laid down from some angular instrument, the direction of the line VD is known; therefore, if on the vertex V, as a centre, with the radii VA and V*a*, the arcs AD and *ad* be described, they will constitute the exterior and interior boundaries of the annular segment AD*da*.

If with the same radii, VA and V*a*, the entire circles ADME and *ad*P*m* be described, they will enclose the entire annulus, of which AD*da* is a segment, and a circle, of which the area is precisely equal to this annulus, may be determined as follows:—Produce HV, the axis of the cone AVB, to meet the inner boundary of the annulus in P, and through the point P draw the tangent KM, meeting the outer boundary in the points at K and M; then is KM the diameter of a circle containing the same area as the entire annulus. On P, as a centre, with the radius PK or PM, describe the circle KLM, and it will be equal to the annulus contained between the concentric circles whose radii are VA and V*a* respectively, and of which the shaded portion, AD*da*, is equal to the convex surface of the conic frustum or to the circle whose radius is BC.

The problem of converting a circular annulus or ring whose diameters are known, into a circle containing the same area, is also of great practical utility, and might be much more extensively and advantageously employed than it appears to be, was the mode of effecting it generally known; but the reverse problem, or that of converting a given circular area into an annulus of a proposed breadth, is still more extensively useful, and may be applied with great success in many practical operations. It may be as well to illustrate this latter case by an example.

Suppose for instance, that the circle KLM is the transverse section of a solid cylindrical column, which on being applied to a building of a certain magnitude, is found not to possess sufficient strength and stability for the intended purpose, and has therefore to be replaced by another possessing the requisite qualities; but in consequence of some conditions in the contract, the altered column must not contain more metal than that which it is intended to replace; it is therefore obvious that the required strength and stability can only be obtained by making the column hollow and supposing that the thickness of metal is given; let it be required to determine therefrom, the exterior and interior diameters of the column, and describe its section.

Through P the centre of the given circle, draw any diameter as LNP, and another KM at right angles to it; on the radius PL set off PN equal to the given thickness of the metal, and draw KN; bisect KN in Q, and at Q erect the perpendicular QV to meet LP produced in V; then is V the centre of the column. On V as a centre with the radii VP and VN, describe the bounding circles P*dam* and NDAE and the thing is done, the section being represented by the annulus in the figure. The more intelligent readers of THE BUILDER will find no difficulty in applying the above principles to numerical examples, and they will find it to their advantage to render themselves perfectly familiar with the process of construction also.

But in order that nothing may be wanting to render the subject as plain and intelligible as possible, we think proper to adduce the following example, in reference to a case of actual construction.

A cylindrical story post of cast iron, 8 feet long and 4 inches in diameter, was calculated to sustain a pressure of 16 tons, but when placed under a building, and subjected to that strain, it was found to deflect or bend in the middle very nearly an inch; and in order to avoid danger, it has to be replaced by another column of the same weight, but cast hollow, with a thickness of one inch of metal; now the question is, what ought to be the diameters of the hollow column?

The diameter of a cylindrical column sufficient to bear a load of 16 tons with safety, ought in the first place to be 4·18 inches, as calculated by the formula.

$$2390 \cdot 5d^4 - d^2w = 0 \cdot 045 l^2 w;^*$$

where d is the diameter in inches, l the length in feet, and w the load in pounds avoirdupoise. But taking the diameter at 4 inches, as originally cast, the area of section, or the circle KLM, will then be $\frac{1}{4}\pi d^2 = 0 \cdot 7854 \times 4^2 = 12 \cdot 5664$ square inches; and this is the number of inches that must be in the annulus of the hollow column. Now, PN=1 inch and PK=2 inches; therefore, by the property of the circle, we get

$$PV + AV = \frac{PK^2}{PN};$$ that is, $PV + AV = \frac{4}{1} = 4;$

hence it is PV+AV+PN=4+1=5 inches for the diameter of the outer circle, and 5—2 =3 inches for the diameter of the inner one. And with these dimensions, the load which the column will sustain with safety is 19¼ tons; for the strength of a solid column at 3 inches is 7·28 tons, and at 5 inches it is 23·92 tons; but 5 : 3 : : 7·28 : 4·37; hence we have 23·92 —4·37=19·55 tons. T.

* This is the formula investigated by Mr. Tredgold, on the supposition that the direction of the straining-force coincides with the surface of the column.

WESTMINSTER COURT OF SEWERS.

AT a court, held Friday, the 15th instant, Mr. Leslie in the chair, payments were made to the extent of 411*l.* 6s. 4d., the greatest part being for wages to the labourers and artisans employed in cleansing the sewers, cleansing and making new gullies. The Thames Embankment Bill was referred to the officers and solicitors of the court, who were to obtain an interview with the Commissioners of Woods and Forests, to procure the insertion of several clauses, protective of the public interest. Petitions were presented to the court for 7,954 feet of new sewers, and 780 house drains; the greater portion was granted, the remainder to await the special reports of the surveyor.

At two o'clock, pursuant to notice, Mr. Thomas Leverton Donaldson moved, and Mr. Knight seconded, the following:—"That the appointment of Thomas Rowe, as clerk of the works at the meeting of the court held on Friday, the 17th April last, without previous examination by the commissioners, was null and void, being contrary to the practice of the court, and contrary also to the laws of the court (No. 20), no previous notice having been given in the ordinary summons, stating the name of the office, and of the candidate or candidates for such office, &c." Mr. Donaldson's argument in support of his motion was, that the appointment of the new clerk of the works was much at variance with the rules and regulations of the court, and a violation of the privileges of the commissioners. In making the motion he wished to put himself right with the court, as it was only from a sense of duty that he did so, and not to prevent the due dispatch of public business, or from any factious motive whatever. The affair appeared thus on the minutes of the court, 17th of March last:—After public advertisements for candidates, the court assembled to judge of the respective claims, and twelve claimants presented themselves. After four hours' examination, the court resolved, that not one of the candidates was competent to the duties of the office; and Mr. Phillips, the surveyor, was ordered to look out for a proper person, and submit his report to the court. Now he (Mr. D.) complained that the surveyor had not carried out the instructions of the court; he had not reported the name and qualifications of the individual, but the court at once appointed Mr. Rowe for twelve months certain. He had another ground of complaint: a Mr. Knight, who had been examined by the court in April, 1845, and passed the examination satisfactorily, but was unsuccessful on the day of election, had written to the surveyor, and this ought to have been reported to the court.

The surveyor stated, that he had had applications from several parties, but he thought it better to recommend to the court, in the emergency, an individual of whose abilities he had a knowledge than an entire stranger to him.

Mr. Cumberlege moved, and Mr. Le Breton seconded, the following amendment to Mr. Donaldson's motion:—"That in order to remove any doubts as to the regularity of the election or appointment of Thomas Rowe, as a clerk of the works, notice be given in the ordinary summons for the next court, in which shall be stated the name of the said Thomas Rowe, as the candidate for the office of fourth clerk of the works, and that the election or appointment shall take place on Friday, the 5th day of June, between the hours of two and three o'clock.

The chairman begged to direct the attention of the court to the circumstances out of which the question had arisen. A clerk of the works being required, the court ordered that advertisements should be inserted in the usual public journals. On the appointed day twelve candidates presented themselves, among whom was one who, in an examination in the year 1836, was reported as competent to the then vacant office of surveyor. But in the examination of 1846, the whole twelve were, after a four hours' inquiry, declared incompetent to the duties the court expected from their clerks of the works. In this emergency, so unexpected, the court ordered the surveyor to try and find a competent person; and as far as he (the chairman) could judge, he had been fortunate, for the public interests, in the selection he had made. It appeared then, that Mr. Rowe, being in a good and permanent situation with the Messrs. Rigby, would not give that up without the prospect of some lengthened engagement with the commissioners, and the court at once, after having failed by public advertisement, secured Mr. Rowe's service for twelve months.

The amendment was then put, and carried by fifteen to one.

During the sitting of the court, orders were passed that notices be inserted in the daily journals, and in THE BUILDER, intimating that the court had approved a plan whereby an efficient drainage at a very moderate cost may be obtained for courts and alleys, and other confined localities, abutting on streets where there are sewers; and that the plans and sections may be seen at the office of the commissioners. It was also ordered, that the report of the surveyor, to which the preceding order refers, together with the plans and sections for the drainage of courts and alleys, be transmitted to the several vestries and paving boards within the jurisdiction of the commission, and that the attention of the vestries and paving boards, be directed to the 57 Geo. 3, cap. 29, clause 56.

LICHENS ON STONE BUILDINGS.

SIR,—In reply to your correspondent, Mr. Frank Tyrrell, as to some process for removing lichen on sand-stone structures, I beg to suggest to him the employment of a solution of white oxide of arsenic (the common arsenic of commerce) in soft water. This being destructive to vegetable life, will not only kill any lichen already formed, but prevent its recurrence. I have said solution, meaning thereby a real *chemical* transparent solution, not a *mechanical* mixture; and it should be understood, that arsenic, being very difficult of solution, a few pounds would make many gallons of a saturated solution.

As to the application of this solution, I conceive that it should be floated over the faces of the stones before they be laid in their due courses.—I am, Sir, &c., W. BROMET.

WALTHAM ABBEY.—At the last meeting of the British Archæological Society, on the 20th inst., Mr. Croker read a letter from Mr. Chaffers, describing that gentleman's visit to Waltham Abbey, to examine mural paintings said to have been discovered in the church. Just enough had been brought to light to shew, that interesting paintings lay concealed under the white-wash; but the church-wardens have given strict orders that no more white-wash shall be removed. Mr. Chaffers then gave an account of some of the ancient houses for which this place is remarkable.

PRICE OF GAS.—The directors of the Brighton Company have announced, that from the 24th day of June, 1846, up to the 24th of June, 1847, the price, by meter, will be reduced from 9s. to 7s. per 1,000 cubic feet net; and from the 24th day of June, 1847, the price will be further reduced to 6s. per 1,000 cubic feet.

JOINT PAROCHIAL CEMETERIES.

Sir,—The Roman maxim, "*In Urbe ne sepelito*," and the melancholy abuses too long existent, are at last fully recognized. Whether, in the amazing changes now occurring in society, any parochial distinction would be desirable in new cemeteries, may be a doubtful point. There may be, however, many who would like to be buried not only "with the bones of their father and their mother," and their kindred, but also with their neighbours; and when they go out of the city would like, as it were, to take their parish churchyard with them. And such feelings are, at any rate, historical and respectable. Such, therefore, may be pleased to examine the following plan.

Although I have not the slightest *authority* to mention such a great name as the Bishop of London's, yet, being fully satisfied of his honourable candour, I will boldly mention, *meo periculo*, that when it was submitted to him (by letter), with a rude sketch, about five years ago, his lordship was pleased to say, that "it was by far the best he had yet seen."

Let any number of parishes, according to their united population — say 10 with 150,000, which with some little divergence is nearly the case between Farringdon-street and Charing-cross,—make a "junction" for the purpose of obtaining a *country burying-ground*. The relative size must depend on others, and partly on circumstances. Certainly it *ought* not to be *less* than an acre for every 5,000*—then we should be inferior to Paris. The whole enclosed with a good wall, eight feet high. The partitions between each allotment might be dwarf iron fences, mounted on brickwork; at the entrances of these might be small pillars—"Σηλαι." Whilst the outward form would be best of an oblong description, the lines might diverge from a centre, enclosing unequal spaces, according to the several populations. Thus, if St. Paul's, Covent-garden (6,000), and St. Andrew's, Holborn (40,000), were in the same "junction," of course they would require a very different tract of land. In the centre a considerable open space—say 150 feet diameter—the whole of which, covered with gravel, might be vaulted over: in the middle of which the chapel. A carriage-way, with foot-paths and flower-borders, from the gate to the centre.† The chapel cruci-form—say four arms, each 25 feet by 20, and 27 feet or upwards high with a tower in the centre, containing a bell. The architecture, of course, might be either "Gothic" or "Roman." In this instance I should decidedly recommend the latter. It would be more cheerful, and better suited to this mode of burial, which has both classicality and early Christianity on its side. A good effect would be produced by having the piers of the tower flat, with bold, enriched, and modillioned arches, resting on solid corbels.

The finest example of similar ribs in England is in the ceiling of the chancel of *Woburn Church*, Bedfordshire, designed by Sir William Chambers.

In the entrance arm of the cross (or nave) a reading desk. In the opposite one, a gallery containing a small organ. Four or six choristers to be maintained; which item to be included in the general fee. Under the tower, in the centre, a large square slab of grey dove marble, raised on Purbeck stone, about three feet high, which might receive four or five coffins at once, if necessary. The other two arms to be handsomely fenced off for monuments, though they might be opened for standing-room on any particular occasion. A chandelier and branches of brass or cut glass, for wax candles, when required. The chapel to be paved with Rockhill or other stone, if marble be too expensive.

Of course, the fair interests of the clergy would be as safe under this as any other plan, with compensation. It would be far better for the chapel service to be always performed over the bodies of paupers, then equal in the hands of their God; which would remedy a cruel distinction. *Two* chapels would break the unity of design here. However, if this, being consecrated, could not be used, at certain times, for any other services besides those of the Church (which is, I believe, sometimes done in Germany) another might be erected near the entrance.—I am, Sir, &c.

J. D. Parry,
Author of the "Coast of Sussex."

London, May, 1846.

* For the *expense*, a shilling or eighteenpenny rate, and that by instalments in six years, might be sufficient.

† Should any of these details appear superfluous or intrusive, they will not in candid and worthy minds affect the main idea.

VELOCITY OF RUNNING WATER.

Sir,—I enclose a method of solving *approximately* the question proposed by your "Constant Reader."—I am, Sir, &c.,

W.

It has been found by experiment, that the velocity of water flowing uniformly in a straight inclined pipe, is nearly as $\sqrt{\frac{DH}{L}}$, in which expression D is the diameter, H the height of the fall, and L the length—all in feet. The quantity that it would discharge, therefore, in a given time, is as $D^2\sqrt{\frac{DH}{L}}$.

Assuming that the reservoir is just deep enough to keep the first length of pipe (D) always full, that is, just covering the orifice, the second pipe (d) should be capable of discharging the same quantity as the first; whence, $d^2\sqrt{\frac{dh}{l}} = D^2\sqrt{\frac{DH}{L}}$, and

$$d = \left(\frac{D^5 H l}{hL}\right)^{\frac{1}{5}}.$$

This formula applied to the question, gives $d = \left(\frac{1\cdot 1^5 \times 45 \times 1000}{175 \times 2700}\right)^{\frac{1}{5}} = 1011$ ft. $= 1\frac{1}{4}$ in.

Now, no notice has been taken of the bendings of the pipes; but it is evident, that in the present case the retardation from this cause would be greatest in the two-inch pipe, and, therefore, the diameter (viz., $1\frac{1}{4}$ inch) determined above for the other is somewhat in excess.

W.

*** The above is not exactly a solution of the question proposed in The Builder; it is merely a method of determining approximately the diameter of a pipe of a given length and declivity, which shall discharge as much water as another pipe, of which the diameter, length, and declivity are known, on the supposition that the pipe is straight. It may, however, be useful as a formula for resolving, approximately, cases to which it is applicable, such as that which the writer has assumed.

METROPOLITAN BUILDINGS BILL.

Mr. Hawes inquired, in the House of Commons, on the 22nd inst., when the amended bill would be introduced? Sir J. Graham replied, that the act of last session was voluminous and intricate, and it had been found that there was very great difficulty in carrying it into execution. It had been referred to Mr. Hardwick,* and a conveyancer, to consider the doubts and difficulties that had arisen, and it was now proposed to break up the act into four different bills,—one regulating buildings properly so called; the second regulating the office of official referee, and the machinery for carrying the act into execution; the third relating to property adjoining buildings; and the fourth referring to nuisances carried on in the metropolis in buildings. The first two bills would be ready to be introduced next month; the last two were on subjects full of difficulty, and he could not pledge himself that they would be ready so soon. There was, under the existing law, power to revise the fees payable to surveyors, and the government intended to reduce those fees.†

A few days ago a return of 18 folio pages was printed (procured by Mr. Forster, the member for Berwick-on-Tweed), showing the number of informations laid by the surveyors of districts under the Metropolitan Buildings Act. The *Times* gives the following abstract of it: "The informations laid under the Building Act of the 14th George III., c. 78, numbered 50 in 1844-5, and 11 in the present year. The informations laid under the Act 7th and 8th Victoria, c. 84, in 1845 and 1846, were 61 in old districts, and 47 in new districts. The fees awarded by the special referees amounted to 61*l.* 8s. 6d. in old districts, and 29*l.* 18s. 6d. in new districts; and to the office of the Metropolitan Buildings in those districts 301*l.* 2s. 10d., of which 180*l.* 11s. 8d. was in old districts, and 120*l.* 11s. 2d. in new districts. In the year ending the 1st of January last, there were 61 informations laid at the office of Metropolitan Buildings by the surveyors of districts under the 7th and 8th Victoria, being districts under the 14th George III., c. 78, and 47 by the surveyors of new districts in that period under the same Act. The fees awarded by the official referees in the last-mentioned class were 29*l.* 18s. 6d. to district surveyors and 120*l.* 11s. 2d. to the office of Metropolitan Buildings."

* Sir James was in error; the bill has been referred to Mr. Gwilt.

† On inquiry, we find that the fees about to be reduced are those payable at the Metropolitan Buildings Office, not the surveyors' fees.

THE PROPER RESTORATION OF ANCIENT BUILDINGS.

ELY CATHEDRAL.—THE COLLEGE AT MAIDSTONE.

In reference to a notice, in last week's *Athenæum*, of the works now going on in the west end of the Cathedral of Ely, a correspondent of that journal expresses great fears for the stability of the western tower; and addresses certain statements to it, in the hope that some one connected with the cathedral may be induced to give some satisfactory information on the subject. "The facts," he says, "are these:—the great western tower of Ely is a building of the latter half of the 12th century, resting upon four very lofty pointed arches; the masonry being not of a kind suited for such large and lofty structures, these arches have been a good deal crippled by the superincumbent weight; and when the present 'perpendicular' lantern was placed upon the tower, the architect thought it prudent to strengthen them by very massive piers and arches built within them. The chief part of the present operations consists in cutting away the upper courses of these 'perpendicular' arches, so as to deprive the upper arches of the support which the later ones were intended to afford. The question, therefore, which I should be very glad to see satisfactorily answered, is,—Is this operation unattended by danger? It must be clear to every one who observes how much the southern wing of the west front, and even the great tower itself, have swerved from the perpendicular,—who notices the cracks in the arches above alluded to,—or who remarks that the northern wing of the front has fallen—that the whole of this work requires additional support, and by no means that it should be deprived of any which it now has. I was informed that the works now carrying on are not under the superintendence of any professional architect. Can this be prudent in a case like this, which surely requires knowledge that a practical architect is alone likely to possess."

One of the archæological societies ought at once to institute inquiries into the subject. Our cathedrals belong to the world, and should be carefully tended.

The same journal, referring to the conversion of the venerable college on the Medway, at Maidstone, to an agricultural institution, has the following remarks as to the repairs and alterations in progress:—"It pleases us to think that so fine a feature of this clean and lively town, is to be saved from absolute ruin. But we would rather have the ruins than some barbarous modern antique. The changes which are projected require a skilful architect so to conduct them that they shall not spoil the character and sentiment of the building. We almost doubt if due knowledge and judgment be supervising the business. When we explored the works, we found the hall, which is of noble height and dimensions, about being divided by a brick wall. Perhaps the wants of the institution may require this to be done; but we cannot imagine any reason which should warrant the architect in putting up a modern *flat plaster ceiling*, and thus hiding the tie beams and wood work of the high-pitched roof. We trust no such barbarism is contemplated. If any one wish to see what a frightful effect a modern plastered ceiling has in an old Gothic building, he has only to cross the bridge adjoining this college, and go to the Old Pilgrim's Chapel, changed some years since from a barn into a church. The restorations in this church may have been tolerable before the spirit of mediæval architecture was as well felt

and understood as it is at present; but now they would be regarded as detestable—ruinous to any architect who should perpetrate them. We hope the Agricultural Society will keep St. Peter's Church as warning before them; and will, if they have conceived such an abomination as we have hinted at, renounce it forthwith, seeking the advice of some of our architects who feel the character of our forefathers' buildings, as to what should be done to preserve with consistency this college, which is really one of the best features of Maidstone. The town is disgraced if it be spoilt."

Correspondence.

ARCHITECTS' REMUNERATION—GAOL AT BIRMINGHAM.

SIR,—I have perused with pleasure the articles written by you, and letters from able correspondents on the subject of competition, which have from time to time appeared in your journal, and I hope that they may assist in gaining the desired end; but all that may be written and said about the evils of competition will avail little or nothing, unless there be a determination amongst architects themselves to resist every thing approaching to such competition. Why not refuse to reply to advertisements for plans, &c., and the system would be put a stop to immediately?

There may be and are benefits arising from the system, but the evils with which it is accompanied far outweigh the good.

Upon the score of remuneration much has been said, and the case of the building at Luton, referred to by you, was bad enough, but that of the gaol at Birmingham was much worse; and I regret that it was not exposed at the time. The committee of the latter were *not quite* so modest as they of Luton, but advertised for "tenders for making plans, specification, &c., and superintending the work of the proposed borough gaol;" and I am credibly informed, that the architect who is carrying out the work is employed for a remuneration of "*half the usual per centage, and pays clerk of the works!*" No wonder the profession is considered of so little account, when their services may be had so cheaply.

I am, Sir, &c., A LOOKER-ON.
Birmingham, May 19, 1846.

PRACTICAL QUESTION.

SIR,—The diameter of the main in a certain water-works is 30 inches; but instead of this, it is proposed to distribute the water through seven equal pipes of the same sectional area, when taken together, as the main. Will any of your correspondents give the method of finding the diameter of the smaller pipe geometrically.—I am, Sir, &c. ZERO.

SOCIETY FOR IMPROVING THE CONDITION OF THE LABOURING CLASSES.—The second annual meeting of this society was held in the Hanover-square Rooms on the 22nd instant, Lord Ashley in the chair. A donation of 100*l.* from His Royal Highness Prince Albert was announced, together with an apology for his non-attendance. A report of the progress of the "model lodging house" at Pentonville was read, and the erection of a second in St. Giles's was announced. The society does not appear to be by any means very popular, as the room was not nearly half full, and the proceedings and speeches were cut short by the premature departure of most of those who did attend, and even of the noble chairman himself, the Bishop of Norwich, and many more of the committee.

FINE PICTURE BY MR. HABERZETTEL.—Mr. Haberzettel, a member of the Imperial Academy of St. Petersburgh, has brought to England an historical painting of "St. John the Baptist preaching in the wilderness," and has opened it for exhibition at 213, Piccadilly. It is a work of very high class. Next week we shall speak of it more at length. The size is eighteen feet by fourteen feet.

LARGE WATER COLOUR PAINTING.—One of the largest works in water colours ever attempted, is now being exhibited in Stanley's rooms, Old Bond-street. The subject is the Angel delivering Daniel from the lions; the artist, Mr. James Burbank. The size is twenty feet by twelve feet. It is very highly finished, and well deserves a visit.

Miscellanea.

REPORT OF THE ROYAL COMMISSIONERS ON THE GAUGE QUESTION.—This Report, if carried out, although enveloped in a kind of official coyness, is nothing less than a decree for abolishing the broad, and establishing the universality of the narrow national uniformity of gauge. The Great Western Company feel this to be the case, and have zealously laboured, ever since the publication of this important document, to destroy its effect. Observations, replies, rejoinders, and sur-rejoinders, daily and weekly articles, and pamphlets, have swarmed from the modern *ultima ratio* of disputants—THE PRESS. Many ingenious arguments, much wit, some ill-humour, and spirit of partizanship of the bitterest character, has been exhibited on both sides. We have even seen a Directorate, including a Conservative peer and a Conservative commoner, patronizing attacks imputing ignorance and partiality to the Queen's own arbitrators. Under these circumstances, it is quite evident that that large body of the public, who, not holding shares in either gauges, and not allied by blood, friendship, patronage, or gentility, with either of the belligerent directing powers, but selfishly, only anxious to have themselves, their goods, chattels, merchandise, and manufactures, conveyed to and from every part of the kingdom, with the greatest possible convenience, comfort, safety, speed, and punctuality, at the lowest possible cost, will treat with great indifference, if not suspicion, the vehement assertions and hypothetical statements of both the broad and narrow houses. To supply, in a somewhat condensed form, the opinions, facts, and figures rendered before the commissioners by the more remarkable of the forty-seven engineers, engine-makers, railway managers, carriers, miners, and railway contractors, this volume has been prepared from the vast blue folio in which their evidence at present lies entombed.—*The Railway System Illustrated.*

AN IRON SKEW BRIDGE.—A very bold and ingenious specimen of a skew bridge, says the *Mechanics' Magazine*, is now erecting on the line of the North British Railway, at the south foot of the Calton-hill, Edinburgh. It consists of six strong beams of cast iron, each composed of four or five pieces joined with rivets, and cast in the form of an arch. They are about 80 feet long; the roadway from wall to wall is 26 feet broad, and has a narrow foot-path on each side, at the outer edge of which cast iron columns are placed, supporting the beams at 10 or 12 feet from either extremity. The beams rest on their ends on solid masonry, and fastened to each other by strong wrought-iron bars running across them at right angles. The angle of the skew—assuming the clear space, from wall to wall, along the beam to be 74, which we believe is very near the truth, and the actual breadth of the road and foot-path being 26 feet—it follows that the obliquity, or the angle of the skew, is 20 degrees.

EVILS OF BAD DRAINAGE.—It has been shewn, almost beyond question, that the numerous deaths in Hull by typhus fever, are mainly owing to the imperfect cleansing and drainage of the place. Dr. W. Pettigrew, in a letter on an apprehended visitation of cholera, in London, says: "Defective ventilation, insufficient supply of water, bad drainage, open or untrapped gully-holes, cess-pools, and an unhealthy condition of the courts, alleys, and small streets, are sure to give rise to fever." Dr. Guy remarks, that fever "makes itself at home in the neighbourhood of cess-pools, and badly-constructed drains, and takes an especial delight in the incense of gully-holes. It has a perfect horror of fresh air, soap, and whitewash, but when left to itself will linger for years amid scenes of filth and corruption, and fold in its deadly embrace all human beings who have the same depraved taste, or are so unfortunate as to be thrown into its company. It is the favourite child of *laissez faire* (in plain English, *let alone*), and bears the same relation to *filth* as crime does to *ignorance*."

BATHS AND WASH-HOUSES FOR THE POOR.—The London Committee have petitioned Parliament to empower boroughs and towns to establish institutions similar to that in Glasshouse-yard, and to limit the rates of charge. The latter establishment is said to be in a thriving condition.

A HINT TO EMPLOYERS.—A gentleman entertaining humane and considerate views, was some years ago, appointed superintendent of a large manufactory in England. In this establishment he soon had occasion to observe that a certain number of workmen were regular in attendance, steady, and economical; while the others were of contrary habits, unsteady, uneconomical, great drinkers, and with families in wretchedness. This had been the case for a long course of years, and nobody about the works thought of inquiring into the cause of the phenomenon. The new superintendent was not one of those persons who never inquire into any thing, and let the world go on in its own old way. As soon as he observed the curious difference, he did not rest till he had discovered the cause of it. On inquiry, he found that all the steady men got a fixed or regular weekly wage, and that all the unsteady ones, though receiving a larger revenue in the aggregate, got it in lumps at irregular intervals, just as they happened to be employed on a particular kind of work. To know the cause of the evil was to set about eradicating it. With the consent of the unsteady hands, he began the practice of paying them every week a certain fixed sum, whether they had earned it or not, carrying forward the balance, if any, to their credit; the accumulated balances to be paid quarterly. The effect of this arrangement, it is said, was marvellous. Very soon the unsteady became as steady as the other members of the establishment. Their wives and families were better dressed; their homes became comfortable; and by-and-by several of these men saved so much money as to be able to buy houses—actually became proprietors, and drew rents like other landlords. Nor were they ungrateful to the person who had thus put them in the way of well-doing. They looked upon him as a general benefactor. A few years ago, when visiting the place, and calling on one of the parties, both husband and wife looked round their cheerful dwelling, and said to him, "All this we owe to you."—*Chambers's Journal.*

ARCHÆOLOGICAL DISCOVERY AT DOVER.—The workmen, in clearing the ground for the erection of some new houses in the Priory grounds, have developed three of the lower arches of a church or chapel; one only of these was perfect when opened, but we regret to learn that it was displaced by a fall of the earth adjoining. The whole is of the Norman style, and built of Caen stone. The floor was paved with glazed tiles of the period, many of which are in good preservation; under the tiles was turned up a structure of burnt wood, which seems to shew that a chapel standing on the same site had been destroyed by fire.—*Dover Telegraph.*

SCAFFOLDING IN ST. PAUL'S.—The interesting meeting of the charity children of the metropolis will take place at the cathedral of St. Paul, on Thursday, the 4th June, when many distinguished visitors are expected to attend, as well as foreigners. The scaffolding for the accommodation of 5,000 children and 7,000 or 8,000 visitors, is superintended by Mr. Newman, the honorary architect to the society of patrons of the anniversary meeting of the charity children. This splendid exhibition of Christian benevolence is not to be witnessed in any other part of the world.

ENCOURAGEMENT TO LANDED PROPRIETORS TO PLANT LARCH AND SCOTS FIR.—The wood at Pitscottie brought the large sum of 5,500*l.*; and, with that part sold about three years ago for 700*l.*, makes the sum total received for 138 imperial acres, 6,200*l.* Besides this, the thinnings have for these last twenty years, on an average, brought 60*l.* per annum. This wood was planted in 1793, by the late Mr. Thomas, of Rumgay, on that part of Ceres Muir which became his property on the division of that commonty, and was valued at that period at 4*s.* per acre of annual rent.

THE CITY OF LONDON NATIONAL SCHOOLS.—The bankers, merchants, and other principal persons in the city, have, it appears, contributed 5,200*l.* within the last few months, towards the erection of six new school rooms with houses for masters and mistresses attached.

ARCHITECTURAL CONGRESS.—Rumours have reached us of an arrangement, that architects from all parts of the world will hold a general congress of architects every three years, the first to take place at Athens. The scheme is somewhat visionary.

MEETINGS OF SCIENTIFIC BODIES

During the ensuing Week.

TUESDAY, June 2.—Linnæan, Soho-square, 8 P.M.

WEDNESDAY, 3.—Geological, Somerset House, 8½ P.M.; British Archæological Association, Western Literary Institution, Leicester-square, 8½ P.M.

FRIDAY, 5.—Royal Institution, Albermarle-street, 8½ P.M.

SATURDAY, 6.—Asiatic, 14, Grafton-street, 2 P.M.

TENDERS.

For the erection of new school at Camberwell, for the Rev. D. Moore; Mr. Frances, architect.—May 22, 1845.

Lurting	£2,500
Kempster	2,473
Hayward and Nixon	2,434
Myers	2,425
Jay	2,379
Bird	2,372
Piper	2,352
Cooper	2,320
Gerry	2,182
Curtis	2,144

NOTICES OF CONTRACTS.

[We are compelled, by the interference of the Stamp Office, to omit the names of the parties to whom tenders, &c. are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent Garden.]

For the several branches of artificer's work, ironmongery, cast-iron, and metal work required in the Ordnance department at Portsmouth, including Portsea Island, at Gosport, and detached works, not exceeding five miles, at Marchwood, Hurst Castle, and Calshot Castle, at Southampton (the barrack buildings, now used as the Ordnance Map Office); and at Winchester, Christchurch, Chichester, Littlehampton, and Isle of Wight; including repairs to the several barracks (excepting those of the Royal Marines) upon a contract for 2½ years from July 1.

For the artificer's work, ironmongery, cast-iron, and metal work required in the Ordnance department at Brighton, Shoreham to Eastbourne, and Eastbourne to Fairlight (separate tenders).

For the restoration and reseatment of the church of Marnham-upon-Trent.

For lighting and warming the new workhouse of the Clifton union, Bristol, and for a cooking apparatus to supply about 1,200 persons.

For the erection of a British school at Romsey, Southampton.

For the erection of a wood saw-mill and machinery, boiler, frames, &c., at or near Liverpool.

For the erection of a school in Durham.

For the execution of capitals for 32 Corinthian columns and 30 pilasters, for the proposed Huddersfield and Manchester Railway station at Huddersfield.

For the erection of the Royal Naval and Military Free Schools, King-street, Devonport.

For the execution of certain tanks, tunnels, filters, beds, and other works connected with the Coventry Water-works.

For the making of a bank near the Severn, in the parish of Slimbridge, county of Gloucester.

For 40,000 railway sleepers for the Edinburgh and Northern Railway Company.

For rebuilding the Wesleyan Chapel, Donegal-square East, Belfast.

For plastering the Wesleyan Chapel at Swansea.

For lighting with gas the public lamps in Canterbury for 21 years, from 29th September next.

For the excavation, brickwork, &c. of a tank, 60 feet in diameter, at the Gloucester Gas Works.

For the repewing of the parish church of Great Wilbraham, county of Cambridge.

For the erection of the new Museum and Scientific Institution at Wisbech.

For 490,000 railway sleepers for the Great Southern and Western Irish Railway Company.

For repairing a foot-path with Marston stones, and taking up pebbles in Bishop-street, Coventry.

For the works required to be done in the erection of the schools and master's house at Little Port, Isle of Ely.

For draining, paving, &c., the streets of Bury.

For a supply of 3,000 tons of railway chairs, deliverable in July and September, to several foundry companies in Scotland.

For the erection of a new manse, with office houses, and garden-wall, in the parish of Unst, Zetland.

For the works of the alterations and improvements of the Dalkeith Railway and its junction with the North British.

For a police-station at Church Stretton, Salop.

For the erection of a new church on Staplefield Common, to be called the Cuckfield Church.

For the supply of 500 cast-iron gully grates for the Commissioners of Sewers for Westminster.

For supplying stone for repairing the footways and for repairing the carriage-ways in the parish of Saint Anne, Westminster, for one year from Midsummer next.

For the supply of 30,000 radiated bricks for the Commissioners of Sewers for Westminster.

For keeping the lanterns and fittings of the several gas-lamps in the parish of St. Mary, Islington, in repair and painting them from Midsummer next to Midsummer, 1847.

For the erection of a new Chapel at Portsea for 1,200 persons.

For building sewers in Clarence-road, Kentish-town, 1,500 feet; the New-road, St. Pancras, 550 feet; Goswell-street-road, 1,630 feet; King Henry's-walk, Islington, 1,150 feet; and Liverpool-road, Islington, and Cumming-street, Pentonville, 910 feet; in five separate tenders.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At Little Orton, parish of Great Orton, near Carlisle: four acres of fir plantation.

At Red hills and Little Stainton Demesne, near Penrith: a large quantity of ash, beech, and sycamore, of large growth and good quality.

At Southam and Co.'s Wharf, Worcester Wharf, Birmingham: 2,000 red deals and battens from Memel and Wyburg.

At Church Gresley Common: a valuable stock of well-seasoned timber in planks, scantlings, boards, &c.

At Constitutional-hill, Birmingham: a valuable stock of well-seasoned timber.

At the Hill Farm Grove, Ardleigh: a considerable assortment of oak, fir, ash, birch and alder, thatching stuff, &c.

At Harmony Hall, near Broughton and Romsey, Hants: an extensive stock of seasoned building materials, sashes, doors, &c.

At Tiptoe, Norham, North Durham: a quantity of ash, elm, beech, birch, plane, larch, Scots fir and willow, suitable for railway sleepers, roofing, paling, &c.

At Blunt's Park-wood, between Haverhill and Wratting: 107 oak timber trees.

At Moor Hall, in Writtle and Fryerning Hall Farms: 102 oak timber trees and 10 ash.

At Charlton Villa, Kent: the excellent building materials of a portion of Charlton Villa.

At the Clarendon Rooms, South John-street, Liverpool: the lease of Cronllwyn Slate Quarry at Fishguard, Pembrokeshire, with the buildings, &c.

At Gray's Inn Coffee-house, Holborn; the leases, engines, works, &c. of the Aberdare Iron Company, county of Glamorgan, and a wharf at Cardiff.

At the Castle Hotel, Newcastle-under-Lyme, valuable brick and tile works at Basford Bank, Stoke-upon-Trent, Staffordshire Potteries.

At Pettit's Colliery, Monmore-green, near Wolverhampton: a bankrupt estate, comprising two steam-engines, a weighing-machine, wrought-iron rails and plates, cast-iron pumps and pipes, 700 yards of chain, pulleys, &c.

At the Idle Tunnel, on the Bradford and Leeds Railway, near Bradford: seven steam-engines, steam-boilers, winds, pumps, &c.

At Walbottle Colliery, near Newcastle: three pumping engines, with pumps and all other apparatus belonging thereto.

At Glasgow: an immense quantity of building materials, comprising about 300 doors, 200 windows, with slates, lead, flooring, joists, iron pillars, marble jambs, water-closets, gas fittings, &c.

At Crookston, near Fushie Bridge: a large quantity of full grown Scots and larch fir.

At Leith: large quantities of yellow pine, spruce, birch, and deals and battens from St. John.

At Horningsheath, Suffolk: 200 oak trees, with stands and ash poles.

At 123, Oxford-street: a collection of magnificent stained glass windows, ancient and modern.

At Eastgate, Broadway: a quantity of ash, beech, elm, oak, &c.

TO CORRESPONDENTS.

"*Conversion of Areas.*"—An answer to "Builder" shall appear shortly.

"*G. B.*"—We cannot assist him.

"*Colour for Cement.*"—A correspondent wishes to kn ow what is the best composition for colouring cemented fronts, &c.

Received.—"J. A.," "M. W. T.," "Subscriber," "G. M.," "Decorative Art Society."—Other correspondents must excuse us till next week.

Books, &c., Received.—Portrait of A. Welby Pugin, architect, painted and engraved by J. R. Herbert, R.A. (Hering and Remington, Regent-street). "An Account of the Religious Houses, formerly situated on the Eastern side of the River Witham, by the Rev. Dr. Oliver." (Spencer, 314, High Holborn). "A Treatise on Railway Surveying and Levelling, by John Quested," author of "The Art of Land Surveying." (Relfe and Fletcher, Cloak-lane). "Drawing of Old Hinges, Brittsbury Church." "View of Pembury Church, Mr. E. N. Stevens, Architect." "The Handbook for Mapping, Engineering, and Architectural Drawing, by B. P. Wilme, Civil Engineer." (Weale, Holborn).

ADVERTISEMENTS.

BEST PAN WATER-CLOSETS, with Round Valve, complete, 31s. each.
WASHING COPPERS, above 12lb., 1s. 1d. per lb.
COCKS, Bib, Ball, and Stop, ½-in. 1s. 8d., ¾-in. 2s. 4d.
Lifting Force Pumps, 2½-in., 4l. 4s., and every description of Copper and Brass Work equally low, at Messrs. MACGLASHAN & CO., 16, Long Acre, London.

FIRE BRICKS.

W. WARD, Honduras Wharf, Bankside, and St. Michael's-alley, Cornhill, has just landed a large quantity of his very superior manufactured Fire Bricks, of Stourbridge, Welsh, and Newcastle. Prices very low. Shipments made for the East and West Indies, &c., with the greatest promptness. Gas companies, engineers, builders, and all large consumers supplied from ships in the river at a much lower price. A very large stock on hand of Bricks, Lumps, Tiles, and Clays.
River sand and gravel by freight to any wharf and dock.

PANTECHNICON AND NORTH LONDON DEPOSITORY, GRAY'S-INN-ROAD, KING'S-CROSS.

THE Nobility and Gentry are respectfully informed, during their temporary absence from town, they may have their FURNITURE, Plate Chests, Books, Pictures, and every description of property, carefully removed and warehoused at the above extensive stores. Light and elegant SHOW-ROOMS for the standing and sale of carriages. The building is secure from fire. Parties may have any size rooms. Harness received for sake keeping.—Established 1838.

Railway Surveying, Levelling, Plotting, Computing, use of Theodolite, &c., PRACTICALLY TAUGHT.

THE Advertiser (an Engineering Surveyor of Extensive Practice), is now devoting his time to the instruction of persons for Railway Surveyors, &c., &c., undertaking to make them SELF EVIDENTLY COMPETENT to Survey, Level, Plot, Compute, Determine Heights and Distances, give Curves and Gradients, &c., &c., on all sorts of Ground. Terms Five Guineas; proficiency guaranteed and references given.—Apply, if personally between 5 and 10 P.M., to G. T., 117, Park-street, Camden-town.—N.B. The above imparted in as short a period as possible consistent with a thorough instruction.

By Her Majesty's Royal Letters Patent

BAILLIE'S

PATENT ROUNDED RIM LOCKS.

WITH SECRET AND SECURE FIXINGS.

THIS CHEAP and USEFUL ARTICLE, obviating the unsightly appearance and insecurity of the common rim lock, can be obtained of any respectable ironmonger in town or country, or from the sole manufacturer, Mr. EDWARD WRIGHT, Wolverhampton.



WILSONS PATENT
VENTILATING
SPIRAL CHIMNEY POT,

For the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success.

This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance.

The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory,

Southwark-bridge Iron Roofing Works.

DAY'S PATENT WINDGUARD, for ventilating

Churches,	Shops,	Kitchens,
Hospitals,	Bed-rooms,	Offices,
Factories,	Smoking-rooms,	Ships,
Theatres,	School-rooms,	Mines,
Breweries,	Nurseries,	Vaults,
Malt-houses,	Stables,	Tunnels,
Club-houses,	Larders,	&c. &c.

Also for preventing down draft; and is guaranteed to cure all smoky chimneys caused by wind; and entirely supersedes the use of revolving cowls, or any thing moveable or unsightly on the tops of chimneys or ventilators.

The object of this invention is to create a draft where otherwise it would not exist, by the spontaneous action of the external air. The Windguard forms a pleasing octagonal pillar, and by its peculiar construction to carry out the principle on which it is based, which consists of the wind giving a disposition for a vacuum within, thereby causing a continual upward current about equal to the velocity of the wind at the time acting upon it, which averages about six feet per second thirty days out of thirty-one; therefore, will nearly at all times ensure a continual change of air, being no impediment to spontaneous ventilation, even on a perfectly calm day. One five feet square will ventilate a building containing upwards of 1,000 persons. The Windguard applied to ships and steam vessels, in the form of a sky-light, prevents rain or the sea entering within, however boisterous the weather may be, thereby affording excellent ventilation as well as light. The Windguard is simply applied for effectually ventilating bed-rooms, nurseries, smoking-rooms, offices, &c., causing the air of the apartment to be at all times as pleasant as can be desired. It is fixed at the top of the chimney, in addition to which a cast-iron frame and valve (about one foot area), made to open or shut at pleasure, is let into the flue, near the ceiling of the room, to allow the constant ascending vitiated air being immediately carried off. The opening is guarded by a neat venetian blind or grating; and so powerful is the effect on a windy day that if a handkerchief be thrown up to the grating, it will remain there—i. e. if the valve be open. In winter the valve would be only partially open, to allow the smoke from the fire to ascend, but if the room be found too cold, can be entirely closed. The Windguard applied to the tops of chimneys prevents all annoyance from smoke (caused by wind); indeed, where it does not, nothing else applied at top will (of the same size); care, therefore should be taken to have the proper size applied. It is simple in its application, reasonable in price, ornamental in appearance; no machinery or anything moveable in it, therefore, cannot get out of order: free from noise or any unpleasantness whatever; not liable to choke up with soot; no obstacle to the machines used for sweeping chimneys. May be had of all respectable ironmongers in town and country; and may be seen daily in operation, where its powers and usefulness are exhibited by the severest tests, at THE PATENT VENTILATING WORKS, COMMERCIAL-ROAD, PIMLICO, LONDON; where also may be seen Mr. G. T. DAY's plans (illustrating the different applications of his Patent Archimedian Ventilator and his Portable Water Apparatus) for effectually Ventilating, Warming, and Cooling the Air of Buildings, Ships, Mines, &c. &c. By the use of these inventions many thousand cubic feet, or any quantity of pure warm or cold air, can be guaranteed to be continually exchanged per minute, day and night, winter and summer; thereby insuring, at all times, free ventilation to the rooms and passages of buildings, &c. from the basement to the roof, at the same time in such a manner as shall not be inconveniently perceptible. The size of the apparatus depends on the nature and use of the building and its occupants. The Patentee has been honoured by his inventions being applied at the following places:—

Windsor Castle,	Trinity House,
Buckingham Palace,	Ordnance,
Saint James's Palace,	Greenwich Hospital,
Claremont Palace,	Christ's Hospital,
Walmer Castle	Westminster Hospital,
The Houses of Parliament,	Bethlehem Hospital,
New Conservative Club,	Surrey Lunatic Asylum,
White's Club,	New Royal Exchange,
Travellers' Club,	Mansion House,
Oxford and Cambridge,	Goldsmiths' Hall,
Parthenon,	Fishmongers' Hall,
Wyndham,	Haberdashers' Hall,
Army and Navy,	Dyers' Hall,
Senior United Service,	Grocers' Hall,
Junior United Service,	Armourers' Hall.
Admiralty,	Weigh-house Meeting-house
British Museum,	Hanover Square Rooms,
Somerset House,	Theatre of the Westminster
Custom House,	Literary and Scientific In-
Mint,	stitution,
Hon. Artillery Company,	Grand Cigar Divan, Strand,
H. M. S. Salamander,	City Club,

And many other Public Buildings in Town and Country, as well as to the Mansions of many Noblemen and Gentlemen. Licenses granted for Manufacturing the above.

Drawings and Plans made for Ventilating and Warming Buildings of every description.

CAEN STONE.

LUARD and BEEDHAM have a quantity of the above stone, of the best quality, direct from their Quarries at Allemange, which may be inspected at the Norway Sufferance Wharf, Greenwich.—Further particulars at Mr. G. GATES', 18, SOUTHWARK-SQUARE, SOUTHWARK.

MARBLE CHIMNEY PIECES.—The WESTMINSTER MARBLE COMPANY have this spring, restocked their show-rooms with a great variety of chimney-pieces of quite a new design, with the best quality of Italian Marbles selected expressly for their works, and will be sold to builders at such reduced prices that they will realize a great saving by forwarding their orders to the Westminster Marble Works. An unabated zeal will be maintained to continue the patronage so liberally shown to this Establishment.—Address, Earl-street, Millbank.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

SAMUEL CUNDY begs to inform Architects, &c., that every description of Stone, Marble, and Granite work is executed at the cheapest possible rate.

Estimates given for Mason's Work in all its branches. Gothic Work, Tombs, Monuments, &c.

MARBLE WORK for Halls, Dairies, Tables, Columns, Vases, at most reasonable prices.

A large collection of Designs for Mural and other Monuments.

CHIMNEY PIECES from Twelve Shillings upwards.

Depôt for CAEN STONE, &c.

CLIFF AND HUSLER, STONE AND TILE MERCHANTS, Victoria Stone-wharf, Isle of Dogs.

JOHN TRICKETT, Agent, respectfully calls the attention of masons, stone-merchants, contractors, and builders, to his large stock of STONE and TILES on the above Wharf. Portland stone of large dimensions selected at the Quarries, and arrivals every week of Yorkshire stone in billy-boats, which can discharge their cargoes above or below bridges, in lots from 30 tons at wholesale prices in the river. Special orders to dimensions for Landings, Bramley Fall, Harehills, and other stone, fulfilled in two or three weeks, shipped direct to any wharf, or to order for barges. Tooled and self-faced paving always alongside or in stock on the Wharf. A very fine stock (some of very large dimensions) of York Landings on hand. Pan, plain, and paving tiles, fire-bricks, and clay, at wholesale prices; vein marble in slab, and sawn Robin Hood, Greenmoor, and Harehill slab and head-stones; sawn Portland Landings, &c.

SIR WILLIAM BURNETT'S PATENT for the Preservation of Timber, Canvas, Cordage, Cotton, Woollen, &c., from Decay.

TESTIMONIALS.

From THOMAS GRAHAM, Esq., M.A., F.R.S., L. and E., Professor of Chemistry, University College, London.

"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.

"The wood appears to be fully and deeply penetrated by the metallic salt; I have found it in the centre of a large prepared paving block.

"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the crystallizable salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.

"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Toplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRIN of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotised principles it contains, by entering into chemical combination with them.

(Signed) "THOMAS GRAHAM."

"University College, 25th October, 1845.

From Professors BRANDE and COOPER.

"London, 4th November, 1845.

"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.

"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rotteness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.

"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.

"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.—(Signed) "WILLIAM THOMAS BRANDE,

"JOHN THOMAS COOPER."

"To Sir William Burnett, K.C.H., F.R.S., &c. &c."

Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 53, King William-street, London-bridge.

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AT REDUCED PRICES.

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Apply at W. CLEAVE'S Timber Yard, Smith-street, Westminster.

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A. R., in calling the attention of builders and consumers, confidently presumes on his being able to supply them on such advantageous terms, as will ensure and merit their favours and approbation.

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TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Pantiles.

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SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM, Saw Mills, Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.

THE GENERAL WOOD CUTTING COMPANY, TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.—SAWING in all its branches executed with the greatest precision and despatch. PLANING by the most approved Machinery, reducing the Boards to a parallel width and thickness, and grooving or matching with undeviating accuracy. The operation economizes time, money, and material.

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TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.

Manufactured by J. B. WHITE and SONS, of Millbank-street, Westminster: and sold at their warehouses—Earl-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

ROMAN CEMENT, &c.

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THOMAS JOHN CROGGON

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Orders addressed to either place for ROMAN CEMENT of genuine quality will be executed with promptitude and the strictest regard to quality and economy.

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WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Millbank-street, Westminster,

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

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PLASTERING LIME, that may be used immediately without risk of blistering, manufactured expressly for Plastering, and sold at the usual price, at FORREST'S WHARF, Earl-street, Blackfriars. Sheds for the slacking and mixing of lime. Accommodation for loading and landing bricks, sand, ballast, &c.

RAIN WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from 1½ in. to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, and No. 6, Bankside, Southwark.

TO ARCHITECTS, BUILDERS, & BRICK MAKERS.

PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Roads, Gardens, and for Liquid Manure. BRICKMAKERS' PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to 12-inch bore, kept for Hire.

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The Builder.

No. CLXXIV.

SATURDAY, JUNE 6, 1846.

IT was thought that the serious differences between the master builders and their operatives, in Liverpool, Manchester, Birmingham, Leeds, and other important places, unusually protracted and important as they have been, were at length satisfactorily arranged, and that work would be immediately resumed. A conference, between a deputation of the masters and a deputation of the workmen, was held last week before Mr. Rushton, the magistrate, in Liverpool. The masters urged, that labour should be free, and that no man should be compelled, against his will, to join a club, and forbidden from accepting for his time, any but a stated sum. They then submitted, as a proposition:—

"That a disclaimer be made of the right of any man or body of men, interfering with the freedom of labour, and they admitted the perfect right of all artisans to work for whom and upon what terms they pleased."

After some discussion this was agreed to. The next proposition was:—

"That the various trades connected with building, repudiate all connection with a general and national trades union, the masters offering no opposition to local association for the general benefit of the working classes; and the workmen agreed to offer no molestation or annoyance whatever to those men who are now at work, and who have signed the declaration."

The different members of the trades deputation denied that there was any thing like a national union existing, amongst the various trades. On the part of the masons, it was admitted that of this body a general union existed throughout the country.

Mr. Holme said he felt perfectly satisfied that there was a national union existing, and the result of that union was, that it was utterly impossible, with any degree of safety, for masters to enter into contracts for work, under the dictation of an organization of trades, which had its ramifications throughout the country.

An assurance having been given by the men, that their respective trades did not belong to any national or general association, the proposition was withdrawn.

It was then agreed to on the part of the operatives, "that no molestation be offered to those workmen who are now employed, and have signed the declaration" (in number, nearly 1,000), "and that the deputation of workmen here present, agree most earnestly to impress upon the minds of their fellow-workmen, the propriety of abstaining from the use of any terms of reproach to those men who have already agreed to the masters' terms, and who are now employed."

The masters then proposed that, as some of the branches of the building trade commenced work at 6 o'clock on the Monday morning, and left off at half-past 3 o'clock on a Saturday afternoon, while others commenced at 7 o'clock on Monday morning, and worked until 4 o'clock on the Saturday, a practice which had been found most inconvenient, an uniformity of commencing and leaving off should be obtained, and that the whole of the trades should commence at 6 o'clock on the Monday, and leave off at 4 on the Saturday, which would be more convenient to all parties. To this the masons strongly objected; and, after a discussion, it was agreed that the hours of labour should remain the same as heretofore; but that the distribution of the time should be arranged between the various trades and their employers, and should form no part of the present negotiation.

The foregoing conditions having been agreed to, the masters agreed to waive calling on the men to sign the "declaration," previously alluded to, and the conference ended.

It will be seen, however, that although something had been achieved (the declaration being the main grievance on the part of the men), the first cause of the strike, namely, amount of wages, was left untouched; and the masons, before they would come to work, demanded an increase of one shilling per week to their wages, and half an hour for refreshment, at four o'clock every afternoon. Mr. Tomkinson, the builder, to whom the demand was made, at once refused to accede. The masons therefore, still remain out, and the other trades follow their example.

A meeting was afterwards held, when the last-named gentleman was in the chair; and after stating what had transpired, said, he left it to the meeting to come to some resolution on the painful subject, rendered doubly so to him because he had left the meeting held before Mr. Rushton, on Wednesday, with a firm impression—that impression being the same on Mr. Rushton's mind, and on the minds of the masters generally—that the affair had been amicably arranged. He was aware that keeping the question open was the cause of the deepest injury, which he was sure must be deplored by every gentleman in that room. The fault, however, lay with the masons themselves, who were acting in a way to prevent any amicable arrangement being made with the other trades, who were willing to abide by the agreement entered into; and he himself had almost arrived at the conclusion, that any concession made in the kindest spirit would only lead to further demands.

After a long conversation, the following resolution was unanimously agreed to:—

"Having read the report of the meeting which took place yesterday before Mr. Rushton, between the deputation of the master builders and the deputation of the workmen, and also hearing the statement of the chairman as to the conference to-day, between himself and a deputation of the operative masons, when a demand was made for half an hour's cessation from labour each afternoon: Resolved,—That the number of hours of labour be the same as before the strike, but that it be competent to any member to make such a distribution, and such hours as may be considered convenient to the respective trades."

It does not seem likely that the men will remain out much longer; indeed before this, something definite has probably been effected, the differences being very considerably narrowed. The masons reckon on the number of large works at present going on, and for the completion of which, by a certain time, the contractors are bound under heavy penalties. They miscalculate on public opinion, which is certainly with the masters, and act in ignorance of the laws which regulate wages. In reply to the secretary of the masons' union, who said they were very strong, Mr. Samuel Holme, justly replied, that union might give strength for a time; but union could not give employment or create work, but the reverse; and that if, by the strength of the masons' union, they imposed terms which the public refused to pay, a diminution of their work would be the consequence, and they themselves would eventually be the sufferers.

The question, indeed, is now between the public and the workmen; if the masters are compelled to pay higher wages, the charges to their employers must be higher also; and the result would be, less employment and consequent injury to all parties. Devices will be used to avoid employing masons, and capital will seek fresh channels. A writer from Liverpool says,—"One of our first architects has resolved to abandon the use of stone in building, as much as possible; and at this time we are credibly informed that several piles of building are proceeding where iron has been substituted for stone. We perceive by one of our local prints, that a gentleman from Wales has waited on some of the principal builders, and offered to supply a substitute for stone in the shape of door and window heads, cornices, and other things, made out of the Welch fire clay, and which can be produced at about half the cost of stone; and we doubt not, in this age of mechanical skill, that various expedients will be devised to abolish masonry, if the masons themselves shall render the use of stone too expensive."

The mischief of the strike is not confined to builders alone, but has a serious effect on the trades connected with them. Timber, we learn, has fallen 2d. a foot; dealers in glass and lead, and brickmakers, especially complain; and of course the general stagnation seriously affects the small shop-keepers, who will, with difficulty, pay their rents—so intimately is society interwoven, and one portion of it dependent on another.

We urgently exhort the leaders in this movement, some of whom, we know, are readers of our journal, to throw no difficulties in the way of an immediate arrangement, but, on the contrary, to use their influence with their colleagues to prevent further discussion, and induce the men immediately to resume their work.

In order that our readers may have a complete view of the present position of things, we must mention that the Builders and Contractors' Association is now completely organized.

Mr. Bellhouse, of Manchester, is president, and Mr. John Tomkinson, of Liverpool, vice-president; Mr. Edwards, of Manchester, and Mr. James Holme, of Liverpool, auditors. The committee of management consists of six members for Manchester, six for Liverpool, six for Birmingham, four for Leeds, four for Preston, Sheffield, and some other large and populous places, and two for minor towns, such as Bolton, Wigan, Macclesfield, &c. The rules and laws for the government of the association will be forthwith printed for general distribution, and local committees formed for the various towns, each having a secretary; so that, on any intimation of a strike, or any unusual demands being made by the unions in any particular place, every member of the association throughout the country, will be immediately made acquainted with it, and be prepared accordingly.

We do not mention this association with any feeling of satisfaction,—quite the reverse. The antagonistic principle thus developed, the further separation of classes whose interests are, or should be identical, is greatly to be deplored, and we shall look with deep interest for the arrival of the time, when the masters' union and the men's union, shall merge in one general union for the general good.

The money which has been foolishly and wickedly wasted, in this ill-advised struggle, would have provided the means of education for thousands of their children.

LEAVES FROM AN ARCHITECT'S DIARY.

No. 2.

—The practice of committing ideas to paper, or, as it might be expressed, of thinking pen-in-hand,—this form of attentive consideration, and tabular systematizing of thoughts and reflections, would be a greater assistance than many wit of, in the accomplishment of their professional duties. For, as the grand secret of success, that which enables one man to carry on an amount of labour twice as great as another, consists in system and arrangement, so that system can be greatly promoted by the habit to which reference is made. The number of original thoughts which constantly arise and perish, for want of a ready memorandum, would, in minds of no extraordinary capacity, almost equal in importance the more patent results of investigation and labour. The lid blown off by the steam from a kettle, or the apple which fell from the tree, trifling as the incidents might have been in themselves, were really the precursors of discoveries, one of the most important element in the progress of modern science, and the other of the laws which regulate the universe.—Not that any argument can be drawn from this, that research is of little importance; inventions are valueless till certified by experiment, and habits of investigation themselves originate those ideas, which too often disappear almost as soon as they arise.

—Recurring to preceding pages of this Diary,—how many of them are records of exertions, which did not bring an adequate return? Difficulties there may be in every profession; much labour must be gone through —and that we accept willingly—and the main end of labour accomplished only sometimes. But I do not think that in any other profession there is the same indifference to its interests, which characterizes our own. The opinion of an architect, when applied for, and his time, are his property, as the world *knows* they are in the case of the barrister, and the physician—why repeat any thing so obvious? Because the world will not know this, and the architects seem careless to explain it. Not to mention the one great system of swindling by committees, in competitions, which as much deserve to be the subject of a "blue book," as many that come from the parliamentary press, the extent of which architects themselves are not aware of, and the injurious results of which people generally do not stop to estimate; the architectural profession to popular eyes is shrouded, and those who are painfully interested make no effort to dispel the mist.—An architect, what is he? Mr. Planché lately told some thousands of people that he was a *builder*;* not an able and honest one, but the perpetrator of those vile productions, built of condemned bricks and unseasoned timber, to which allusion was made some pages back.† To

"Stipulate that houses now should *stand*,"

was

"A fallacy, exploded long ago,
As ruinous to architects," * *

for, according to the same authority, if

"dwellings were to last for ages,
The half of us will not get workman's wages."

Thus a large audience go home every night, each one of them thinking, that all the shaky windows and creaking floors in *his* house are the work of "these architects,"—not one of whom ever heard of the place—and not only that, but that such mal-construction, it is the interest of the architect to encourage, and that he is rascal enough to do so. "Great is truth, and will"—but nobody says when—"prevail;" one erroneous statement boldly made, and pregnant with sarcasm, lays stronger hold of the popular palate than any truth supported by evidence, but needing the trouble of examination. As the easiest way of teaching children is by rhymes, so the jingle and the satire are recollected, whilst the injustice and the slander are uncared for.—A building is erected,—some wit discovers it is like something, no matter what; from that moment all inquiry into its actual merits is at an end. The dictum is quoted in encyclopædias and popular literature; people who never opened a book on architecture telegraph the jest, and the world assumes it to be incontrovertible. When you have set before you dishes garnished and spiced, think it not amiss to inquire a little, what *may* have been the naked state of that particular *entremet*, and though you relish the pepper, and pass by the oil, court rather the plain old English fare, which aims at no deception, and shews precisely what it is.—People *will have* showy buildings, and will have them cheap;—who answer for it? "Architects." People "*save* the expense of an architect"—who answer for it? "Architects." Men of science, who make acoustics or ventilation their entire study, fail;—who again bear the brunt? "Architects." A member of parliament the other day argued, that the system of ventilation should be persevered in for the sake of experiment. Ventilation is the architect's business, but who would dream of giving him a building and a separate amount to *experiment* with.—The clever author of the burlesque is probably, by this time, aware, that architects have had no hand, in the "streets, crescents, and squares," and that it is "the gulls" who "take" the houses who keep up the bad system of building, which architects quite agree with him in denouncing.

—Thus it appears, that the impediments to success in the profession of an architect, arise mainly from the want of familiarity in the public with the nature and value of his labours, and the proper mode of remunerating them, leading them to consider the pursuits of architect and builder as identical, to ask that from the architect, which in any other case, they would not think of accepting without the equivalent; to which it is necessary to add, the too facile acquiescence of architects themselves, in what tends alike to their own detriment, and that of every one else, in health and personal comfort, in mind, body, and purse. Architects must become true cosmopolites; let them enter into the world, and advocate the improvement of taste, and the scientific construction of buildings on the principle of public good, and they will so best advance their own immediate interests.

* Vide p. 181, *ante*.
† Vide "Leaves from an Architect's Diary," ante p. 170.

PROHIBITION OF SMOKE.

REPORT BY SIR HENRY DE LA BECHE AND DR. PLAYFAIR.

Our readers may remember that a bill for the general suppression of smoke, before the House last session, was withdrawn upon an understanding that a subject of such admitted public importance should be left in the hands of the Government, and that some measure having this for its object should be submitted to Parliament by them.

Before doing this, the Government thought it desirable to refer the matter to Sir Henry De la Beche and Dr. Lyon Playfair, directing them to inquire, amongst other things, into the means at present adopted for the prevention of smoke in various parts of the kingdom.

We take the following from the report of these gentlemen now published:—

"The general principles upon which the combustion, or rather the prevention of smoke, may be effected are now well known, and admitted to be applicable in practice. Smoke consists of vapours produced by the partial combustion or distillation of coal, carrying up small particles of the fuel in mechanical suspension, and depositing, by the combustion of one of their constituents, carbonaceous matter in a fine state of division. The mode of preventing this smoke is to admit a sufficient quantity of air to effect the combustion of the carbonaceous matter, when the vapours are of a sufficiently elevated temperature to unite entirely with the oxygen of the air. If the temperature be not sufficiently elevated, the hydrogen of the vapours alone is consumed, and the carbon is separated in the fine state of division referred to. The gases produced by the complete combustion of fuel are colourless and invisible, and therefore do not come under the definition of the term smoke.

As the prevention of smoke implies the complete combustion of fuel, the result, as an abstract statement, always is, that more heat is generated, and a saving of fuel effected, when it is so consumed as to prevent the emission of smoke; but although this theoretical conclusion is undoubtedly correct, the practical results are not always consonant with this statement.

In consuming smoke in the usual way a quantity of cold air is introduced into the fire, and as this must be heated up to the temperature of the surrounding fuel, the loss of the latter may be equal to, or even greater than, the saving of the fuel from the combustion of the products of distillation. This often results in the careless use of furnaces constructed on the principle of smoke prevention, and thus leads to the contradictory statements given by those who have used such furnaces. But in all carefully conducted experiments the saving of fuel has been considerable, and the reason of this will be at once perceived, when it is considered that in addition to the combustion of the products of distillation there is a large amount of fuel saved by the combustion of a gas called carbonic oxide, formed by the proper product of combustion, carbonic acid, taking up in its passage through the incandescent fuel, another portion of carbon, which escapes useless as regards the production of heat, unless burned by the air introduced at the bridge of the furnace, for the purpose of consuming the products of distillation.

From these considerations, and from experiments conducted under our inspection, with a view to determine this point to our satisfaction, we arrive at the conclusion, that although from careless management of fires there is often no saving, and that indeed there is frequently a loss of heat in the prevention of smoke, still that with careful management the prevention of smoke is in many cases attended with, and may in most cases be made to produce, an economy of fuel.

It may be unnecessary to remind your lordship that the cause of the emission of smoke in manufactories may be classed under three different heads, the relative importance of which involves very different considerations in any attempt to legislate for its prevention. These are,

1. The want of proper construction and adjustment between the fire-places and the boilers, and the disproportionate size of the latter to the amount of work which they are expected to perform; 2. The deficiency of draught, and improper construction of the flues leading to a chimney of inadequate height or capacity; 3. The carelessness of stoking and management by those entrusted with the charge of the fire-places and boilers."

Into some of the local acts for the suppression of smoke, provisions were introduced which have rendered them to a great extent inoperative.

"Most of the recent acts for this purpose are founded on the clause in the Derby Improvement Act, which enjoins a penalty 'for or in respect of every week during which such furnace or annoyance shall be so used or continued.' Now, as it cannot be proved that smoke does continue without cessation for a 'whole' week, seeing that, in all chimnies, there are periods when no smoke is emitted, and that smoky chimnies do not emit opaque smoke more than 20, and in the worst cases not more than 30, minutes in the hour, and that at night the small amount of fire kept on in the furnaces prevents the emission of smoke, no conviction can be obtained under this Act. Eminent legal authorities have been consulted, and have stated as their opinion, that for the purposes of conviction, it is essential to prove that a furnace continues to smoke for a whole week without interruption."

Relative to various Acts:—

"The general result of the examination is that they have proved unsuccessful,

1. From legal difficulties in procuring a conviction under the present ambiguous wording of the smoke clauses.

2. From inefficient supervision, and want of compulsory powers to make the execution of the Act imperative.

3. From want of adjustment in the amount of penalties, which in some cases are so small as to be practically useless; in others so large, and accompanied with so much expense in obtaining the conviction, as also to be inefficient.

Lord Lincoln's letter does not authorize us to make any recommendation as to legislative enactments; but it may be proper to mention that in every locality statements were made to us, that the only mode of obtaining an abatement of the nuisance was by summary convic-

tion before a magistrate, the penalty being exacted once for any part of a day during which a chimney continues to smoke. At the same time it must be observed, that when we consider the magnitude of the interests affected, the expense attending alterations, when the cause of the evil is connected with deficient boiler room or inefficiency of draught, it is necessary that there should be provision made, to ensure the parties against undue application of powers generally entrusted. Your lordship will doubtless consider whether in such instances, it would be advisable to cause the expensive process of an appeal to a higher court to be the only means of redressing such grievance, or whether the same principle might not be applied as that contained in the Health of Towns Bill, to enable the Government, on application to that effect, to institute inquiry by a properly qualified officer as to whether the convicted parties had fairly tried the ordinary means for abating the nuisance, and whether further time should not be granted for continued experiments.

It cannot for a moment be questioned, that the continued emission of smoke is an unnecessary consequence of the combustion of fuel, and that, as an abstract statement, it can be dispensed with. But your lordship will perceive that there are grave difficulties connected with a general law to the effect that it shall be unlawful for chimnies, after a certain date, to emit smoke. With regard to steam-engines, the processes for the prevention of smoke have been matured, and in very many instances successfully employed. In this case, therefore, a law to that effect could be most easily and promptly carried out. In other cases mentioned in Lord Lincoln's letter, such as distilleries, dye-works, &c., the legislature has already granted powers in the Manchester Local Act; and as there are certain instances in which processes for the prevention of smoke have with them proved successful, it may be anticipated that the nuisance arising from these sources may be much abated, if they be subjected to the general law with that forbearance and caution which, under certain cases, is so advisable. There are certain processes in glass-works, iron-furnaces, and potteries, in which it is neither possible nor desirable to apply a general law for the prevention of smoke; although the nuisance may be partially mitigated, by causing the steam-engines employed in them to be so constructed as not to emit smoke."

"It is useless to expect, in the present state of our knowledge, that any law can be practically applied to the fire-places of common houses, which, in a large town like London, contribute very materially to the pollution of the atmosphere; but it may confidently be expected, that by a wise administration of a legislative enactment, carefully framed, a great progressive diminution of the smoke of large manufacturing towns will be effected, and that the most happy results will thus flow from this improvement, in the increased health and moral feeling of their population, the intimate connection of which with facilities for cleanliness has been so often pointed out."

GREEK AND ROMAN PORTRAITS.

We alluded a short time ago to a paper on this subject, which was read at the Institute of Fine Arts, by Mr. R. N. Wornum. It displayed considerable learning as well as acumen, and shewed a development of painting at a very remote period, little contemplated by the generality of artists. We have much pleasure in laying some extracts from it before our readers.

"It is a prevailing, though not a general impression, that the ancients were better sculptors than painters. This is easily accounted for. Most persons are disposed to believe what they see, and comparatively few what they hear only, especially if their own experience is of a contrary tendency. The paintings also of Pompeii, and of the ancient vases, have incontestibly tended rather to lower the reputation of the ancient painters in the estimation of the world generally, though the competent judge will find, upon a judicious examination, the confirmation of ancient criticism in these remains; for they contain many great beauties, especially in composition, though they are evidently the works of the inferior artists of an inferior age. To judge, however, of the ancient master-pieces of art from such specimens, is tantamount to estimating the great works of modern ages by the ordinary patterns on modern crockery and French paper-hangings; to which the immense superiority of the designs on the vases and other ancient remains is some index of the excellence of the great works of antiquity, so uniformly praised by ancient writers."

"The facts attesting any great early development of portraiture among the Greeks are not numerous; yet portrait-painting is certainly coeval with painting itself; its degree of excellence of course depending upon the degree of development of the latter."

"The earliest known example apparently of Egyptian portraiture is the portrait of Amasis, mentioned by Herodotus. Amasis sent a golden image of Minerva, and his own painted portrait, to the Greeks established at Cyrene. He sent also two wooden images of himself to the Heræum, or Temple of Juno, at Samos. This was about six centuries before the Christian era. Herodotus saw these wooden statues; they stood in his time immediately behind the gates (Herod. ii. 182)."

"Greek writers do not mention any Greek portraits of so early a date as this portrait of Amasis, yet they speak of allegoric and iconic portraits of a very early period. Aristotle (*de Mirab. Auscult.* c. 99) gives an account of a remarkable production in this respect. He describes a magnificent purple shawl or pallium, ἱμάτιον, probably of Milesian wool, which was made for Alcisthenes, a native of Sybaris. It was embroidered with the representation of cities, of gods, and of men; and from the Greek word ζώϊα, used here to signify the representations, it appears that the cities also, as well as the gods and men, were represented in a human form (Schweighäuser, *Animadv. in Athen.*, vol. xi., p. 47). Above was a representation, probably an allegoric female impersonation, of the city of Susa; below were figures of Persians; in the middle were Zeus, Hera, Themis, Athene, Apollo, and Aphrodite; on one side was an impersonation of Sybaris; and upon the other, a portrait of Alcisthenes himself. This shawl, the wonder of the Italiots, came subsequently into the possession of the elder Dionysius, tyrant of Syracuse, about 400 B.C., who sold it to the Carthaginians, for the enormous sum of 120 talents, or nearly 30,000*l.* Sterling. A shawl of such value, for its workmanship alone, is scarcely within the comprehension of a modern manufacturer. It was of the ordinary size, though its dimensions are not quite evident from the mere statement, that it measured fifteen cubits; however, whether fifteen cubits all round, or fifteen square cubits, it would still be of the ordinary size of a shawl of the present day. Alcisthenes lived probably about 520 or 530 years before the Christian era, and shortly before the fall of Sybaris, as from this shawl he must have lived in the most luxurious age of that luxurious city.

Nearly contemporary with this production of Sybaris, is the picture which Mandrocles of Samos, architect, dedicated in the Heræum of Samos. Mandrocles constructed a bridge of boats across the Bosphorus, for Darius Hystaspes and his army, on his expedition against the Scythians, 508 B.C. He had a picture painted, of the passage of the army across, with the portrait of Darius, seated upon a throne, reviewing his troops as they passed; and he dedicated it in the Heræum of Samos. In this picture, probably the portrait of Darius was little more than a mere iconic of the royal robes and regalia of Persia, with an indication only of the characteristic features of the king; and the figures must have been very small, or the picture very large, which is scarcely probable (Herodotus, iv. 88). The Heræum of Samos was a general depository for works of art; and it appears in a subsequent age to have been particularly rich in paintings, for Strabo (xiv. p. 637) terms it a picture gallery (πινακοθήκη). Paintings appear to have been common at this time amongst the Ionian Greeks. Herodotus (i., 164) speaks of the paintings of Phocæa, in the time of Harpagus, 544 B.C., as being reckoned among their most valuable possessions by the Phocæans. In the prophet Ezekiel, we have still earlier mention of Asiatic paintings, and indeed of costume portraits of a princely character. 'Men portrayed upon the wall, the *images* of the Chaldeans portrayed with vermillion, girded with girdles upon their loins, exceeding in dyed attire upon their heads, all of them princes to look to, after the manner of the Babylonians of Chaldea, the land of their nativity' (Ch. xxiii. 14, 15).

Statutes and portraits were, at an early period, decreed by the Greeks, as public testimonials in honour of distinguished deeds, as to Harmodius and Aristogiton; and the like honour was awarded to those who had been thrice victors at the Olympic Games (Pliny, xxxiv. 9)."

"Portrait painting was doubtless completely established in the time of Pericles. Dionysius of Colophon appears to have been a perfect master in this department, though he was not exclusively a portrait painter."

"That the Greek painters, even of this early period, were good colourists, is certain, from the very completeness of Lucian's expression (*Imag.* 7.), with regard to this important department of painting. He mentions four painters, Polygnotus, Euphranor, Apelles, and Aëtion, as having best understood the proper mixing and laying on of colours. Of the correctness of their theory, we have good evidence in the observation of Plato (*De Republ.* iv. 420, c.), who in speaking of painting statues, says, it is not by applying a rich or beautiful colour to any particular part, but by applying its proper colour to each part, that the whole is made beautiful. Plutarch also (*Cimon.* 2.), in a later age, observes, with equal propriety, in speaking of portraits, that when a painter has a beautiful model to paint, which, nevertheless, may have some trifling blemish, he will not entirely omit the blemish, nor will he exactly imitate it; as the one would interfere with the likeness, and the other would detract from the beauty of the picture. This recalls to mind the injunction which Cromwell gave to Lely when he sat to that painter for his portrait: he said, 'Mr. Lely, I desire you will use all your skill to paint my picture truly like me, and not flatter me at all; but remark all these roughnesses, pimples, warts, and every thing as you see me, otherwise I will never pay a farthing for it.' (Walpole, *Anecdotes.*) There is another evidence of the mature age of the formative arts, and of taste, at this time in Greece, in an admirable law of Thebes, which is noticed by Ælian, (*Var. Hist.* iv. 4.) He says that all painters and sculptors who practised their arts in Thebes, were compelled to execute their own portraits or busts, to the utmost of their ability, as a proof of their proficiency; and that those artists whose works were considered inferior, or unworthy of their profession, should be heavily fined. The only obvious end of this capital regulation, seems to have been the protection of the public taste, by intimidating incompetent persons from following the arts of design as a profession. No doubt, such a law, impartially carried out, would have a very beneficial effect, in any time or place; and it might be perhaps advantageously imitated by the moderns."

"The master-piece of Apelles, says Pliny (*l. c.*), according to competent judges, was the portrait of King Antigonus on horseback. Nearly all the works of Apelles were portraits. He painted Alexander, whom he had the exclusive privilege of painting (Hor. *Ep. II.* i. 239), several times; and the price of one of these portraits, which was preserved in the Temple of Diana, at Ephesus, was alone a great fortune, and such as few painters probably have since earned during the whole course of their lives. Alexander was painted wielding the lightning of Jupiter; and doubtless, more on account of the flattery than the art, the king, according to the almost incredible statement of Pliny (*l. c.*), ordered twenty talents of gold (upwards of 50,000*l.* sterling), to be given to the painter; so great an amount, that it was measured to Apelles, not counted."

"Probably there is no use of portraits, of which we do not find mention among the Romans; and they employed them in several ways to which we have no record of similar usages since. Pliny (xxxv. 2.) has several curious observations on portraits. He says, that in olden times, that is, compared with his own time, portraits were made as like in colour and form to the originals as was possible—a custom in his time grown quite obsolete. And we have, he continues, shields and escutcheons of brass, with portraits inlaid in silver, which

have neither life nor individuality. Now, all men think more of the material in which their likenesses are made, than of the art or the resemblance. The effigies they leave behind them, are rather images of their wealth than of their persons. Thus it is that noble arts decay and perish. With their ancestors it was very different; their halls were not filled with either strange images of brass or of stone, but with the lively portraits of themselves and of their forefathers, in wax, exact similitudes. These portraits, so pathetically regretted by Pliny, were wax busts, and they were preserved in wooden shrines, in the most conspicuous parts of the house. The custom, therefore, so particularly described by Polybius (vi. 53), seems to have grown into disuse before Pliny's time. Polybius says, 'Upon solemn festivals, these images are uncovered, and adorned with the greatest care. And when any other person of the same family dies, they are carried also in the funeral procession, with a body added to the bust, that the representation may be just, even with regard to size.'"

"It was also an early practice among the Greeks and Romans, for warriors to have their portraits engraved upon their shields. These shields were dedicated in the public temples, either as trophies, or as memorials of the deceased (clypei votivi). Pliny (xxxv. 3), states that the shields, or *scuta*, were called *clypei*, on account of these portraits (imagines clypiatæ, or imagines clypeorum), which were engraved upon them. Appius Claudius, consul A.U. 259, 495 B.C., was the first Roman who dedicated such shields in a public temple. He dedicated the shields of his ancestors with their portraits and titles upon them, in the Temple of Bellona; Marcus Æmilius followed his example, and thus it became a Roman custom. They were hung sometimes on columns."

"Pliny praises in high terms another Roman custom, due to the example of Asinius Pollio, of placing the statues and portraits of authors in libraries. The portraits of authors appear to have been placed in public libraries, above the cases (pegmata), which contained their writings; and below them, chairs were placed for the convenience of readers: a delightful arrangement. Cicero, in a letter to Atticus (iv. 10), says, "I had rather lounge in the little chair you have under the portrait of Aristotle, than sit in their curule *sella*." Suetonius mentions the portraits of authors, on several occasions, in the lives of the emperors. Tiberius placed the writings and portraits of Euphorion, Rhianus, and Parthenius, among the best ancient authors, in the public libraries of Rome (*Tib.* 70). Tiberius also passed an edict respecting the public placing of statues and portraits; he allowed none to be placed without his sanction, and then only in the temples as ornaments, and not among the gods (*Tib.* 26). A similar law was passed by Caligula, who forbade the statue or portrait of any living man to be placed without his sanction (*Calig.* 34). Caligula appears to have contemplated the removal of the portraits and writings of Virgil and of Livy from all the libraries (*Calig. l. c.*)."

"Marcus Varro took extreme pleasure in portraits; he appears to have invented some method of multiplying them. Pliny's allusion, however (*l. c.*), to the fact is so very concise, that it is scarcely safe to venture upon any explanatory conjecture as to the means. He made, *aliquo modo*, and inserted in his writings, the portraits of 700 distinguished men, and dispersed them to all parts of the world (*in omnes terras misit*). And this he did for the gratification of strangers. Pliny appears here clearly to speak of more than one set of portraits, and they must, therefore, have been either repeatedly copied in sets, or printed; and if so, possibly from wooden cuts, though this is scarcely probable, or something of the kind would have been handed down, if not to our own day, at least for a few centuries, so that some traces of such an art would appear in the earliest manuscripts."

NEWSPAPER

Electric Telegraph struck by Lightning.—The magnetic telegraph wire was struck by lightning at Lancaster, several times last week. It is too small to contain fluid enough to do harm. The sound in the office, which was accompanied by a few sparks, was like a pistol shot.—*New York Sun.*

ARCHITECTURAL NEWS FROM BERLIN.

The new Building over Kœpnik Fields.—If it be taken into account, that the increase of population in the Prussian capital has been (proportionately) as great as that of London, viz. 150,000 since 1815; if the large spaces which have been of late taken up by railway termini and public edifices are added thereto, all which has taken place at the *west end* of the town, the extension in an opposite (S.E.) direction became matter of necessity; where, fortuitously, *Kœpnik Fields*, a large sandy expanse, hitherto merely occupied by kitchen gardens, affords the widest scope. Hitherto, most of its streets and squares are only arranged on paper; several, however, are already marked out, and *Ritter Strasse* even possesses some good houses. The communication with the older districts of the town, will be effected by several demolitions and cuttings through of new streets. In this, however, northerly and barren locality, an Italian-like structure attracts notice. It is the new *Jacob's* church. A square area covered with turf and shrubbery, and separated from the street by an iron railing, is surrounded on three sides by a porticus supported by columns, to which you ascend by a few steps. Behind the middle portion of the porticus rises the church, in the old Basilica style, its front merely ornamented by a window rosette, the main nave reaching over the lateral axis; to the left of the entrance, joining the external wall of the building, is the square belfry, of four stories of arched windows. It stands, according to Italian style, by itself; while in the northern style, it seems to develope itself out of the main structure. The interior presents a three-naved space, each supported by ten pillars. It has two stories; on the pillars of the lower reposes a flat structure of joists, while the upper columns have arches, over which continues the wall with its arched windows. The tribune ends with a semicircular niche, before which stands the altar, to which you ascend by three steps. At the bottom of the lateral naves are doors leading to the vestry and *baptisterium*, which are also included in the semicycle. The decoration is simple and chaste, and the whole altogether Italian. If it is compared with others, similar Basilicas, for instance, that of St. Agnesa, on the Nomentine road, the balance will be found in favour of the Berlin structure.

At the meeting of the *Prussian Society of Arts*, a most important event took place, inasmuch as the whole council, with Mr. De Olbers at the head, resigned their offices. There had appeared of late, symptoms of opposition, putting forth that the society did not encourage the right *sort* of arts and artists—and thus a new set of laws and regulations has been called for, which will be laid before the next general meeting. Such incidents did not prevent, of course, the very courteous and hospitable reception given to the French antiquary, Mr. Raoul Rochette, who exhibited at one of the meetings of the Archæological Society, the late parts of his work on the *wall-pictures* of Pompeii, which, however, are said to be inferior in execution to those published by Ternite and Welker, at Berlin. The fine sarcophagus executed by Professor Rauch for King Frederick William III. at Potsdam, where H. M. lies close to his consort, is completed, and will shortly be accessible to public inspection.

PROFESSOR WILLIS ON ECCLESIASTICAL ARCHITECTURE.

On Thursday, May 26th, Professor Willis commenced the subject of style and decoration in mediæval architecture. He alluded to the early origin and history of the arch, shewing that it had been known to the Egyptians, and proceeded to describe the various forms of arches, and the methods of delineating them. He suggested a simple mode of ascertaining the outline of Gothic arches, by holding a number of cardboard forms, prepared ready for the purpose, between them and the eye, and shewed, that frequently, they had their centres disposed according to a settled proportion of the opening, and that the division into three equal parts of the space was not uncommon.

In its early history, the arch had been employed in construction exclusively: a portion of the inside of the Pantheon shewed an order below, and windows above, but the arch was not at all apparent.* However, on turning to the other side, they found that the actual construction was completely different. A large arch distributed the weight of the dome to the main piers, and smaller arches beneath the first relieved the pressure from the architraves between the columns. In later buildings, the Romans, instead of concealing the arches, began to decorate them, as with an archivolt, and arranged them on strong piers in an arcade. They then added further decoration by combining them with an order, placing a column in front of the pier; and so at last the arch gained the victory. Thus we had made an important step in the progress of architecture, and had seen that the actual construction may be entirely different from the apparent construction, or that which is represented by decoration. It had been said, that the early progress of style was marked by the expression of the construction; whilst he contended, that the tendency was the reverse. He also referred to a drawing of a Moorish arch, which had on one side all the appearance of being built entirely of voussoirs, whilst, actually, on the other, the lower portions had regular courses, and belonged to the piers, the arch itself being confined to a small portion at the apex. This was the principle, which the Gothic architects adopted in their arches and vaultings.

Subsequently to the use of the arch with piers, amongst the Romans, we found the arch with columns only. Of this, he believed that the earliest example was in the palace of the Emperor Diocletian, at Spalatro. In this building there was another singular feature, namely, the entablature of an order carried from column to column as an arch.†

A change of equal importance was that in the mode of arranging voussoirs. This consisted in placing the concentric rings, not on the same face, but corbelling them over in the section of the arch,—an ingenious contrivance, and one which had an immense influence over the whole system of decoration.

The lecturer then described the system in Gothic tracery called "subordination," which consisted in the combination of patterns having a relation to each other, and made some comment upon the inattention, often shewn in drawings to the forms of the "cuspidated openings." He first placed in a frame, a cardboard representation of the first order of mouldings in a window of flowing tracery, and then shewed by other sheets, how the several ramifications and cuspidations combined. They would thus see, that unless these points and cuspidated openings were drawn with great care, the physiognomy of the window might be completely changed. He also shewed the same principle in a window of "geometrical" tracery. Sometimes the arch itself was formed by cusps and points, arranged in various ways; this was called "foliating the arch,"—he preferred to say "cuspidating the arch." In many cases, as in arches over tombs, each cuspidation was itself cuspidated, by which great richness was gained; and sometimes there was a third order of cuspidations. He then explained the principle of "perpendicular" tracery, which consisted in the great preponderance of perpendicular lines, the mullions often being continued unbroken up to the arch. But, there were other features in windows of this date, and one had not yet been much noticed. He referred to that peculiar arrangement, resembling the tiles on a roof, and which he denominated "imbricated tracery." Windows of this class were numerous, and had not generally been distinguished from those called "perpendicular."

Marble for Napoleon's Tomb.—The Francesca Catharina, with a cargo of marble for the tomb of the Emperor Napoleon, arrived on Sunday at Havre, on its way to Rouen. This vessel, after having been obliged to put into Gibraltar and Lisbon, was caught in the Bay of Biscay in a violent gale of wind, which placed it in great danger, and the crew were forced to throw overboard ten tons of its cargo.

* It was, of course, not necessary to mention another part of the building, as that does not affect the argument.—Ed.

† As in the curious example at Damascus, noticed at a meeting of the Institute of British Architects, vide Vol. III.—Ed.

COMPETITIONS AND ARCHITECTS' REMUNERATION.

SIR,—Much having been written in your valuable paper, respecting remuneration to architects and architectural competition, and thinking that much good may eventually be to the profession by exposing the meanness of employers in the former, and the unfairness often practised in the latter, I have copied the enclosed advertisements, which appeared in the *Hampshire Chronicle* on the 16th and 23rd inst.—I remain, Sir, &c.,

Winchester, May 16. A SUBSCRIBER.

"*To Architects, &c., Farnham Union.*

"The guardians of the above union will give *five pounds* for the most approved plan for altering the Farnham workhouse into a four-fold classification, for about 200 inmates, and for any requisite alteration in the Aldershot workhouse for the accommodation of the children of the union.

"Plans and suggestions will be received at my office till six in the evening of the 21st inst., where further particulars relative to the plans required may be obtained.

"May 9th, 1846. W. J. HOLLEST, Clerk."

"*To Architects, &c.*

"The guardians of the Farnham Union, not having received satisfactory plans, for altering the Farnham Workhouse into a four-fold classification union house (as before advertised) for about 200 inmates, hereby notify, that they will give *ten* guineas for the most approved plan of the requisite alteration in such house, and also for any necessary alteration in the Aldershot Workhouse, intended to be used for the children of the union.

"Plans and suggestions will be received at my office, or at the board-room, on or before Friday, the 5th of June next, at 11 o'clock.

"W. J. HOLLEST, Clerk.

"Farnham, May 22nd, 1846."

*** All we have to say on the subject is, that the guardians of the Farnham union ought to be ashamed of themselves; and that if they are not, we are for them. We hope sincerely, that no person entitled to call himself an architect, will be led to degrade himself and his profession by offering his services under such conditions.

PARLIAMENT AND PUBLIC BUILDINGS.

ON the 26th ult., the sum of 121,578*l.* was voted by the House of Commons to defray the expense of building, and the lighting and repairing of certain public departments. It included the sum of 5,000*l.* for the repairs of Glasgow Cathedral, and 1,210*l.* for the repairs of Dunfermline Abbey.

Office for Records.—Mr. Protheroe entered a remonstrance against the continued waste of the public money for providing, temporary and very inconvenient accommodation for the public records, instead of at once placing them in a permanent building of a suitable kind. As it was, the records could not be consulted, nor their arrangement pursued with advantage, so long as they were kept in the small buildings allotted to them at present.—The Chancellor of the Exchequer was extremely anxious to afford every possible accommodation for the public records; but remarked that there were buildings at present in the course of erection, connected with the new Houses of Parliament, which would be devoted to that purpose.—Mr. Protheroe thought that a plain specimen of good architecture might easily be erected at once, and at a very small cost, for the accommodation of the public records.

Kew Gardens.—The next vote was a sum of 10,000*l.* to defray the expense of erecting a palm-house in the garden at Kew, which was agreed to.

Houses of Parliament.—A sum of 15,558*l.* to defray the expense of providing temporary accommodation for the Houses of Parliament, committee-rooms, &c., was then voted, and 72,400*l.* to defray the expense for one year of the works of the new Houses of Parliament.—Mr. Hume, seeing a charge of 2,400*l.* for fresco paintings, wished to know whether any general plan had been adopted for decorating the buildings, and what estimate had been made of the amount to be expended in this branch of art.—Sir. R. Peel believed there were two or three compartments in the House of Lords, to be appropriated to fresco paintings. The Victoria gallery was under the consideration of the commission, but they wished, before they committed themselves to any general plan, to see the effect in those two or three compartments which had been dedicated to frescos.—Mr. Hume wished to know whether the fresco decoration would be confined to the House of Lords?—Sir R. Peel did not think the House of Commons would afford the same scope for fresco decoration as the House of Lords. There had been a committee of the commission for the purpose of selecting subjects from history for fresco paintings; the committee had made a report; but the commission had not yet come to a final decision.

Board of Trade.—The next vote was 19,235*l.*, to defray the expense of taking down and rebuilding the Home-office, Board of Trade, and Council-office, Whitehall.—Mr. Protheroe wished to know whether the new frontage of the Board of Trade and Home-office, was to be extended as far as Lord Dover's house? It appeared to him as though the buildings were being patched up, and that the artist would be able to produce a better effect, if he were not trammelled with the designs of Sir J. Soane.—Sir R. Peel said that the projection of the face of the building beyond the front of Lord Dover's house, would be so slight as not to spoil the general effect.

The National Gallery.—Sir D. L. Evans inquired whether the Government were prepared to consider the expediency of enlarging the National Gallery, or of removing the pictures to some other and better place. He thought that the money now proposed to be voted might better be applied to such a purpose.—Sir R. Peel reminded the hon. member that the House of Commons, by restricting the amount which the building was to cost, had been partly responsible for the result. He did not attempt to defend the building, but the site was an excellent one, there could not be a better, and the pictures were not liable to any injury that could not be prevented. The number of applications made to the Government to sanction buildings of various kinds was so great, that the hon. gentleman must not be surprised if they refused to give any such assurance as he asked for, with respect to the National Gallery.

Works in Ireland.—A vote of 51,452*l.* was also agreed to for public buildings and works in Ireland.

ADVERTISING FOR CANDIDATES FOR OFFICES ALREADY FILLED.

SIR,—I have observed with pleasure the zeal which you have manifested for the honour of the profession, and the manner in which you have defended it from the mean opinions of mean men. I would therefore beg to solicit the favour of your attention to the facts contained in the following letter, for the authenticity of which I pledge myself. I think much good might accrue from its publication.

I am, Sir, &c. J. L. HALE.

8, Denmark-place, Well-street, Hackney,
May 30, 1846.

To the Rev. the Vicar of St. Giles', Camberwell, Surrey.

REV. SIR,—I take the liberty of addressing you, on the supposition that you have some interest and influence in the affairs of the parish, over which it is your pleasure to officiate. I would beg to call your attention to a great grievance which obtains generally at the present time, and is extremely prejudicial to that portion of the public who, seeking situations, have already their full measure of anxiety, and, necessarily provident of their means, are less capable of bearing the trouble and expense attending useless applications. The evil of which I complain has just manifested itself in the grossest form in your parish, and subjected me to much annoyance, as will appear from the following facts. A few days ago, the following advertisement appeared in the *Times*:

"St. Giles, Camberwell, Surrey.

"Wanted, *a Surveyor of Highways*, of this parish. Security required. Applicants for the situation are requested to send their testimonials, with the names of two sureties, under cover, directed to me at the vestry hall of the said parish, on or before Thursday the 21st inst., and to attend personally at the same place on the following evening, at six o'clock precisely, to be examined as to their fitness for the office.

B. HOOKE, Vestry Clerk."

I was a candidate for the office, and fulfilled all the conditions expressed in the advertisement; and my testimonials were of the highest authority. I waited an hour and a half after the time appointed, before there was any appearance of examination. Proceedings were then commenced, and carried on, I was informed by one who had the privilege of being present, in a very unbusiness-like manner. Some of the candidates only were examined; and one of them was told that his testimonials were "too good for the place," they only wanted a "common road-maker." Having waited an hour longer, during which the few candidates who had been examined once were examined again, I inquired of one of the officials how the examinations proceeded, when I was informed that business was all over. I then made inquiry for the vestry clerk, desiring explanation relative to the negligent manner in which this business had been concluded, especially as other candidates besides myself considered themselves most uncourteously treated. I was told, however, it was impossible I could see him. The following day, by request, I received my testimonials and letter of application, on which was written, "Mr. — did not attend." It would appear by this expression they intended to add insult to injury; for it is well known to the officers and clerks present, that I waited by the door of the examination room the whole time, expecting momentarily to be called in. It is clear, as I was informed in the hall, that a person had been selected to fill the office before the advertisement appeared.

Is it right, therefore, Sir, thus to defraud the public by upholding this obnoxious custom of calling upon the people to submit themselves, it may be, to the greatest inconvenience to no purpose? With regard to myself, I devoted half a day, and sacrificed important business in respect of the advertisement, and was finally dismissed without the least notice whatever. In my notions of justice and propriety, such conduct was most ungentlemanly, and reflects the greatest shame and contempt on the parties concerned.—I am, Sir, &c.

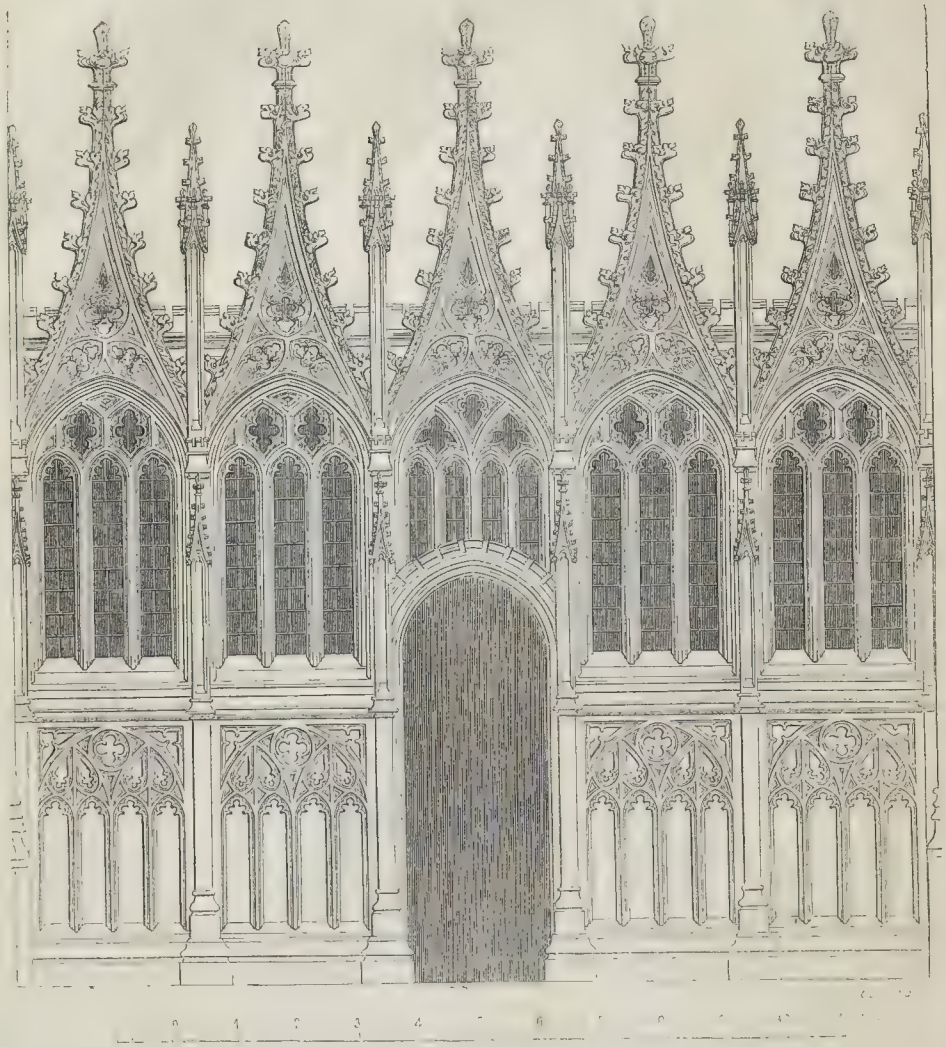
*** Of the facts stated in this particular case we know nothing. We insert it as drawing attention to a practice which, whether or not adopted in this instance, is, as we know well, constantly followed in others,—that is, of advertising for candidates for a vacancy already, to all intents and purposes, filled up. In two or three Dispensaries with which we are acquainted, the advertisement of a vacancy ("merely to satisfy the subscribers") is not inserted until the appointment is as positively made as if a formal vote had been taken upon it; and fifteen or twenty gentlemen are seduced into the expense of printing cards and testimonials, and the annoyance of a personal canvas, without the remotest probability of success. In the case of a vacant surveyorship of a public trust not long ago, the same course was pursued, and the solicitor continued the farce up to the last moment, by coolly asking the various candidates severally, who had been summoned to attend on the nominal day of election, if they had any testimonials they wished to present; although it was perfectly well known that the whole affair was settled, and that a joint testimonial from Euclid, Vitruvius, and William of Wykeham, would have been as valueless as one from Thomas Jones or John Smith.

COLLINS'S ATMOSPHERIC RAILWAY.

SIR,—In your report of my atmospheric railway last week, there is an error of so much importance to the working of the system, that I must request a correction, and the more so, as your paper is so widely circulated. You state that the apertures are opened "only while they are filled or closed by the *air-tight* fitting driving rod." Now the fact is, that the valves are not opened till the *piston head* has passed the aperture which the valve closes, the air, therefore, instead of passing in *front of the piston*, will press behind it and make up for any loss by the friction of the impelling air through the pipe; it being necessary to admit the air at intervals (to press against the piston) in a pipe of a mile or so in length; the driving rod passes through the apertures without touching the sides. Your correction of this error will confer a favour on Sir, your obedient servant, C. H. COLLINS.

Trinity-terrace, Southwark.

SCREEN: CANTERBURY CATHEDRAL.



SCREEN—NORTH TRANSEPT OF CANTERBURY CATHEDRAL.

The north transept of this interesting cathedral, commonly called the martyrdom, from its being the scene of Thomas a'Becket's murder, is very rich in monumental remains; among the best may be noticed the tomb of Archbishop Warham. Contiguous to this martyrdom, on the east side, is a chapel, now called the Deans' chapel, from several of these dignitaries of the church having been buried in it. It is a fine specimen of the architecture of the latter part of the reign of Henry the Sixth, and at that time appears to have been called the chapel of the Blessed Mary; it was built by Prior Thomas Goldstone, who died in 1468. The screen shewn in the accompanying engraving separates this chapel from the martyrdom, and was doubtless built at the same time as the chapel; it stands between two of the main piers of the transept; as a composition it cannot be too highly commended: it also presents a great variety of detail, beautifully executed. With the exception of the organ-screen, it is the finest specimen of stone screen-work in the cathedral.

W. C.

*** We feel justified in pointing attention to this illustration, as an admirable specimen of wood engraving.

ON DAMP IN BUILDINGS, ITS PREVENTION AND CURE.

BY MONS. LEON VAUDOYER.*

The following paper was read by Professor Donaldson, at a meeting of the Royal Institute of British Architects, held on the 25th ult.:—

The damp which exists in buildings arises from different causes, and appears in many forms in the lower parts of buildings. In the ground floor, damp penetrates through the walls themselves having received the moisture from soil.

The walls of which buildings consist are of two kinds; of outer walls, that is to say, those which form the outward enclosure of a building; and of division walls, which, contained within the former, divide it into its different compartments. Outer walls must necessarily have, in common with all erections, their footings on the natural soil; and have, in addition, one side in direct contact with it, when not surrounded by areas or cellars in the basement story, if there be one; in this last case the contact is simply by the footings.

The nature of division walls is various; for if there be cellars, they only come in direct contact with the soil at their foundations, and all above the level of the soil in the interior, their sides will be sheltered from the influence of the external atmosphere. Let us see by what means damp is introduced into these two kinds of walls.

According to physical laws, the damp of the

* From the "Revue générale de l'Architecture," vol. v., pp. 265, 315, 350, 416. Translated by Professor Donaldson.

PLAN AND SECTION OF DRY AREA.

Fig. 1

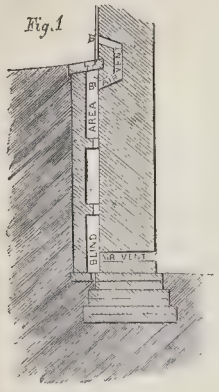
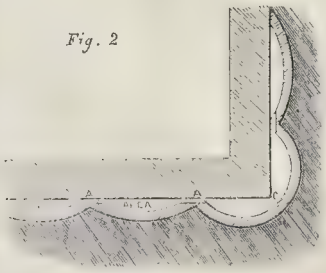


Fig. 2



soil tends to penetrate, in one direction or another, the hygrometric bodies with which it meets. It hence results, that the walls of buildings will absorb from the soil a certain dose of humidity at all the points immediately in contact with it. That is to say, if there be an underground basement, the outside walls will absorb by their footings, and by one of their faces, and the division walls by the footings alone. If there be no underground basement, the division and outer walls will be under precisely the same conditions, with respect to those parts of them below the level of the exterior surface of the soil. But are these the only causes of humidity ordinarily regarded in the lower parts of buildings? Certainly not; and it is easy to prove that, with regard to external walls, there are other causes, which, although less constant, are notwithstanding not less immediate;—we mean the rain-water, which the wind drives upon the faces of walls, by which the lower part is wetted; as well by that driven directly on the surface as by that which rebounds from the ground, or by that which falls down the face of the wall. In the case of dripping eaves, without gutters, it may be easily imagined the abundance of wet which the walls receive at the lower parts from the drips of water, and from stacks of rain-water pipes without shoes.

We may therefore consider it to be sufficiently proved that, in ordinary construction, damp enters the lower parts of buildings—1st, by the footings; 2ndly, by the walls, the faces of which are in direct contact with the soil; 3dly, by the faces of the walls exposed to rain, and the humidity of the atmosphere. It is to be understood, that the influence of these different causes operates in proportion to the nature of the soil, of the aspect of the building, of the nature of the materials employed in the construction, of the different modes of construction, and, lastly, of all the peculiar conditions to which the buildings in question may be subject.

If the lower floor of a building be covered, whether it be by any pavement whatever, or by a planking, immediately upon the soil itself, it is certain that the ground under the floor contains, first its own humidity, as also the damp which traverses the foundations of the outer walls; so that there will exist always a constant humidity throughout the whole extent of the *lowermost* floor, susceptible of exercising its influence upon all bodies immediately in contact with the surface of the soil. It has frequently been thought that, in order to diminish this influence, it was sufficient to raise the level of the lowermost floor to a certain height above the height of ground outside, if the entrance floor be the lowermost one. But these means are not so thoroughly efficacious as when there is a basement beneath, or a complete isolation under the floor, by which a thorough ventilation may be produced. And the lower parts of the external walls, the most exposed to the action of the rain, being thus below the inner surface, or floor, they cannot so easily transmit within the building the humidity which will have penetrated the exterior walls. We shall see, however, that these arrangements are still insufficient. We shall therefore lay down, in the first place, that unless there be precautions taken, the floor of the entrance story of every building placed on the level of the soil outside, and directly upon the soil inside, will take up constantly a degree of humidity. In the second place, if the level of the floor inside, be higher than the outside soil, but if it be placed directly upon the ground within the building, it will preserve very nearly the same chance of damp as in the former case, all other circumstances being alike. Thirdly, that the likelihood of humidity will be diminished, if the floor inside be placed above a basement story. And fourthly, that they will be diminished, although not necessarily impossible, if the floor be above a sub-basement, and also higher than the soil outside.

But, it must be added, that all these causes depend upon the peculiar conditions to which any buildings may be subject, and which it would be very difficult and too tedious to specify in all their detail.

The first great element of consideration is the nature of the soil; it will be at once obvious that the current of spring water will be at a higher or lower level in proportion as a building may be more or less above the level of a river, as the soils may vary in quality and are rocky, clayey, or sandy, and consequently more or less permeable, and thereby more or less accessible to water.

We need not dwell on the influences of climate, as they are too fully recognised to be disputed; but the various influences which result from the aspects of the fronts of a building, deserve consideration. The façades exposed to the west and north are injuriously affected by the temperature; whilst upon the other sides, these influences are less experienced and are counteracted by the effects of the sun.

The paving the outer surface next the building, or its being unpaved, materially affects the dryness of the inside; and the construction of numerous and full sized sewers and drains in large towns, also carries off a great portion of the surface waters; and again, an isolated building is more exposed than one contiguous to another; and also when a house is on the slope of a hill, with one part against a bank, through which the waters may flow, it is necessary to adopt precautions to prevent their penetrating the solid constructions.

No reliance can be placed on the impenetrability by humidity, of any material—wood, bricks, ordinary stones of every quality, marble, nay granite itself, are more or less hygrometric—that is to say, that plunged in water or kept in a humid atmosphere, after having been previously weighed in their dry state, there is no one which will not have acquired some addition of weight. Thus, if the base of a column be immersed in water, it will gradually rise up the shaft, and the damp never quits a body into which it has once penetrated, unless it be absorbed by the air or heat. If the upper part be dried by exposure, as soon as it ceases to be acted upon, the humidity of the lower portion will again rise to the dry part.

A wall, therefore, constructed of brick or stone of any quality whatever, will be subject to the damp which exists in the soil, and which will enter in all directions and in all parts, where the wall is in immediate contact with the ground. The extent to which this damp will penetrate, cannot be determined, and it may rise to a very great height above the level of the soil; and if it be arrested more or less, that will be caused by the influence of the neutralising power of the temperature of the atmosphere; so that a wall, which may be very damp at the beginning of summer, will be much less so at the end of the dry season, and particularly so if immediately exposed to the sun, but the following winter the damp will return, unless the original causes of humidity be subdued.

The Inconveniences of Damp.

1. Unhealthiness. 2. The destruction of all perishable objects within its reach. And 3. the gradual deterioration of the structural parts of the building. On the outer faces, the action of wet commences by the joints, the mortar generally being more penetrable than the stones which it unites, hence it decays, the joint gets gradually freed of the mortar, and the damp, from the very nature of the cavity, comes in greater abundance, undergoes all the alternations of heat, cold, and frost, gradually decomposing the stone with which it is in contact. The wet then generates vegetation, another active agent of destruction.

Some persons have imagined it a sufficient remedy to render, or cover, the inside of a damp wall with a strong cement; but such an application is worse than useless; for it not only prevents a wall from becoming dried by the action of the air on the surface, and thus retains the damp in the body of the wall, but the wall, once thoroughly saturated, and acted upon by damp from one side or from the footings, will throw off any coating upon the face opposite to that on which the wet enters. To a certain degree, the entrance of wet may be arrested by coating the *outer* face of the wall with a strong cement, but there is no fully effectual obstruction to damp, but an open space through which the air may freely circulate. Hence the evil must be taken at its very source and origin, and the first access of wet to the wall must be prevented.

We will then begin with the foundations. It is desirable in all and every class of soil, to have a substratum of concrete under the foot-

ings. For the purposes of damp this need not be very deep, perhaps not exceeding a foot high. As soon as the footings and lower part of the wall are carried as high as the level of the ground inside, it will be well to introduce a thin sheet of lead the whole thickness of the wall, or a layer of bituminous substance as thin as possible, so as to penetrate the brick and stone and fill the pores, or a double course of thick slate set in cement.

The purpose of the sheet of lead and of the bituminous substance, and the slating, is to prevent the wet from rising up from the footings. But other precautions are necessary to prevent the access of damp from the surface of the ground next the outside face of the wall. A facing of stone is the best remedy. It need not be very thick, but it is well for it to be at least two or three feet high; and if a small interval be left between this facing slab and the outside surface of the wall, so much the better, providing a circulation of air be kept up in the space. By this provision neither the rain beating against this part of the wall, nor the water returning from the pavement or ground, will be able to reach the main substance of the wall; for although the facing slabs may be temporarily damped, they will soon be dried without communicating the damp to the body of the wall.

The inside of external walls should never have the plastering applied immediately on the face. They should be battened by means of long narrow slips of wood, attached by holdfasts to the inside face of the wall. These slips or battens receive the laths upon which the plastering is applied. The space formed by the battens between the wall and the lathing effectually keeps out the humidity.

No impervious covering should be laid on wooden floors in the lowermost story, such as oil-cloth, for instance; a certain moist air always rises from the ground, and escapes through the joints of the boards, but if this be intercepted by an oil-cloth, the air will rot the boards and oil-cloth in a very few months.

But it is important to keep the damp from the floors which come upon the ground, that is, the floors of the lowermost story. It is evident that the timber or stone slabs should not be in immediate contact with the soil; for this purpose, let a stratum of concrete be laid over the whole surface of the house, six or nine inches thick at the least. Upon this form sleeper walls or piers up to the necessary height, and on them lay the plates or paving slabs; as an additional precaution, a thin sheet of lead might be laid under each pier on the bed of the sleeper walls. In palaces, as a greater precaution, and in buildings where expense is a secondary object, a thickness of asphalte might be laid on the concrete. In the dwellings of the poor it is expedient at all events, to have the sleeper walls or piers, which need be only half brick wide, and one course high, without the cement, and generally that will be a sufficient precaution; where stone paving forms the floor, bricks must be laid under all the joints. Thus will the humidity be more or less prevented from reaching the floors.

But of all precautions to prevent damp entering by the face of the wall, the best remedy is to have an area, which, by keeping the soil at a distance, precludes its fatal effects on the wall. These areas may be three or more feet wide, and may serve as a passage all round the building, and afford access to cellars outside, as in the London houses; or if this, from want of space or the expense, be impracticable, it will be sufficient to have what are called blind areas, with convex walls against the earth, the points of contact with the outer wall of the house being as small as possible, to diminish the possibility of the communication of damp. Care must be taken to leave openings at AAA (fig. 2), so as to maintain a draft or circulation of air throughout the several areas; and to render this circulation perfect it will be requisite to form in the wall three or four shafts, as BB (fig. 1), to keep up a communication with the outer air. It is necessary to leave the angle, C, quite free and clear, for the angle at C being a solid mass, requires the greater exposure, that it may throw off the damp, which it originally acquired by exposure to the atmosphere, as it tends to make it evaporate. The top of the areas must be covered by stone slabs, which it is desirable to keep above the surface, and the face of the wall immediately above should be rendered with cement. If it be necessary to have the covering slabs below the earth, the face of the wall must be rendered with cement, or the damp will undoubtedly penetrate through the wall from the slightest depth of ground next to it.

Another precaution must always be taken in regard to floors, and that is, to insert in the outer walls iron gratings, with channels in the wall, say 9×6, so as to let air pass into the floor from the outside; and in order to exclude the air from the floor in winter time, or in the event of damp weather, it is well to prepare a sliding plate in the skirting, which may shut it off or open the holes for the re-admission of the air, as the one or the other effect may be desired.

Dripping eaves and rain-water shoots or gurgoils, without standard pipes, should always be avoided; for the water, which falls from the eaves, or gushes from the projecting spouts or shoots, is driven against the face of the wall ere it falls a few feet, and keeps the brick or stone-work saturated at times with the water. Hence eaves-gutters, and standard rain-water pipes are always indispensable, and a proper shoe at the foot of the pipe should never be omitted, otherwise the force of the water causes it to undermine the wall, producing the most disastrous results, whereas a shoe keeps the water from the wall, and turns it into a drain prepared to receive it.

CONSIDERATIONS WITH RESPECT TO FEES TO DISTRICT SURVEYORS.

Sir,—Is it too late to offer a suggestion in connection with the amendments of this Act, —an Act which, by the way, has in my opinion been brought to some extent into undeserved disrepute? The present system of requiring the builder, to pay large fees to the district surveyor personally, has a tendency to produce a bad feeling, on the part of the builder, against the district surveyor, the consequence of which is an inclination to run counter to the district surveyor, and also to evade his supervision; and which ends, in many cases, in litigation, to the prejudice of the Act which it is his duty to enforce. That a vigilant officer of inspection is required, to see the directions and restrictions of this important Act properly and uniformly observed, seems to require no better proof than is afforded by the number of cases of irregularity which, published documents inform us, have been prosecuted by the several district surveyors since the Act came into active operation, after making every allowance for the obtuse character of some of its prescriptions. With a view to relieving the district surveyor, in some measure, from the objectionable duty of exacting fees from the builder, I would propose that no fees (except merely nominal fees) be payable by the builder to the district surveyor; but that, in lieu of this system, the fees due to district surveyors should be raised by some new rate, or by increasing some one or more of the present rates; the district surveyor receiving, as at present, a fee on each individual work, from the parties authorized to disburse such moneys. It may here be urged as an objection, that the party arranging the district surveyor's account, would not be capable of judging of its fairness. To meet this, it would be necessary that such account should be audited at the office of the official referees; the periodical returns of the surveyor being kept for this purpose according to a form to be prescribed by law, making a heavy penalty the consequence of exacting any fee wrongfully. Another difficulty may possibly be anticipated here, viz.: that the builder, not being any longer interested in the amount of fees, might be instrumental in unduly swelling the district surveyor's account, by the service of a multiplicity of notices. To obviate this apparent difficulty, it may here be necessary also to impose heavy penalties in case of connivance; and, further, in every instance, still to make some nominal fee payable by the builder to the district surveyor, and this, too, at the time of serving the notice to begin. The inconvenience of waiting the expiration of his notice (always a source of annoyance to the builder, but which should then be strictly insisted on), would also tend to lessen this difficulty. Again, with a view of ensuring a fair and equitable audit of the periodical returns, a general surveyor should be appointed (to be paid by a fund to be raised in the districts jointly), to make periodical visits to the several districts, to satisfy himself, especially as it regards extraordinary works—that is to say, any operations except the erection of new buildings —as to the propriety of the district surveyor's demand; and to facilitate this examination, the district surveyor should be required to furnish to the official referees a duplicate of his receipt, for the preliminary fee, and of his certificate to the builder, vouching for the conformableness of the works to the Act, on the completion of the works—a form which is not now adopted, but which would then be a great check on any irregular proceedings.

It may be urged against this scheme, that the community at large are not sufficiently interested in this matter to allow of the adoption of the proposed tax; but it should be remembered by objectors, that the more important and primary objects of the statute seem to be, the security and comfort of the public.

I am, Sir, yours, as heretofore,
London, May, 1846. Συνεργος.

NOTES IN THE PROVINCES.

A JOINT parochial cemetery for all the parishes in Cambridge, except St. Giles's and St. Peter's, is about to be constructed.——A new parish church is to be erected at Burslem. ——The Bible Christians at Morchard Bishop laid the foundation stone of a new chapel on the 11th ult.——The church spire at Chester-le-street, Durham, has been struck by lightning, and much shattered.——The first stone of St. Paul's church, Hull, will be laid on the 19th inst. Endeavours are being made to convert the ground, formerly the site of the Spring Ditch, into a promenade, and plant it with trees. ——Mr. Barry, we are told, has been recently authorized by the Scarborough Cliff Bridge Committee to proceed with the erection of the sea-wall from the spa to the bridge.——The Grimsby dock works are in rapid progress.—— The Manchester baths and wash-houses, in Miller-street, are to be fitted up with a supply of eighteen baths, and twenty-six troughs for linen-washing; the Manchester and Salford water-works to supply the water.——Muspratt's great brick chimney at Liverpool, lately saved its proprietors the trouble and expense of taking it down, as was intended, by toppling to the ground within the small yard in which it stood. It is thought that the chemical vapours constantly passing through it had injured the materials or destroyed their cement. A new chimney stalk is to be erected on its site, but not one of equal dimensions with the former, which was thirty feet diameter at the base.——Another new church is in progress in the Vale of Neath, parish of Lantwit.—— An engineer has been lately preparing the way for the improvements at Holyhead harbour. ——Public rooms for literary, scientific, and commercial purposes are about to be erected at Gloucester, including a museum, library, and theatre.——A museum at Chelmsford is also talked of.——The vicinity of Bedminster-bridge has been of late considerably improved by the heating and ventilating company. It is proposed to erect the cattle market on the site of the ruins which still disfigure that part of the town.——The people of Taunton seem to require to be reminded of their intention to establish public baths there.——The first stone of the British school-room at Tiptree-heath was laid on Monday week.——The Wrexham new market is to be in the Tudor style, after a design by Mr. Thomas Penson, surveyor for the county of Denbigh; it includes room for a corn exchange, &c. The estimate is 5,000*l*.—— The water-works at Halsted are likely to be soon carried into execution on the plan of Mr. C. D. Hustler.——The Wesleyan Methodist chapel at Tisbury was opened on the 10th ult. ——The first stone of the Cantley schools was laid on the 26th ult.——Mr. Lardner, cotton-spinner, Preston, has the credit of recently erecting a bath-room for his working people, including warm and vapour baths and shower bath, all fitted up in a comfortable style, with every requisite.——The select committee on the Edinburgh water-works have reported that the introduction of the bills both of the Edinburgh and of the Leith water-company, should be suspended till a bill for the supply of water to Edinburgh and Leith, under a public trust, be introduced, and passed, if possible, during the present session.

RAILWAY JOTTINGS.

From returns obtained by the *Railway Chronicle*, of about 500 miles of railway now under construction, it appears that there are now employed on these 29,000 men, and 3,000 horses; and as this calculation comprehends one-fourth part only of the lines now in progress, it is assumed that 120,000 men and 12,000 horses constitute the total number employed. The wages paid for these amount to 500,000*l.* per week, or 26,000,000*l.* per annum. Half as much more is also further expended indirectly on labour connected with railways, as in preparing rails, chairs, stock, &c.; and on land and other materials as much more. Moreover, by the engineers' returns, it appears that in order to complete the works *in time*, an additional supply of nearly 20,000 men is required; or that the proper numbers that should be employed are 48,000 men and 5,000 horses. But these additional men *cannot be obtained*, and any attempt to increase the supply will only enhance prices beyond all probability of profitable investment.——The past week has been remarkable for the number of railway meetings held in compliance with the sessional orders; and in nearly every instance the resolution come to has been to proceed with the bills; but it is thought, notwithstanding, that by aid of the dissolution bill, there will be "a regular weeding process before three months have passed away." Sir R. Peel has stated in the Commons, that he is not prepared to advise that there should be any limitation fixed on the capital to be embarked in railways.——In respect to particular lines, this week there is very little matter of general interest to record.——Mr. Hind, of the Regent's-park Observatory, has reported to Mr. Stephenson, the results of his experiments with mercury at Kensal-green, from which it appears, that at a distance of 644 feet, a down-train, twenty seconds in the tunnel, produced not the slightest vibration, and that the distance where the vibration becomes sensible, and beyond which the trains will have no perceptible effect in this locality, is 609 feet. The amount of vibration at this distance being as 1, that at 60 feet is as 100.——A pointsman on the Northampton and Peterborough line has been very properly committed to prison for two months with hard labour, for employing his time in the formation of mouse-traps while he ought to have been turning points at Plisworth.——The result of the Derby at Epsom was made known at Cambridge by the electric telegraph at half past four o'clock instead of eight P.M., at the earliest as heretofore. The telegraph on the Eastern Counties' line has been for some time completed as far as Chesterford.

DECORATIVE ART SOCIETY.

May 13th.—A paper "On Ornamental Floors" was read by Mr. Laugher. This subject was treated principally with a regard to modern appliances, and more particularly to the use of parquetry (or inlaid wood) in our principal apartments.

Several observations, however, were made respecting the pavements and floors of antiquity, of which several familiar imitations were referred to, in the painted floor cloths of the present day. It was observed, that boarded floors (usually of oak) were considered a very distinctive appurtenance to the English mansion in the 17th century, and that they received increased attention to ornamental effect in the early part of the 18th century, at which period the parquet floors had obtained considerable favour and were constructed at great cost. Carpets of home manufacture then began to enter into competition with them, and the use of foreign deals (which from their shrinking, rendered carpeting more essential to comfort) tended to the disuse of this superior kind of flooring. It was remarked, that at present, there was a revival in the feeling towards parquetry, and some explanations were given of several applications of steam and machinery (by Messrs. Steinitz and Co.) for accelerating not only the production of the geometric forms of the component parts, but ulterior processes of framing and construction, whereby considerable economy in time, labour, and cost resulted. Several observations passed upon the relative cost of parquetry, and it was said, that its price laid down marginally in dining-rooms, does not now exceed four times that of its imitation on painted cloths, and that for drawing-rooms, it is not more expensive than the richer kinds of carpet.

The advantages arising from having an inlaid margin of hard polished woods, were enumerated, and recommended to those who care to discriminate in such matters.

HABERZETTEL'S PICTURE OF JOHN THE BAPTIST PREACHING.

We briefly alluded to this fine work of art last week. It was produced in Rome by its author, after a residence in Italy of twenty-two years, and is the result of much careful study conjoined with skill. The scene is near the Jordan; the time, evening. St. John stands on an elevated piece of ground and speaks; around him are grouped infancy, youth, and age; the devoted, the converted, the sceptical. The expression of every head varies; each figure plays a necessary part in the picture, yet all point to, and are subservient to, the one impression. All are regarding the preacher, though with different feelings, with the exception of a mother, in the foreground, who seeks to pacify her infant. The variety of character, expression, and condition, judiciously introduced, the careful painting and finish of the picture, notwithstanding its great size, and the number of figures presented, and the elevated tone of the whole composition claim for Mr. Haberzettel our warmest praise.

OXFORD ARCHITECTURAL SOCIETY.

A meeting of the above Society was held on Wednesday evening, May 20th, the Rev. the President in the chair. The following new members were elected:—George Buckle, M.A., Oriel College; Charles Felix Verity, Lincoln College; and J. S. Gilderdale, Oriel College. The Hon. Secretary read the report of the committee, announcing the completion of the "Guide to the Churches in the neighbourhood of Oxford," the last part of which, and the entire volume, are now ready for sale; and also the immediate prospect of the publication of Mr. Petit's paper on parochial church architecture, which was read before the society last term. The progress of the works at Dorchester was next alluded to. The great east window is the part to which the attention of the sub-committee is now mainly directed, for the restoration of which Mr. J. P. Harrison has furnished a design, which will be executed as soon as the working drawings are finished. The subscription lately raised by the liberality of several members of Oriel College is to be applied in the first instance to the restoration of the beautiful and dilapidated buttress at the south-west corner of the church, from which it is hoped that the repairs may be extended to the whole west-end of the aisle, including the re-building of the gable, and opening the west window. The roof of the sacrarium and the east window were suggested as proper objects for similar undertakings, on the part of individuals or societies. The estimate expense of the former is 191*l.*; of the latter 150*l.* The Rev. J. L. Patterson, treasurer, read a letter from the very Rev. the Dean of Hereford, in which he expressed his willingness to accept the office of local secretary to the society, and gave some account of the finial from Bp. Aquablanca's tomb in Hereford cathedral, of which he had presented a cast. This finial being the only one on the tomb which bore the crucifix, had probably, for that reason, been concealed, and was lately discovered in the cellar of a dwelling-house near the cathedral. Mr. G. W. Cox, of Trinity College, then read a paper "on the Choice of Sites for Religious Buildings." Mr. Freeman inquired, if any member present could account for the very frequent occurrence of a small church immediately contiguous to a large one. He instanced St. Margaret's and the Abbey, Westminster; St. Nicholas' and St. Mary's Abbey, Abingdon, and others. Mr. Brooke supposed, that in such cases the smaller church was built for the use of the dependents on the abbey.

The Wellington Statue.—In spite of the unanimous expression of public disapprobation, the works appear to be proceeding with inside the archway.

PEMBURY NEW CHURCH, TUNBRIDGE WELLS.

This church, of which the first stone was laid by the Marquis of Camden on the 11th of May, is intended to accommodate 271 adults and 95 children. It is to consist of a nave (with north and south aisles), chancel, tower and spire at west end of south aisle, and a north porch. The style adopted is perpendicular or third pointed. It will be built of stone given by the Marquis of Camden. The estimated cost is 1,900*l.* Mr. Constable, of Penshurst, is the builder. A local paper, describing the ceremony of laying the first stone, says coolly, "We had *almost forgotten* to mention, that Mr. E. N. Stevens, of Tunbridge Wells, is the architect." The gentleman who gives the luncheon, of course, and the Mr. Smiths and Mr. Jones who are present, are all duly mentioned on these occasions, but as to the architect, "the man who makes the drawing and just calls in now and then to see how the men are getting on," it is usually quite by accident if he is mentioned at all.

INSTITUTION OF CIVIL ENGINEERS.

May 26th, 1846. Sir John Rennie, president in the chair.

The paper read was "A memoir on the resistances to Railway Trains at different velocities," by Wynham Harding. The paper commenced by describing several series of experiments which had been made by different persons, with a view to determining the resistance at various velocities; some new experiments made by the writer on broad guage and atmospheric lines being given in detail. Great difference of opinion on the amount of resistance prevailed in 1837, when a committee of the British Association examined the subject, and reported upon it; notwithstanding this, it was found in 1845 that the estimates taken by some engineers, of the resistances per ton at high velocities, exceeded those acknowledged by other engineers by as much as 300 per cent.

It appeared that the same low estimate of resistance was advanced by the advocates of the broad gauge, before the gauge commissioners. It became, therefore, a matter of great interest, both in a theoretical and practical point of view, to determine which of these two estimates (differing thus widely) was correct, and the inquiry was stated to have been facilitated by the application of two novel and direct modes of measuring resistances, recently afforded to engineers by the Atmospheric Railway apparatus, and the application of Morin's dynamometer to determine the tractive force required in propelling railway trains, as used by Mr. Scott Russell in his experiments. In arranging the vast number of results afforded by experiments, the author proceeded on the following principle: he collected together all the results of experiments which exhibited uniform velocities maintained on a calm day, and on a line free from sharp curves; these results he calculated and projected in diagrams, and he shewed that between these results there subsisted the most satisfactory agreement and consistency.

He argued that the fact of the agreement of so many experiments, made by different persons, with different objects, on different lines of railway, during the last seven years; the resistance being measured in no less than four different ways, leads almost irresistibly to the conclusion, that the increase of resistance with the velocity was such as these various experiments indicated.

The result was, that the resistance per ton to a passenger train of say 30 tons, at a speed of sixty miles per hour, would be upwards of 50 lbs. per ton instead of 18 lbs. per ton, or nearly three times as much as had been estimated by some engineers.

The author in pointing to the results of these experiments stated, that he desired not to express any opinion in the paper, on the advantages or disadvantages of the atmospheric system, or upon the other practical points referred to. He then proceeded to apply to the experimental facts, a formula expressing the law suggested by Mr. Scott Russell, which appeared to afford results closely agreeing with the experiments.

The paper concluded with some remarks on the application of the experimental results

exhibited, which demonstrated the great increase of resistance with the velocity (it being with a light train four times as much at sixty miles an hour as at ten miles an hour), to the calculation of the power of the locomotive engines, to the propelling power, which he contended must be provided in the atmospheric system beyond that which had been calculated upon as necessary, to the questions of gauge and of gradient; on all these points, the law which at present appeared to be established, had, he stated, the most direct and important bearing, and the doctrines and modes of calculation till recently in use as regarded propulsion on railways, would, he believed, require great modification. The paper was illustrated by several tables and diagrams.

A gas burner of a novel construction was exhibited. The principal feature was the introduction of a stream of air to the centre of the flame, by means of a hollow button in the middle of the burner. The air passing up through the hollow stem of the button, was heated, and passed out by two series of five holes around the periphery, and impinging with more force with the flame of the gas curved it outwards in the shape of a tulip, while the oxygen of the air mingling with the carburetted hydrogen gas, produced a very perfect combustion. It was stated, that in comparing the consumption of these burners with that of the concentric ring burner, and trying the power of the two lights with the photometer, the new burner gave a better light with a saving of rather better than one-third of the gas consumed. It was, we believe, called the universal burner, and was introduced by Mr. McNeil.

DR. CARUS ON THE "CASTLES" OF THE ENGLISH.

This intelligent foreigner, in treating of England and "the remarkable and highly inventive race of men" who dwell within its sea-girt limits, very naturally associates the separation of our domiciles with the reservation of our manners, and he might, perhaps, have added, with the insulation of our soil.

"Up to the present moment," says he, "the Englishman still perseveres in striving after a certain individuality and personal independence, a certain separation of himself from others, which constitutes the foundation of his freedom. This, too, was completely an ancient German tendency, which led our remote ancestors to prefer the rudest and most inconvenient, but isolated homesteads, to the more convenient and refined method of life in aggregation: it is this that gives the Englishman that proud feeling of personal independence, which is stereotyped in the phrase, 'Every man's house is his castle.' This is a feeling which cannot be entertained, and an expression which cannot be used, in Germany or France; in which countries ten or fifteen families often live together in the same large house. The expression, however, receives a true value when, by the mere closing of the house-door, the family is able, to a certain extent, to cut itself off from all communication with the outward world, even in the midst of great cities. In English towns or villages, therefore, one always meets either with small detached houses, merely suited to one family, or apparently large buildings extending to the length of half a street, sometimes adorned like palaces on the exterior, but separated by partition walls internally, and thus divided into a great number of small, high houses, for the most part three windows broad, within which, and on the various storys, the rooms are divided according to the wants or convenience of the family: in short, therefore, it may be properly said that the English divide their edifices perpendicularly into houses, whilst we Germans divide them horizontally into floors. In England, every man is master of his hall, stairs, and chambers; whilst we are obliged to use the two first in common with others, and are scarcely able to secure ourselves the privacy of our own chamber, if we are not fortunate enough to be able to obtain a secure and convenient house for ourselves alone."

Destruction of an Ancient Chapel.—The picturesque little chapel opposite the toll-bar at Kingland, is now being unroofed, preparatory to its destruction, by the sanction of the governors of Bartholomew's Hospital.

New Books.

A Treatise on Railway Surveying and Leveling. By John Quested, *Surveyor.* London; Relfe and Fletcher, 1846.

"The increasing number of railroad undertakings," says Mr. Quested, in his preface, "having given rise to an unprecedented demand for practical surveyors, has caused many young persons to embrace that profession, who were balancing within their own minds to what pursuit to turn their attention.

Many who wish to do so, may not have the means within their power of gaining instruction from practical men; and almost all the works on surveying which give a theoretical knowledge of this art to the extent required by railway surveyors, are elaborate, and so mixed up with other subjects, that the pupil, on opening the book, is startled at the vast quantity of matter he must wade through, in order to acquire that instruction he wishes."

His object has been to clear the road a little, by avoiding extraneous matter, and confining himself to practical work; and in this he has certainly succeeded to a considerable extent. His little book will be found of great service, by all who wish to acquire an insight to the art and mystery of surveying, and have not a long time to acquire it in. His closing piece of advice to railway surveyors may be usefully repeated:—

"Let me earnestly advise his laying down every night all the lines he has surveyed in the day; let no *fatigue*, no *disinclination*, and no *invitation* suffer a departure from this principle. The advantage of following it is obvious; for, as the surveyor daily proceeds along the line, he necessarily becomes more and more distant from his first work, and if the plotting be neglected for some days, and it should happen that an error had been made at the onset, much trouble, great loss of time, and galling mortification must ensue, before the error can be rectified; miles must perhaps be retraced; and even on the arrival at the place where the mischief had occurred, all visible signs of stations, &c. &c. might have disappeared. Besides, the handsome remuneration generally given to railroad surveyors, should act as a stimulus for conscientious exertion, in the performance of a duty at once onerous and important. On their correctness depends in a great measure the fate of the bill in committee, and in its ultimately receiving the sanction of the Legislature. Inaccuracies detected by an opposing party tend to the rejection of the line; and in its overthrow are destroyed the hopes, both commercial and pecuniary, of the projectors."

The Elements of Architecture. By the Rev. J. W. Mc Gauley. Dublin, Mc Glashan; London, Orr and Co.

This will be found a very useful introduction to classic architecture, in a condensed and cheap form. The technical terms are defined clearly at the foot of each page, and render it a glossary as well as a connected treatise. "You are to observe," says our author with justice, "that technical language and rules, if you would make them really useful, must be not only *distinctly understood*, but also learned and *remembered* as familiarly as the alphabet, and employed *constantly*, and with scrupulous exactness; otherwise technical language will prove an incumbrance instead of an advantage, just as a suit of clothing would be, if instead of putting them on and *wearing* them, you were to carry them about in your hand."

Portrait of Mr. Welby Pugin.—Many of our readers remember Mr. Herbert's portrait of this distinguished architect, in the Royal Academy Exhibition, last year, and will be glad to hear that the able artist has himself engraved it for distribution. It is published by Messrs. Hering and Remington, of Regent-street, in whose establishment will be found a good collection of modern foreign works on architectural ornament.

St. Alkmund's New Church, Derby.—The top stone of this spire was raised on Wednesday last. The spire, with vane, is 214 feet high, being 28 feet higher than All Saints.

Correspondence.

KENTISH RAG-STONE.

Sir,—In The Builder of May 23rd, I perceive you introduce some extracts from Mr. Whichcord's work on "Kentish Rag;" I would beg to observe, that by the list of prices quoted therefrom, the public are likely to be led into error, as the price of the material is in a great measure regulated by the supply and demand; in fact, I can speak from experience, as I know that last year the price was much increased, by freights being higher, owing to the great demand for barges, and consequent rise in freight; and with regard to dressed stone, such as headers, &c., should there be many required, they would immediately rise in price, as there are not many quarries whence they can be procured in any quantity, and even those could not provide more than their usual quantity, without sustaining loss in their portion of the stone made use of for other purposes; therefore there is every reason to suppose that there would be an advance in price should that be the case.

From your extract from Mr. W.'s work the inference would be, that the price would apply to the stone which he terms the best, viz. the "Boughton stone;" now that is not the case, as the shortest distance it could be brought to be shipped, would be nearly four miles; consequently the land carriage would prevent its being delivered in London at the prices named; it must therefore only apply to those quarries contiguous to the river, and from which very good stone can be procured.

My reason for troubling you is, that I thought parties who were likely to use this stone would, probably, in making estimates, take those prices as a guide, which they might afterwards find erroneous.

I have often felt surprised, that Kentish rag has not been more generally used in its rough state, as any quantity of it could be procured, at a very low price in comparison to brick; in fact, about one-third, labour included; and for foundations, garden walls, areas, &c., it is most admirably adapted; and there can be no question of its strength and durability. I can only account for it by the public not being sufficiently acquainted with it; but when that is the case, I have no doubt it will be used most extensively.

If you think the foregoing remarks worthy of your insertion, I shall feel obliged, and remain, Sir, yours respectfully,

June 1, 1846. A Subscriber.

THE WORKS IN ELY CATHEDRAL.

Sir,—In an article in the Builder of today, under the head of "Ely Cathedral," an apprehension is expressed that "certain arches in the western tower are being cut away, and that their removal may, very probably, endanger the fabric." Should you not receive during the coming week, any official or authorized communication from parties able to inform you more conclusively as to the facts, I will just mention what occurred while I was at the cathedral, as a passing visitor, about a month since. Perceiving that workmen were engaged in the first story of the tower, I was, upon inquiry, informed by the verger, that some modern plaster arches (mock groining in fact) not half a century old, were being removed, to throw open the interior of the tower to view from the floor of the church. I was not long in doubt as to the general accuracy of the statement; for while there, much of the lath and plaster was knocked down, and enveloped the entire west end of the cathedral in clouds of dust.

Having entered with a thoroughly wet coat, from a heavy shower of rain, I felt no inducement to verify the report made to me, by a minute investigation, which, under my then circumstances, would have been attended with very disparaging effects upon black cloth, so I made a hasty, though a reluctant, retreat; from these data, however, I am really induced to hope, for the credit of the conservators of this splendid temple, that the complainants' lament in the present instance, if it do not end in smoke, will end in this dust, and nothing more. With every respect, Mr. Editor, notwithstanding, for the right good conservative principles you evince for our time-hallowed structures, allow me to subscribe myself your friend and well-wisher,

London, May 30, 1846. Minimus.

PADDINGTON POOR HOUSE.

SIR,—The *Guardians of the Poor* of Paddington parish having advertised for tenders for a new workhouse, to be built at Paddington, I, with several others, tendered, when we were informed that neither tender would be accepted, as they all came to too much money. Since that, we have all been written to by the surveyor, saying, that the drawings were altered, and asking us to tender again. We have done so, and the following is the result:—

	£.
Cooper and Davis	8,337
William Higgs	8,259
Gerry	8,190
Higgs and Son	7,869
Crook	7,761
Homan	7,489
Burton	7,471
Wilson	7,390
Cooper	7,228

Mr. Homan's tender was accepted. Now, what I complain of is, that as each builder was written to, the surveyor must have thought them men of sufficient respectability to finish the job, or he most certainly would not have written to them; then why was not the job given to the lowest, especially as each was prepared with securities? And I am sure no one can complain of the tenders; I think them very fair, to what we sometimes see. But there is no doubt it was done (as kissing goes) by favour; if so, I think you will hold with me, that the builders who are lower than the accepted one ought to be remunerated for their trouble.—I am, Sir, &c.

A COMPETITOR FOR THE PADDINGTON
3rd June, 1846. POORHOUSE.

*** We agree with our correspondent in thinking, that if a builder be *invited* to tender, it is an assurance that he is considered a proper person to execute the works; and, if no stipulation to the contrary, that his tender if lowest will be accepted.

Miscellanea.

A TUNNEL UNDER GREENWICH PARK.—It has been determined by the directors of the South Eastern Railway Company, to pull down the Greenwich terminus, the Railway Tavern, (known as the Prince of Orange), together with several shops and newly-erected dwelling-houses adjoining, and to erect a splendid terminus on Croom's-hill in its stead, alongside one of the smaller entrances into the park. The new tunnel will commence at the Creek-bridge, which separates Greenwich from Deptford, and continue under the town of Greenwich, the lower part of the park next Greenwich Naval School, Maize-hill, onward by the back of the union workhouse in the Woolwich-road. Here the tunnel is to end, and the line continue forward to Woolwich, Dartford, Gravesend, &c. From the estimates made by the surveyors, the directors consider that they shall be able to complete the works to Gravesend, and open it for public traffic, in the course of the next twelve months. The tunnelling is intended to obviate the vibration complained of as likely to arise, and which the astronomer royal considered would affect the scientific studies of the Royal Observatory.—*Observer.*

EXTRAORDINARY ESCAPE AT SHEFFIELD.—On Monday last, a long ladder was placed from Church-street to the top of the Sheffield and Rotheram banking company's premises, the roof of which was undergoing some repairs. A gentleman who had business at the bank, incautiously fastened his horse's bridle to the lower part of the ladder while he went into the bank. Directly afterwards, the man who had been on the roof of the house got upon the ladder to descend into the street. The instant the horse saw the man's figure above him, he made a bolt, and pulled the ladder into the street. On feeling the ladder slipping from under him, the bricklayer caught hold of the parapet and succeeded in gaining the roof again, or his death must have been inevitable. The ladder was broken in two, near the top, but fortunately fell upon nobody who was passing.

Six thousand pounds have been devoted by the Legislature of Jamaica to the building of churches; 300*l.* has also been set apart for erecting schools.

TENDERS.

For erecting a house in Lombard-street, corner of Birchin-lane, for Messrs. Overend, Gurney and Co. Mr. Henry Baker, architect.

Mansfield	£10,900
Bridger and Ashby	10,481
Grissell	10,425
Piper and Son	10,380
Grimsdell	9,800
Lee and Son	9,800
Wm. Cubitt and Co.	9,670

The quantities were taken out by Mr. Meredith and Mr. Nicholls, and the tender of Messrs. Cubitt was accepted.

NOTICES OF CONTRACTS.

[We are compelled, by the interference of the Stamp Office, to omit the names of the parties to whom tenders, &c. are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent Garden.]

For the several works required for the enlargement and rebuilding of St. Ann's Chapel, Bishop Auckland; and also for building a new market cross there.

For the supply of Radford with gas, also with lamps, lamp-irons, pillars, and other apparatus for fixing the same.

For the erection of a chapel in Edward-street, Parade, Birmingham.

For the execution of the whole of the works of the Cumnock extension of the Glasgow, Paisley, Kilmarnock, and Ayr Railway, in three contracts.

For the works of the alterations and improvements of the Dalkeith Railway, and its junction with the North British (extension of time).

For the erection of additional works to the Union Workhouse at Midleton (Ireland).

For the rebuilding of the church of Ballymony, county of Cork.

For the erection of gas-works at Downpatrick, including the building of a retort-house, the supplying and fitting up of the gasometer, tank, retorts, ovens, purifiers, hydraulic mains, &c.

For the erection of the Ashbourne workhouse (further extension of time).

For the supply of curb-stone, edging, paving, and penanting, the best Hanham stone, or Frenchay, or Welsh, or other stone of equal quality, and for the setting or laying the same in the footpaths of certain streets, &c., of Bristol, for three years, from 29th September.

For the execution of the earth-work for a drain or culvert through Canon's Marsh, Bristol.

For the separate branches of work connected with the erection of the proposed congregational schools at Salisbury-street and William Henry-street, Liverpool.

For the restoration and pewing of Blaby Church.

For the erection of a new roof to St. Margaret's Church, Wereham, Norfolk.

For the execution of Contract No. 2 on the Lynn and Ely Railway line, commencing at the termination of No. 1 in the parish of Denver, Norfolk, and terminating at the junction with the Eastern Counties line, near Ely, a length of about 12¼ miles, comprising the usual works of excavation, embankment, bridges, culverts, stations, &c.

For certain alterations and additions to the infirmary of the Windsor Union Workhouse.

For repairing and externally painting the churches of Ardmore, Dungarvon, Kilrosanty, and Monkaland, in the county of Waterford, Ireland: and for painting the exterior of the churches of Affane, Killea, Kinsalbeg, St. Olave, St. Patrick, Ringagonah, Rossmere, and Templemichael in the same quarter.

For swords and scabbards for the East India Company.

For the erection of a Presbyterian Church in Wolverhampton-street, Birmingham.

For the supply of flints and Kentish ragstone for the Greenwich and Woolwich turnpike lower road, for one year, from July 1 and further, until determined by three months' notice on either side.

For the rebuilding of Sandhach Church steeple, &c.

For the erection of a new barn and straw-house at Waterditch Farm, in the parish of Christchurch.

For a supply of from 4000 to 5000 cubic yards of broken Guernsey granite, or other hard stone, for the repair of the roads of Regent-street, Whitehall, &c.; and of from 2,000 to 2,500 yards of same material for the repair of the Albany-road and other roads in the Regent's Park.

For a supply of regimental buttons for the East India Company.

For the erection of an infirmary and receiving wards at the Rye Union Workhouse.

For the erection of two chapels at the Tower Hamlets' Cemetery.

For a supply of 7,000 tons of new blue Guernsey granite, broken to a 2½ inch gauge ring, to be delivered at the water side, Chelsea, for the Improvement Commissioners.

For the erection of a Corn Exchange and Market at Ely.

For the Iron furnishings of the Gas Works at Dollar, N.B.

For the construction of a Timber Landing Staith, at the Ferry-boat dock at Hull, and other works connected therewith, and for removing the old break-water Jetty there.

For the erection of two Chapels in the Cemetery of Coventry.

For any required quantity of hard core, pit ballast, broken flints, &c., for three years from 20th June, for the Commissioners for paving, lighting, and improving the hamlet of Kentish-town and its vicinity; the quantities required not to be less in one year than 2,500 yards of hard core, 1,500 yards of pit ballast, and 500 yards of broken flints.

For supplying to the same Commissioners, laying down and bedding in proper morter for three years, from 20th June, any required quantity of Aberdeen kerb 12 inches by 8 inches; of York paving 2½ inches thick; and of dressed and undressed granite crossings; the quantities not to be less in any one year than 2,000 running feet of kerb; 14,000 feet (super) of paving; and 100 yards of crossings.

APPROACHING SALES OF WOOD, &c. BY AUCTION.

At Southampton: the erections of the Infant School, also of a stable, gig-house, and shed.

At Sawley, county of Derby: nine lots of fine cut oak, ash, and elm—7,500 feet in all.

At Bristol: 3,000 to 4,000 feet of first rate rosewood and Spanish mahogany veneers, also Spanish curls.

At Bristol: a quantity of prime well-seasoned mahogany, and cedar boards and planks, and a few logs of Honduras and Spanish mahogany, &c.

At Ashwellthorpe, near Norwich: 40 oak and 90 ash trees of large dimensions.

At Newton, Blossomville, Bucks: 1,000 feet oak, 40 ash and elm trees, a quantity of hard wood, &c.

At Poole: a stock of timber, deals, laths, slate, &c.

At Southery, Norfolk: about 100 very fine beech trees, 12 to 18 inches girth; 1,000 feet 2½ board; 1,000 feet, 8 inch by 2, scantling; a lot of slabs, top wood, hurdles, &c.

At Sudbrook, Gloucestershire: the whole of the apparatus and machinery connected with the preparation of timber on the anti-dry-rot principle.

At Charity Farm, Great Bardfield, Essex: 90 good oak timber trees.

At Elmstead, near Colchester: 670 oak and birch seconds, 15 loads of poles, 2,700 bavins, 132 bundles, birch, &c.

At Beaumont, near Thorpe, Essex: 300 lots of very choice and well-seasoned timber, deals and battens, floor boards, &c.; and a quantity of ironmongery, comprising locks, screws, latches, pullies, nails, &c.; and a lot of shutters, deals, sash-frames and sashes, new panelled doors, window-frames, oak gates, stone pavement, cement, glue, pitch, &c.; with 9 oak and 4 elm trees.

At Weeley, Essex: 400 small oak trees, 7,000 bavins, a lot of oak seconds, poles, &c.

At Curraghmore, Ireland: 300 lots of prime gross oak, spruce, larch, and Scots fir.

At Green-street, Deritend, near Birmingham: an extensive iron foundry.

At Tardebegg, Worcestershire: an almost inexhaustible mine of clay; also a brick-yard, with kilns, flues, &c.

At Marlborough: a choice stock of marble chimney-pieces.

At Chelmsford: 102 oak and 10 ash timber trees, in lots.

At Wilton, Wilts: a whole stock in trade, comprising, besides oak, ash, elm, and pine timber; every article necessary to builders, smiths, carpenters, &c.

TO CORRESPONDENTS.

"*Amateur Turner.*"—Workshops may not be of wood. Notice must be given to the surveyor.

"*G. Armitage.*"—Number for 14th March, is out of print. First number for present year contains index to Vol. III.

"*W. X.*"—Laxton's or Skyrings. Through any bookseller.

"*D. J. J.*"—We will inquire.

"*B. P. W.*"—Next week.

"*E. P.*"—Kennett, York-street, Covent-garden.

Received.—"W. B." (Oundle), "C. F.," "G. W. R.," "Veritas," "B. H."

Books received.—"Family Herald," part 37. (Biggs, Strand), "Musical Herald," part 1. (Biggs). "Dolman's Magazine" for July. "Old England's Worthies," part 3. (C. Knight). "Pictorial Gallery of Arts," part 7 (Architecture continued). C. Knight.

ADVERTISEMENTS.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery

Best Patent Cut Clasp.

3d.	4d.	6d.	10d.	20d.
5d.	7d.	8d.	1s. 5d.	2s. per 1000.

Best Sheet Cut Floor Brads 10s. per cwt.
Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6d., 7d., 8d. per inch.
Self-acting Kitchen Ranges with Oven and Back Boiler.
Wrought Bars and Bright Fittings.

3 ft., 3l. 3s.	3 ft. 6in., 3l. 12s. 6d.	4 ft., 4l.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3in.	3 ft. 6in.	3 ft. 9in.	4 ft.
3l. 6s.	3l. 13s.	3l. 18s.	4l.	4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3in.	3 ft. 6in.	3 ft. 9in.	4 ft.
5l.	5l. 15s.	6l. 5s.	6l. 10s.	7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do. at 8d., and 4d. do.
Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.
Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

FIRE BRICKS.

W. WARD, Honduras Wharf, Bank-side, and St. Michael's-alley, Cornhill, has just landed a large quantity of his very superior manufactured Fire Bricks, of Stourbridge, Welsh, and Newcastle. Prices very low. Shipments made for the East and West Indies, &c., with the greatest promptness. Gas companies, engineers, builders, and all large consumers supplied from ships in the river at a much lower price. A very large stock on hand of Bricks, Lumps, Tiles, and Clays.
River sand and gravel by freight to any wharf and dock.

BEST PAN WATER-CLOSETS, with Round Valve, complete, 30s. each.
WASHING COPPERS, above 12lb., 1s. 1d. per lb.
COCKS, Bib, Ball, and Stop, ¾-in. 1s. 8d., ¾-in. 2s. 4d.
Lifting Force Pumps, 2½-in., 4l. 4s., and every description of Copper and Brass Work equally low, at Messrs. MACGLASHAN & CO., 16, Long Acre, London.

HAND-IN-HAND BUILDING ASSOCIATION.
ON ENTIRELY NEW PRINCIPLES.

A PUBLIC MEETING will be held on WEDNESDAY Evening next, at Eight o'clock precisely, at the Western Literary Institution, Leicester-square, to explain the principles on which the association is established. T. E. DRINKWATER BETHUNE, Esq., in the chair. Entrance in Princes-street.

Railway Surveying, Levelling, Plotting, Computing, use of Theodolite, &c., PRACTICALLY TAUGHT.

THE Advertiser (an Engineering Surveyor of Extensive Practice), is now devoting his time to the instruction of persons for Railway Surveyors, &c., &c., undertaking to make them SELF EVIDENTLY COMPETENT to Survey, Level, Plot, Compute, Determine Heights and Distances, give Curves and Gradients, &c., &c., on all sorts of Ground. Terms Five Guineas; proficiency guaranteed and references given.—Apply, if personally between 5 and 10 P.M., to G. T., 117, Park-street, Camden-town.—N.B. The above imparted in as short a period as possible consistent with a thorough instruction.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.

Manufactured by J. B. WHITE and SONS, of Millbank-street, Westminster; and sold at their warehouses—Earl-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

ROMAN CEMENT, &c.
REMOVAL.

THOMAS JOHN CROGGON

Begs to inform the Trade that he has removed to
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THREE CRANES WHARF, 69, Upper Thames-street.

Orders addressed to either place for ROMAN CEMENT of genuine quality will be executed with promptitude and the strictest regard to quality and economy.

KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Millbank-street, Westminster.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble, NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 156, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred."

Specimen may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producedble by no other Paint whatever. It is cheap in its application, and may be used by any Painter, in any climate, even in the most exposed Marine situations.

FINE ARTS.

By Her Majesty's Royal Letters Patent.

LORIMIER'S TRANSPARENT PLANES for Perspective Drawing; BENJAMIN WEST, Patentee.

"This Instrument will enable Artists and others to make any Drawing, whether from Nature or Models, in perfectly true perspective, so that a likeness or landscape may be taken in a few minutes absolutely perfect. It is used by her Majesty's Royal Sappers and Miners, Chatham. To Travellers it would be found serviceable, since it can be employed without the knowledge of drawing."—*Art Union.*

Price 18s. and 26s. Apply for Agents to BENJAMIN WEST, 2, St. James's-walk, Clerkenwell.—Sold by BARRITT and Co., 173, Fleet-street, London; GRIFFIN and Co., Glasgow, and by all Fancy Stationers, &c.

MUIR'S PATENT PLANING MACHINERY.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.

THE GENERAL WOOD CUTTING COMPANY, TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.—SAWING in all its branches executed with the greatest precision and despatch. PLANING by the most approved Machinery, reducing the Boards to a parallel width and thickness, and grooving or matching with undeviating accuracy. The operation economizes time, money, and material.

SIR WILLIAM BURNETT'S PATENT for the Preservation of Timber, Canvas, Cordage, Cotton, Woollen, &c., from Decay.

TESTIMONIALS.

From THOMAS GRAHAM, Esq., M.A., F.R.S., L. and E., Professor of Chemistry, University College, London.

"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.

"The wood appears to be fully and deeply penetrated by the metallic salt; I have found it in the centre of a large prepared paving block.

"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the crystallizable salts. I have no doubt, indeed, that the greater part of the salt will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the whitean in India, which I believe would be repelled by the poisonous metallic salt.

"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Toplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotised principles it contains, by entering into chemical combination with them.

(Signed) "THOMAS GRAHAM."

"University College, 25th October, 1845.

From Professors BRANDE and COOPER.

"London, 4th November, 1845.

"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.

"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.

"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.

"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.—(Signed) "WILLIAM THOMAS BRANDE,
"JOHN THOMAS COOPER."

"To Sir William Burnett, K.C.H., F.R.S., &c. &c."

Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 53, King William-street, London-bridge.

PREPARED FLOORING BOARDS.

AT REDUCED PRICES.

ALWAYS ON SALE, a LARGE ASSORTMENT of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¾ inch to 1¼ inch thick. Rough Boarding for Flats.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Smith-street, Westminster.

PREPARED FLOORING BOARDS

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE. Old-Barge-Wharf, Upper Ground-street, Blackfriars, and at his Depôt, H. Castle's, Ship-yard, Millbank, Westminster, a very large stock of well-seasoned Floor Boards of every variety.

A. R., in calling the attention of builders and consumers, confidently presumes on his being able to supply them on such advantageous terms, as will ensure and merit their favours and approbation.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Pantiles.

PLASTERING LIME, that may be used immediately without risk of blistering, manufactured expressly for Plastering, and sold at the usual price, at FORREST'S WHARF, Earl-street, Blackfriars. Sheds for the slacking and mixing of lime. Accommodation for loading and landing bricks, sand, ballast, &c.

RAIN WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from ¼ in. to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, and No. 6, Bankside, Southwark.

TO ARCHITECTS, BUILDERS, AND THE PUBLIC IN GENERAL.

C. DEBAUFER and SON beg to call the attention of architects, builders, &c., to their general assortment of Gas Lamps, Pendants, Hydraulic sliding Pendants, Gas Brackets, Pillars, and every article connected with gas apparatus, at their Manufactory and their Rooms, 10 and 11, Creed-lane, Ludgate-street.—A liberal discount allowed to architects and builders.

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MESSRS. WOOD AND COMPANY, Grainers and Writers to the Trade only, by contract, measure, or otherwise.

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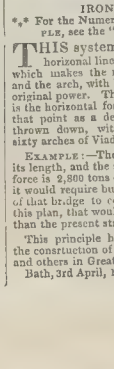
N.B. Workmen sent to any part of the kingdom.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 20s. per gallon.



WILSONS PATENT
VENTILATING
SPIRAL CHIMNEY POT,

For the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success.

This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance.

The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory,

Southwark-bridge Iron
Roofing Works.

IRON BRIDGES, PIERS, &c.

*** For the Numerical Explanation of DREDGE'S PRINCIPLE, see the "Mechanics' Magazine," No. 1172.

THIS system removes from the Arch to the horizonal line the horizontal force of the whole Bridge, which makes the roadway as powerful as the arch itself, and the arch, with half the material, more than doubles its original power. The pressure on the key-stone of the arch is the horizontal force of a Bridge, which acts directly on that point as a dead load of self-destruction; and it has thrown down, within the last eighteen months, nearly sixty arches of Viaducts and Bridges.

EXAMPLE:—The Menai Bridge, whose depth is 1-14th of its length, and the suspended weight 800 tons, its horizontal force is 2,800 tons of self-destruction on the centre; hence it would require but a small portion of the material and cost of that bridge to construct one over the Menai Straits on this plan, that would possess far greater power and stability than the present structure.

This principle has been fully tested nearly ten years, by the construction of fifteen public bridges for the Government and others in Great Britain. It is also established in India.

Bath, 3rd April, 1846.

The Builder.

No. CLXXV.

SATURDAY, JUNE 13, 1846.

THE present views of society, with regard to crime, are fortunately different from what they were fifty years ago, although much ignorance and misconception of the subject still remain. A man may commit an offence against the laws, and yet be afterwards a good and useful member of the community: he has yielded once, but may never yield again. It is not contrary to reason to believe, that some amongst the best and most conscientious of men have, at one or other period in their lives, committed an act, afterwards bitterly repented of and atoned for, which, publicly known, would have branded them as criminals in the eyes of the world, and led to their utter ruin under our defective institutions. The fence which separates innocence and guilt is in many cases so slight, and so easily passed, that, but for the sake of example, we should rather pity, than punish, those who unhappily swerve from the right side. Let us ourselves seek earnestly for strength to keep it.

At one time criminals were regarded as all alike, and treated all alike. Moreover, and here was the great mischief, the whole course of proceeding tended to make this assumption correct; and if they did not speedily become all alike,—all as bad as the worst amongst them,—it was not the fault of the system. Something has been done to lessen this dreadful evil, but not enough. How anxiously should our law-givers strive still further to effect improvement.

As regards young offenders, the necessity of some change cannot be too loudly or too often urged: the effects of the present system cannot be contemplated without a shudder by those who feel the value of a soul. Look at the result of the same indiscretion committed by two boys in different walks of life. The son of respectable parents, wanting nothing, and duly instructed as to right and wrong, allowing his stomach to overcome his head and heart, has purloined some sixpences, and is detected;—the case often occurs. A sound whipping, bread and water for a day, and judicious reasoning, suffice to cure while they punish, and make the first offence the last. How different a result awaits the pauper boy who, under stronger temptation, and with less power within to resist it, abstracts a roll from a baker's shop, or wherewithal to buy one, is caught and sent to prison. His fate is sealed. Even if his morals be not entirely corrupted, as is too often the case, a mark is set on him, he is a *thief*, and his life is a course of crime.

We are quite aware that the remedy is difficult; but it is so urgent, that no efforts should be spared to obtain it.*

We have been led to make these observations, by the name which has been given to the structure selected for illustration in the present number, THE MIDDLESEX HOUSE OF DETENTION. The building previously here (erected in 1816), was called the New Clerkenwell Prison. The new building is intended exclusively as a place to retain the *accused* only, and the name has been changed with the hope of, in some degree, preventing the stigma, of having been sent to *prison*, from attaching to those who may be eventually acquitted. There *is* something in a name, and we think this a step in the right direction; steps are taken, too, to prevent the contamination of its inmates by evil association.

The accompanying plan and section (p. 282), with the annexed references, will shew the general form and arrangement of the new structure. The transverse corridor at the foot of the cross is set apart for females, and is separated from the part appropriated to males, by the chapel (shewn in section), and other portions of the building that will be common to either sex. The three arms of the cross which are for males, have at the intersection a hall of octagon form, 53 feet in height.

The length of the male corridors, from east to west, including the central hall, is 224 feet; the width 13 feet, and the height 38 feet. The northern wing is 105 feet in length; and the wing for females measures, from east to west, 153 feet. The rooms or cells for the prisoners, of which there are 286, are 11 feet by 7 feet, and 8 feet high to springing of arch. The apartments for reception, and cells for punishment, are on the basement, and of similar dimensions; there are also others on the ground-floor, and on the basement story are eight bath rooms, two fumigating rooms, two examining rooms, two clothes stores, six punishment cells, a washhouse and laundry, steward's store-room and office, kitchen, scullery, coal and potatoe stores, and four heating apparatus rooms. On the ground-floor, the necessary clerks' offices, reception rooms and solicitors' rooms, governor's and surgeon's, and schoolmaster's rooms; on the one-pair, a large committee room, chapel, and chaplain's room; and these, with the infirmaries, turnkeys' rooms, and four large unappropriated rooms in the female wings, complete the arrangement of the main building. The new governor's and matrons' houses, and entrance lodge, as well as the new eastern boundary wall, shewn on the plan, are included in the present contract with the builder.

The apartments for the prisoners are provided, under the contract, with all the fittings and conveniences contained in those at the model prison at Pentonville (a pan-closet and copper washing-basin); and the contract for the whole of the works, by Messrs. Grimsdell, is 28,684*l.*; all the old bricks and other sound materials being used.

The whole stands on an artificial foundation of concrete, varying from 3 feet 6 inches to 7 feet in thickness. The central portion of the entrance front will be faced with blue lias cement, the remainder of the exterior will be of brickwork. The sashes are to be iron, fixed; the floors formed of asphalte on brick arches, the spandrells being first filled in with concrete.

Considerable pains appear to have been taken with respect to warming and ventilating the building. Mr. Hayden, of Trowbridge, was called in to arrange this, in conjunction with the architect, Mr. Moseley, and Messrs. Cottam and Hallen are carrying out their intentions under contract, for 600*l.*

Fresh air, entering through the culvert near the room C, shewn in section, and warmed in winter by an apparatus, is to be admitted to every cell by means of flues in the spandrells of the arches forming the floor of corridors, and a separate shaft (of 60 inches horizontal area), constructed in the thickness of the wall, and opening near the ground. Pipes of hot water also pass through the spandrells to assist in raising, when necessary, the temperature of the air admitted.

The vitiated air is to be removed by a flue from each cell, commencing near the ceiling. These are gathered into one large flue, passing under the roof over each arm of the building, the size of which is gradually increased in proportion to the number of flues opening into it, and the air is discharged into the central shaft, where there is a small furnace to accelerate the circulation in summer, or at other times, when it may be found sluggish.

The works appear to be progressing very satisfactorily. The walls throughout are now 12 or 13 feet above the ground.

* We cannot avoid alluding here, to Mr. Sheriff Laurie's praiseworthy efforts to establish refuges for discharged prisoners. We trust he will not relax in his endeavours: although there are many difficulties in the way, they are not insurmountable.

THE NEW FOUNTAIN AT BRIGHTON NOT A FOUNTAIN OF HONOUR.

THE new Victoria Fountain on the Steyne, at Brighton, will not redeem our character as designers of this description of ornamental structure. It is tasteless and ugly, and will grievously disappoint all who have read the puffing notices of it, which have slipped into some of the provincial and London papers. On a pile of rock-work in the centre of a large reservoir, are three dolphins standing uncomfortably on their heads, and supporting with their tails (light being seen between them) a basin of the most ordinary design. This in its turn, and according to law, carries a second basin of the same pattern, on a disproportionately high pedestal; and the composition (if we may so mis-use the word) terminates with an equally lanky jet-piece of nondescript formation. The poor fish, wondering how they got into their extraordinary position, look quite ashamed of themselves—fish out of water, evidently—and the effect of the whole is gawky, straggling, and ungraceful. With so many beautiful examples of fountains from France, Italy, and Sicily before them, it seems quite extraordinary that such a perverted reduplication as this should be perpetrated.

The material is cast-iron, bronzed; the cost, including the pipes and laying out the ground around the fountain, about 1,000*l.*

Brighton, generally, is extending greatly on all sides, and improving too. The greatest care appears to be bestowed on the maintenance of roads and approaches, and the external appearance of the town. The esplanade is certainly unrivalled, and will long serve to retain for Brighton the amount of public favour it now enjoys. The sea wall (if so it may be called, as the sea does not reach it), formed of beach concrete, stands well.

On Monday last two extensions of the railway were opened to the public;—one to Chichester, the other to Lewes. The most important work on the latter is the viaduct over the London-road, at the junction with the old line. It consists of 27 arches, the largest of which (crossing the turnpike road) spans 50 feet; the remaining 26 arches, 30 feet each. The first arches, springing from the main line, as we learnt, rest on an embankment of 45 feet and are 20 feet high; they gradually increase in height until they attain an elevation from the road to the parapet, of 70 feet. The arches are semicircular, and rest on piers 5 feet at springing, and 6 feet 6 inches at the bottom. This work was commenced May 18, 1845, and the last arch was keyed March 18, 1846. They are constructed on a very sharp curve, and produce a striking effect when seen from the neighbouring hills. The work is of brick, with a stone balustrade, not yet finished. There will be two stations at Lewes.

On the Chichester line the chief work is the bridge over the Arun. It is made of wood, on which the rails are laid, and extends in an unbroken line over the river, which is here about 60 feet broad. On the approach of a vessel, a portion of the bridge on the Brighton side is moved aside to the right by means of a winch, leaving an open space, and into this space the portion of the bridge over the river is then drawn, also by a winch, and the passage is left clear. The vessel passes; the bridge is again worked over; the side piece is moved into its place; and the rail is complete. Chichester, with its cathedral, will form an important ad-

dition to the list of pleasant jaunts open to the frequenters of Brighton. Lewes, being at a shorter distance, was always in the list; but visitors will now be more numerous. Those of our antiquarian and ecclesiological friends who go there, will find much to interest them, especially if they have with them Mr. M. A. Lower's very excellent little hand-book.

The interesting churches at Shoreham (on the Chichester line), are well known as specimens of Norman work; one of them, namely, that of New Shoreham, has been restored, and we may find an opportunity before long, to speak of them at some length.

PROFESSOR WILLIS ON ECCLESIASTICAL ARCHITECTURE.

On Tuesday, the 2nd inst., Professor Willis delivered his seventh lecture on Ecclesiastical Architecture, at the Royal Institution. Referring to the subject on the last occasion, he explained that the tracery of windows was arranged in several planes, similar to the face of a simple Norman arch. He entered minutely into the history of tracery, showing that gothic architecture had been in use a considerable period before the introduction of that important element. The grouping of subordinate arches with a larger arch, as in the *triforia* of several cathedral and abbey arches of the Norman period, was alluded to, as the first step towards the invention. In most cases these arches were all semi-circular; sometimes the large arch was trefoiled, and occasionally there was another outer arch of pointed form. But in all, there was a space, or tympanum, unpierced, and the next step was to perforate that space with a quatrefoil, or otherwise. Still the principle of window tracery had not been introduced; there was no relation between the several openings, and their mouldings were often different.

The professor said, that the invention of window tracery was one of the most important epochs in the history of the art. The system, as distinguished from the earlier mode, consisted in the use of the same mouldings throughout the window, as though a bar of equal width had been bent into the different ramifications. The earliest example of which we knew the date was in Westminster Abbey; and it might therefore be assumed, that about the middle of the 13th century the principle was first developed. In the earliest examples cuspidation was deficient. Besides the windows in which the cuspidation was secondary, there were some where it became entire tracery; these had often been considered as early examples, but they were, in fact, of comparatively late date. The system of cuspidation originated in the arrangement of arches behind one another.—Illustrative of the difference between the simple perforated spaces of early date and subsequent examples, the professor exhibited a perforated card, one side of which represented the first system, and the other the same openings with the mouldings filled in between.

After some further allusion to flowing tracery, the professor described another system, briefly noticed in the former lecture. Windows of this class were very numerous, especially in country churches; the pattern was a diaper, and it was sometimes called "reticulated tracery." The usual system was here entirely changed; instead of the tracery having an intimate relation with its circumscribing arch, and accommodating its curves to that boundary, it was cut off or intersected by it, without any other modification. Conjoined with this peculiarity was the intersection, or penetration of the second order of mouldings behind the first, a feature which became subsequently almost universal. The first introduction of this tracery might be about 1320, or perhaps a little earlier.—The later styles of tracery were then adverted to, and also several windows of foreign origin, each remarkably different. One style, prevalent in Germany, had been called "stump tracery;" we had nothing like it in England;—the Italian tracery was equally dissimilar, and was marked by great want of relief.

In describing doorways, the professor shewed that the mouldings in early English examples might usually be divided into three orders, or arches. The inner arch was continued to the ground without shafts and capitals, in order that the way might be unobstructed. The model, which he exhibited, shewed, in a very clear manner, the reason of the difference in the form of the arches last mentioned, and that which appeared on the inside. The latter, instead of springing from a low level, had high jambs, and a segmental arch, in order that the leaves of the wooden door might open in the thickness of the wall, which, otherwise, its pointed head would have prevented.—In windows, as in the eastern triplet, externally, we found three distinct openings, placed far apart, whilst on the interior they were united as one composition — the internal faces, called *escoinsons*, being united with shafts (*escoinson shafts*) bearing arches. At the apex of the arch, a deep shadow was gained, and by the form of the jambs, the light was admitted freely from comparatively narrow openings; glass was then expensive, and it was also not unnecessary to consider what might be required for defence; at least, that consideration was the origin of the smaller openings in the Norman style.—The lecturer also exhibited a model of a window of "decorated" date, in which the deep internal splay for the admission of light, and the entire dissimilarity between the arches of the exterior and interior, were clearly shewn. This peculiar construction had at one time, been quite unattended to by architects.—The professor concluded his lecture with some remarks on mouldings, which he traced from their origin in the simple chamfer, and through their greater development in the early English period. He showed that the hollows in early English mouldings were cut so deep that they almost met, and in many buildings the intermediate beads having fallen off from decay, had left a ragged edge, which in some restorations had been pared away, either in ignorance, or to save trouble. In the same way the decayed foliage had been cut out of hollows in jambs and arches. The mouldings of later date were usually less elaborate.

VENTILATION OF THE HOUSES OF PARLIAMENT.

The second Report from the Lords' Select Committee to inquire into the progress of the building of the Houses of Parliament, and to report to the House, was printed on Saturday; the following is the report:—

That the committee have again met, and having examined Mr. Goldsworthy Gurney, as to the best system of ventilation for the New Houses of Parliament, are of opinion, that further inquiries and experiments should be made, under the direction of her Majesty's Commissioners of Woods and Forests, before the final adoption of any plan hitherto proposed for that purpose.

And the Committee have directed the evidence of the said Mr. Goldsworthy Gurney, taken before them, to be laid before your lordships.

The evidence of Mr. Gurney and of Dr. Reid is given in the appendix, and the following are extracts from that of the former:—

"Are you aware of all the plans proposed by Dr. Reid, for ventilating the New Houses of Parliament?—No.

Therefore you do not know what his scheme is, and how he proposes to force a due diffusion of air over all parts of the building?—Except from hearsay, I have no accurate information.

In what manner do you understand that he intends to do it?—By a large upcast shaft, the base of which is to communicate by air passages to the various apartments in the building.

Do you suppose that that is to be assisted by any power either of furnaces or steam power?—I suppose it must be assisted by a blowing cylinder, or a centrifugal fan. Those adjuvants would be unnecessary if the upcast shaft had sufficient power. They are always objectionable, in consequence of involving machinery, and being liable to get deranged. Yet some mechanical assistance must be had; for if this extensive building is to be ventilated by the upcast shaft it must fail. The size of a shaft would be inadmissible, for it will be evident to your lordships, that the whole of the air drawn from the whole extent of the building ventilated must pass through it. This is not all; the whole of the air drawn out of the different apartments, and passing through the shaft, must be raised to the temperature of 500° of Fahrenheit, otherwise it will have no power. That is a very important point; one to which I wish to fix your attention, and explain as clearly as possible. Suppose the buildings of the new houses extend over ten acres of ground; suppose five acres—one half only—occupied by rooms, the sectional area of the five acres of rooms will be, in round numbers, 200,000 feet, accurately 217,600 feet square, which is about the square surface of five acres of ground. Suppose the movement of air to be at the rate of 11 feet a minute, which it must be for good ventilation, the quantity of air discharged must be 2,393,600 cubic feet per minute. Now the whole of this 2,000,000 cubic feet of air must be heated sufficiently high to produce an available power, by the difference in the weight or balance of the internal and external columns. A temperature of 500 degrees Fahrenheit, I believe, is necessary to produce any available pressure (?) The whole of the air must, therefore, be passed up the chimney, and then raised to a temperature of 500 degrees of heat as it passes. This appears to be impracticable. But supposing it possible, the quantity of fuel burnt could never be suffered. On referring to experiments made by myself some years since, I find a pound of charcoal will heat 1,000 cubic feet of air from 60 degrees only to a temperature of 500 degrees. Therefore, if we take this as sufficiently accurate and favourable data, we shall find that we require at least 2,000 lb, of fuel per minute. The impossibility of being able to consume this quantity of fuel is evident; it is not possible to burn this quantity of fuel. To produce practically a discharge of that quantity of hot air, or effect an available power, it must be borne in mind that air raised from 60 degrees to 500 degrees doubles its volume.

You object, also, to the system of ventilating from the floors or sides of the room instead of from the upper portion of the apartments?

Yes; there is a practical objection to this direction, which will be seen by looking at the subject carefully. These retrograde currents, produced from air entering at a low level into a room, are practically very objectionable; they produce an increased rate of evaporation upon the skin, which produces a sensation of cold. Although the temperature of the air in motion itself may be warm—say 70 or 80 degrees—it will produce a temperature very considerably lower on evaporating surfaces. The skin of the human body is essentially an evaporating surface, and suffers much from this law. The feeling of cold in the parts of a room where retrograde or direct currents act, is not due to the actual temperature of the currents, but to the increased rate of evaporation produced by them. Evaporation produced by retrograde currents rapidly absorbs heat. A person cannot get out of the influence of the direct or retrograde currents, if they enter near the floor or at a low level, but if the openings are made in the ceiling or at a high level, then they are mixed with the atmosphere of the room above, and cease or become destroyed before they can possibly reach any one standing on the floor.

Although not evinced by the common thermometer?

Not by the common thermometer, but instantly by an evaporating thermometer.

It does not depend upon temperature, but evaporation?

It is entirely due to the increased rate of evaporation produced by a current of air passing over the surface. It is said, "If you cover the skin with ether, or some other rapidly evaporating substance, you may freeze a man to death in the height of summer." A current moving at the rate of three miles an hour, acting on highly alcoholic ether placed on the surface of a thermometer, will occasion the mercury soon to fall to the freezing point, notwithstanding the current of air may be at 80 degrees. Evaporation where there are partial currents, goes on unequally; there is a feeling of heat out of the currents, and a feeling of disagreeable cold when in them. You cannot get out of them if the entering current is anywhere where it impinges upon the person. This is a great objection to air for ventilation entering a room anywhere at a low level; it must necessarily impinge upon the person.

Will you state what force you propose to apply to set the atmosphere in motion?—I prefer the *vis à tergo* arising from the escapage of high-pressure steam; through proper sized air passages, it furnishes a power capable of

being managed so as to produce at will any rate of current down to almost an insensible breathing. I prefer it, also, in consequence of its great capability of management. When I state that in some experiments which I made ten years since, I raised a column of mercury nine inches by the force of the current of air produced by it, the Committee may see from that fact, that it is capable of producing a force which never can be required for ventilation. M. Arago, in some experiments within the last few months, has raised, by a current of air thus produced, a column of mercury 15 inches. Therefore these facts prove that we have abundant power so as to overcome every opposition arising from wire-drawing or other resistance, and to compel air to pass with uniformity wherever it may be necessary. It is simple in application, and its economy great, though that is not of so much consequence as the former; it is capable of being passed easily and independently to any part of the building separately. You may act by this principle upon groups of rooms, or upon single rooms, or anywhere where it may be convenient; by that means, you prevent the necessity of cutting up the building, or the making of large communications. Another advantage which it will produce, and which though last may not be the least, is, that it is capable of passing a sufficient quantity of air, as much as can be required to produce ventilation, through small passages; which passages may be secured against the communication of flame, in case of fire, on the principle of the safety-lamp. This is a circumstance of great importance where a building is to be made fire-proof. Supposing there are several rooms connected together by ventilating flues, all would be rendered safe and perfectly independent of each other as to fire, by the intervention of diaphragms of wire gauze, upon the principle of Sir Humphrey Davy's safety lamp. Wire gauze cannot be introduced unless you have great command of power, because you offer by it a strangulation difficulty in the passage of air, which cannot be overcome by the ordinary means of ventilation.

You are aware that Dr. Reid has a plan for collecting the smoke of every fire in the building, and conveying it all through one shaft?—I have heard so.

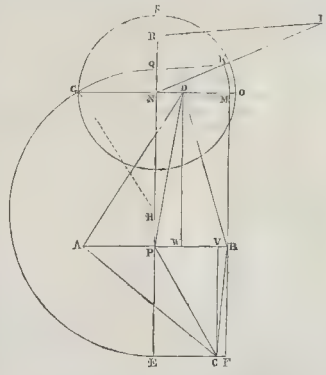
Do you believe that that can be done?—I think it is very difficult.

SOLUTION OF THE QUESTION ON THE CONVERSION OF AREAS.

It is gratifying to find that subjects of a practical and useful character are duly appreciated by the readers of The Builder; it appears that they have had their attention directed to the geometrical *conversion of surfaces*, an example of which was given in No. 168 of the journal, in reference to the development and conversion of the convex surfaces of the right cylinder and cone. The theory, when taken in its whole extent, is a most elegant and important one, and by its aid many thousand practical questions may be resolved with the greatest facility, the solution of which by other methods would be a matter of no easy accomplishment. In fact, the doctrine of the conversion of figures bears a similar relation to the common processes of practical geometry, as that which the theory of fluxions or the differential and integral calculus bears to common algebra. The question proposed in No. 172, by a correspondent who signs himself "A Builder," affords a striking illustration of the utility of the principle; and there can be no doubt but he is aware of the practical advantages to be derived from such a system, and it may be satisfactory for him and other operatives who take an interest in enquiries of this nature, to know, that a full development of the subject, with all its most useful and important practical appliances, will shortly meet the public eye. But to the question.

In examining the proposed data, it appears that there is one side in each aperture of the same length, viz., twenty-eight inches; it will therefore be the most convenient mode of delineation to refer both the triangles to that side as a common base, and so to arrange them that one may lie on each side of it; by this disposition of the given triangles, they are at once reduced to the equivalent quadrilateral figure, ACBD. Through C and D, the vertices of the triangles constituted upon the common base AB, draw the straight lines EF and GO respectively parallel to AB and to one another. Bisect AB in the point P, and through P the middle, and B the extremity of the bisected line, draw EN and FM respectively perpendicular to AB, and meeting the parallels EF and NM in the points E, N and F, M, thereby constituting the rectangular parallelograms EFBP and PBMN, making together the whole rectangle EFMN equal to the given triangular apertures ABC and ABD.

Produce EN, the side of the rectangular parallelogram EFMN, directly forward to any convenient distance, and from the point N in that side draw the straight line NI in any direction at pleasure; then, on NI set off the number 7·1, or some multiple or submultiple of it from a scale of equal parts of any magnitude whatever, and on EN produced towards S, set off NR from the same scale of equal parts, making it equal to the number 2·26, or to the same multiple or submultiple of it that NI is of 7·1. Make NK equal to NM the



other side of the parallelogram NMFE, and join IR; then, through the point K in the straight line NI and parallel to IR draw KQ, meeting EN produced in Q, and NQ will be the diameter of a circle whose circumference is NM. At this stage of the process the solution becomes assimilated to that of the cylinder in No. 168 of The Builder, for the rectangular parallelogram ENMF may now be considered as the development of a cylindric surface, of which the length is EN, and the diameter NQ, the circumference of the end being equal to NM.

Bisect EQ in H, and on H as a centre describe the semi-circle EGQ, meeting MN produced in G; then is NG the radius of the circle required; therefore, upon N as a centre with the radius NG thus determined, describe the circle GSO, and it will be equal in area to the given apertures or triangles ABC and ABD.

Demonstration.—From C and D, the vertices of the triangles to the middle of the common base at P, draw the straight lines CP and DP; then, because AB is bisected in P, the triangles ACP and BCP are equal, for they are upon equal bases, AP and BP, and between the same parallels EF and AB; therefore, the whole triangle ABC is double of the triangle BCP; but the rectangle BFEP is double of the triangle BCP, for when a parallelogram and a triangle have the same base, and are between the same parallels, the parallelogram is double of the triangle; consequently, the parallelogram BFEP is equal to the whole triangle ABC, for things that are double of the same thing are equal to one another.

Again; since, as before, AP is equal to BP, the triangles ADP and BDP are equal, for they are upon equal bases, AP and BP, and between the same parallels, AB and NM; therefore the whole triangle ADB is double of the triangle BDP; but the rectangle BMNP is double of the triangle BDP; for when a parallelogram and a triangle have the same base, and are between the same parallels, the parallelogram is double of the triangle; consequently, the parallelogram BMNP is equal to the whole triangle ADB, for things that are double of the same thing are equal to one another; wherefore, the whole rectangular parallelogram EFMN is equal to both the triangles ACB and ADB.

Because the straight lines IR and KQ are parallel by the construction, the triangles NIR and NKQ are similar, and their corresponding sides proportional; therefore we have, NI : IR : : NK : NQ; that is, 7·1 : 2·26 : : (NM=14) : NQ* $= \frac{2{\cdot}26 \times 14}{7{\cdot}1} =$ 4·456338 inches, true to the last place of decimals. Then, because NQ is the diameter of a right cylinder, of which the circumference is NM, and development ENMF, the straight line EQ is equal to the length of the cylinder, and the diameter of its end extended in the same straight line; and it was shown by a legitimate and rigorous investigation applied to the cylinder, in No. 168, that the radius of a circle of equal area to the convex surface, is a mean proportional between the diameter of the cylinder and its length; but NG, by the property of the circle, is a mean proportional between EN and NQ, the one being the length, and the other the diameter of the cylinder; consequently, the circle GSO, which is described with the radius NG, is equal to the development of the cylindric surface, or to the rectangle ENMF; but we have shown that the rectangle ENMF is equal to both the triangles ACB and ADB; therefore, the circle GSO is equal to the same triangles, and GO is the diameter required.

The above is the solution of the question as required by the proposer; we should, however, consider the process as being incomplete, were we not to accompany it with the arithmetical solution also, both as a criterion of comparison, and for a test of its accuracy; this is necessary, since the principle employed for the conversion of the cylindric surface alluded to above, has been impugned by at least one reader of The Builder; and he must be given to understand that it is no less an authority than Archimedes himself that he is endeavouring to overthrow; for he has beautifully demonstrated the truth of the same principle, in his treatise on the sphere and cylinder; and it is scarcely to be expected, that applying a pair of compasses to a wood-cut on a printed sheet, and comparing the measurements with a carpenter's common rule, will be competent to overthrow the demonstrations of that Prince of Mathematicians; yet, strange to say, such have been the means employed for that purpose.

By the common rules of mensuration, the area of a plane triangle, when three sides are given, is found by *multiplying altogether the half sum of the sides, and the differences between this half sum and each of the sides, and extracting the square root of the product:* or it is found by *drawing the base into the perpendicular, and taking half the product;* and since it is necessary to know the sum of the perpendiculars, or EN, the length of the rectangle ENMF, in order to compare the result with that obtained by the foregoing solution, we shall perform the process in both ways, as the one will serve as a check upon the other, and avoid the liability to error in numerical operations.

For the area of the triangle ACB, the process by the first method, is

Sum of the sides, 34+28+22=84

Half sum of the sides, $\frac{84}{2}$=42.. log. 1·6232439

Differences .....
- 42—34= 8.. log. 0·9030900
- 42—28=14.. log. 1·1461280
- 42—22=20.. log. 1·3010300

Sum of logs. 4·9734919

Area of the triangle ACB=306·7227 square inches. Half sum of logs. 2·4867459

For the area of the triangle ADB, the process, by the first method, is

Sum of the sides, 36+32+28=96

Half sum of the sides, $\frac{96}{2}$=48.. log. 1·6812412

Differences .....
- 48—36=12.. log. 1·0791812
- 48—32=16.. log. 1·2041200
- 48—28=20.. log. 1·3010300

Sum of logs. 5.2655724

Area of the triangle ADB=429·325 square inches. Half sum of logs. 2·6327862

* It may be proper to state, for the greater satisfaction of the reader, that the number 2·26, used in the analogy, is the diameter of a circle whose circumference is 7·1; numbers which express the ratio true to the sixth place of decimals, and differing by less than 2 in the seventh place, and are therefore more than sufficiently accurate for every purpose.

Therefore the sum of these, or the area of both apertures together, is 306·7227+429·325 = 736·0477 square inches. From C and D, the vertices of the given triangles, let fall the perpendiculars CV and DW; then, the formula by which to find the segments of the base AB for the triangle ACD, is $AV^2 - BV^2 = AC^2 - BC^2$, and the numerical value of the perpendicular as deduced from this formula, is CV = 21·90876 inches, and consequently the area of the triangle is 21·90876 × 14 = 306·7227 square inches, the same as before.

Again, the formula for the segments AW and BW in the triangle ADB, is $AW^2 - BW^2 = AD^2 - BD^2$, and the perpendicular DW deduced from this formula, is DW = 30·666 inches, and the area of the triangle ADB = 30·666 × 14 = 429·325 square inches, the same as before.

Therefore, if 736·0477 the aggregate area of the triangles be divided by 3·14159, the square root of the quotient will give NG the radius of the circle sought; thus we have $NG = \sqrt{\frac{736·0477}{3·14159}} = 15·30657$ inches.

Now, for the value of NG as deduced from the geometrical method, we have EN = CV + DW = 21·90876 + 30·666 = 52·57476 inches; and by a previous calculation we found NQ the diameter of the imaginary cylinder, to be 4·456338 inches; consequently we get $NG = \sqrt{52·57476 \times 4·456338} = 15·30657$ inches, the same as by the other method, a result which sets the accuracy of the principle of conversion above suspicion, and proves its excellence as a system of geometrical manipulation. T.

THE FITZWILLIAM MUSEUM.

WINDOW DRESSINGS—RUSTICATION.

Pray, Mr. Editor, if the question be not an impertinent one, what may be your opinion of the Fitzwilliam Museum at Cambridge? By a contemporary of yours, it has lately been made the subject of criticism to some extent, yet in a very weathercock fashion; for a warm eulogy on it, founded upon examination of its specific merits, was immediately followed up, in the very next number of the publication alluded to, by a second article which, though still affecting admiration of the building, was intended to convince us, that every thing which had been pointed out as a particular beauty in the plan and composition, is in reality a defect; and that all that is original in the idea of the façade is decidedly bad. This is blowing hot and cold with a vengeance;—is veering about from east to west with an alacrity truly surprising. Pity that alacrity outstripped both discretion and dexterity; for the slightest degree of the latter would at least have managed matters so as to save appearances, whereas now, it is the publication itself which upsets the criticism it had just before given its readers in its leading architectural article; and what is not least strange of all, it does so with apparent unconsciousness that any such article had appeared, since it takes no notice of it, nor is there any attempt to explain what, being unexplained, looks like egregious self-contradiction. After being voted a very superior piece of architecture one month, the poor Fitzwilliam is blackballed the next, and readers are thrown into perplexity and amazement also, by finding such diametrically contrary opinions delivered from one and the same authority.

Self-contradiction of a different kind is also exhibited in another paper in the same publication, which reprobates in the most unqualified manner, the practice of employing columns and pediments as decorations to windows. "To window-columns," we are gravely told "is attached that sense of the *ludicrous* which is inseparable from diminutive resemblances of things noble and dignified in themselves." Well it may be so; but I would ask the writer how then can he possibly reconcile it to his critical conscience, and it seems to be a very squeamish one, to admire "the *lower* range of windows in the Reform Club-house, as extremely graceful and appropriate," seeing that they also exhibit diminutive resemblances of what constitutes at least one-half of an order, viz., its entablature? If there be absurdity, at any rate bad taste, in putting small pediments over windows, which it is asserted have the appearance of being only "stuck on," does not precisely the same argument hold equally good against small cornices over windows, which we know to be mere decoration, just of that "stuck-on" sort which is so strongly condemned in the other case? If any thing so vulgar as a homely proverb may be tolerated, I should say, "What is sauce for the goose is sauce for the gander." However it may swagger about principles, the criticism that puts window-columns and pediments under ban, yet at the same time tolerates and even admires window entablatures and cornices, is only shallow, one-sided, argument, convenient enough, perhaps, just for the immediate occasion, until its sophistry and shallowness are exposed.

The same circumspect critic denounces rustication as no better than a species of "tattooed masonry." Therefore, it is needless to say, that he has no admiration for the Palazzo Pitti, or the Florentine style generally; or even for that classical mode of rustication, of which we have an example in the façade of Dover House, Whitehall,—a mode that produces such richness of surface, and also so much relief. When he exclaims, "fancy the Parthenon thus gashed and cicatrized," he himself fancies that he has uttered an objection quite unanswerable. Yet the very terms he makes use of show only disingenuous sophistry; for a regular system of jointing, whereby the joints themselves are rendered ornamental, cannot with any sort of fairness be called "gashing and cicatrizing;" and had he ever read the article "Rustication," in the *Penny Cyclopædia*, he might have learnt that such expression of the several stones and courses of masonry is both legitimate and æsthetic.

As to the Parthenon, are we to admit nothing which does not conform to the example of that edifice?—and has all architectural beauty, all architectural design, been so completely exhausted in that and similar structures, as to render them the standard by which every thing else is to be measured? For my own part, I am almost tempted to say, hang the Parthenon, and to wish most devoutly, that it had been blown up altogether by the Venetians in the 17th century. At this you, of course, look grave, as befits an editor; but if I had you *tête-à-tête* with only Burgundy between us, I would soon make you confess, that the Parthenon is made no better than a stumbling-block to us.—Yours, &c.

Budownik.

P.S. Speaking of Barry's *refacciamento* of Soane's building at the corner of Downing-street, the publication above alluded to says, that "the columns are hoisted to their former position on the first floor," although every body who remembers what the building originally was, knows that the order then comprised the ground-floor and a mezzanine over it. Nothing is said as to the manner in which it is now finished up, by the frieze being enriched.

NOTES IN THE PROVINCES.

In the south and west of England, the preservation of the ancient footpaths for the recreation and enjoyment of the public is awakening general attention.——Within the last eighteen months the windows (ten in number) of the ancient flint-built church of St. Peter and St. Paul, Borden, near Sittingbourne, have been enriched with painted glass, at the sole expense of the Rev. Mr. Musgrave, the incumbent, who is also himself the designer.——The works at Osborne (Isle of Wight) are rapidly progressing. The estate is to be inclosed by a paling nine feet high. The new lodge is now occupied, and her Majesty and the Court are expected at the island in a few weeks.——From Guernsey a great deal of granite is now imported, also Caen for kerb stones and repairing roads.——The government, it is said, intend to erect the military station at Birmingham into a grand central depôt, to which most of the troops at Weedon will be removed.——The designs for laying out the grounds, and for the erection of the chapel and lodge of the Church of England cemetery in Warstone-lane, Birmingham, were on view at the Athenæum Rooms last week, but no selection made.——The three public parks at Manchester are to be called Queen's Park, Peel's Park, and Philip's Park.——During the visit of Prince Albert to Liverpool, it is believed he will lodge at Knowsley Hall, the seat of the Earl of Derby; a postponement of the visit till the first week of August has been suggested, in order that the scenery on the Mersey may have the advantage of high water in the river and harbour.——It is rumoured that a Jesuit college is about to be established at Tremeirchion, in Denbighshire.——The foundation-stone of the tower of the northern transept of Leamington parish church was laid by the Rev. Vaughan Thomas, on Thursday week: it is to be about 120 feet in height, the transept itself being carried up to the same height as the present nave, with a large rose window about 30 feet in diameter; the whole of the buildings to be in the early decorated style.——The Cirencester agricultural college is now opened for the reception of students, of whom, when the additional wing now erecting is completed, it will accommodate 200. It is in the Elizabethan style; principal front to the south, with a façade of 190 feet by 50 feet in height, the centre relieved by a tower surmounted at the north-west angle by an octangular turret, the whole rising 93 feet from the lawn. The best mode in use for heating and ventilating is said to have been adopted. Messrs. Daukes and Hamilton, of Gloucester, are the architects; and Mr. Bridges, of Cirencester, is the builder.——The parish church of Wood Enderby, near Horncastle, has been recently repaired at the expense of Sir Henry Dymoke, Bart.——The arrangements for the erection of a new church in the Sneyd district of the parish of Burslem appear to be making satisfactory progress.——Such also is the case with the proposed restoration of Oundle church.——On removing the old oak stalls from the chancel of St. Mary's church, Nottingham, preparatory to repairing the roof, a sculptured tablet of marble was discovered, buried with its face downward, probably since the period of the Reformation. It is a *bas-relief* of the Pope inaugurating a bishop, and is about two feet in height and one in width, and has been curiously painted and illuminated, traces of which are still visible. Several pieces of copper and silver coin, likewise discovered, are chiefly Hanse-town tokens, or Peter's pence.——The Peterborough-bridge repairs are in progress, and it is intended to expend about 200*l.* on the Hail Western Bridge. The Earith Bridge will be opened by the Huntingdon assizes.——The baths at the new water-works at Hull have accommodated 4,843 bathers during the month of May.——From the report of the surveyor of the Lamp and Drainage Commitee at Hull, for the year ending 1st of June, read lately at their annual meeting, it appears that active measures have been taken for the thorough drainage both of Hull and Myton. The greater part of the town can now be cleansed with water from the docks. The total length of new drains in Hull and Myton, completed in the past year, is 1,150 yards; and in Myton 4,000 yards of new paving and 1,800 of new flagging have been laid down. Further improvements are recommended.——It is proposed to erect new baths at Rotherham; the sum of 500*l.* has been voted for the purchase of a site in Westgate.——The marble statue of Southey, by Mr. Lough, for his sepulchral monument in Crosthwaite Church, Keswick, has been completed, and the monument will shortly be erected, but the committee are short of funds.——The Duke of Northumberland's tile manufactory, near Belford, is said to be capable of turning out 1,000,000 tiles in the season. One workman can turn out nine bricks in one minute. Etheridge's patent machine is at work, producing 8,000 tiles, equal to 4,000 tiles and 4,000 soles a day. The drying sheds are calculated to hold 38,000 tiles; and the two kilns, when finished, will contain 20,000 each.——The Edinburgh Water Company, it is said, charges only 4*s.* per annum for water supplied to cottages let for less than 5*l.* per annum, and in some cases only 3*s.* A new college for the professors and students of the Free Church is about to be erected on the Castle Hill. From the report of the Building Committee of the Free Church of Scotland, lately read at their general assembly at Edinburgh, it appears that last year, the number of churches erected amounted to 500, while this year the number was 621, making an increase of 91 since last assembly; but this included those which at that period were in progress of

erection. The amount subscribed up to last report was 317,000*l*, this year increased to 390,000*l*. The actual income for the past year amounted to 18,729*l*. 4s.; and the outlay for the immediate purposes of the fund, during the same period, was 11,274*l*. 16s., leaving a balance of 7,454*l*.

LONDON PARISHES HAVING COUNTRY BURYING GROUNDS, &c.

Sir,—A few remarks on the above subject, mentioning the few London parishes which have anticipated the dawn of more fitting arrangements, may be a suitable pendant to the article on "Joint Parochial Cemeteries," which you were pleased to insert on the 30th ultimo.

I am glad to be able to say, that some London clergymen, besides laymen, who have seen that suggestion, have decidedly approved it, thinking it perfectly practicable, and not liable to abuses. Whatever might be the best ultimate arrangement, the *fact* is certain, that *hitherto* the majority (I think) prefer the *choked* grounds, with old associations, to the new general cemeteries—thus apparently wishing for "neighbourhood" in burial.

Such a plan also, might be still better suited to very populous places in the country; and might, I think, be available for the "City" of London, changing the divisions of *parishes*, on account of their immense number and small population, for that of "*Wards*." On these subjects, something more may be said another time.

St. Andrew's, Holborn.—This ground, in the Gray's Inn Road, cannot now be called "country," but was much more so at the time of its establishment, upwards of forty years ago. Containing 2½ acres, it was much curtailed by the erection, eight years ago, of a church *upon the ground*, which church, however desirable or necessary, ought certainly to have been placed any where else. This was not only "robbing Peter to pay Paul," but robbing here much the poorer of the two. 'Tis true the building is vaulted under, but *that* accommodation is for the rich, not the poor. The ground is, I believe, decently kept and managed; but with its closely-crowded old church-yard and great population, this parish must greatly require fresh room.

St. Pancras.—Further removed, towards Kentish town, is the original churchyard of this parish. It is, by additions, very large, (about seven acres); celebrated for the interment of French refugees, and foreigners of rank; and though it can scarcely be called neat, is, I believe, destitute of the abominations sometimes found elsewhere, but still insufficient for the immense population.

St. Giles's in the Fields—immediately adjoining, about four acres, is the most pleasing of all,—though the poor or "cheapest" part, is beginning to be crowded. Having only one scale of fees would remedy this. This ground has many flowery and well-kept graves and tombs, and is well fitted for a contemplative stroll on a spring or summer day, from which a man might return better hearted. The most striking tomb, with cypresses, is that of Sir John Soane. Dr. Buckner, rector of St. Giles' and Bishop of Chichester, an esteemed prelate, who lived to a venerable age, consecrated this ground in 1804. There is a small chapel at the entrance, and a residence for the sexton, or superintendent, who is in deacon's orders and performs the service.

St. Martin's-in-the-Fields, at Camden-town, is little larger, and is respectable, with a small chapel, but the flattest and most uninteresting (at present) of the whole. I have heard that early and private disturbance of bodies occurs here; but as the party asserting it was evidently a profligate character, it is mentioned, hoping it may be known to be false. As this parish has a shockingly crowded ground in Drury-lane, further arrangements may be very desirable.

St. James's (Piccadilly), in the Hampstead-road, about 3½ acres, retired from the road, and not unpleasing. It was established about fifty years ago, and has a spacious chapel (for Sunday duty also), with a good organ and stone turret, containing about 800 persons. This, and St. Giles', are sometimes used by the parish in which they are situated (St. Pancras), and by others. St. James's chapel, &c., may be termed ornamented by the superintendence of the Rev. Dr. Stebbing, not only distinguished in literature, but as one of the best and warmest-hearted Christians in London.

St. Marylebone, at St. John's-wood, has a large entrance chapel, or church, with an Ionic portico and bold turret, containing, however, a bell of petty size, in lieu of a deep toned one. The size is about six acres; the lower part tastefully ornamented, but the upper, or "cheaper" ground is, or was a few years back, very slovenly, with graves half filled, or the boards left in, &c. This parish has a crowded ground, in which the poor are buried, near the old and new churches.

This, omitting suburban parishes, is the whole list, and is sufficiently meagre.

I am, Sir, &c.,
J. D. Parry.

London, June, 1846.

THE BRITTON TESTIMONIAL.

We mentioned some time ago, that a pamphlet had been distributed amongst the subscribers to the fund raised for this purpose, giving the speeches delivered at the dinner on the 7th of July last, a list of the subscribers, and a statement of the arrangement that had been made. As we had previously informed our readers on all these points, we did not go further into detail. We cannot avoid, however, quoting some eloquent and kind remarks on the pamphlet, from the accomplished pen of the Rev. J. Mitford, which appear in the current number of the *Gentleman's Magazine*, agreeing most cordially with them, as we do:—

"To be born to honours is a happy accident; to achieve them is a noble distinction. Mr. Britton's honourable career is all his own; he has gained his station in life by diligent exertion, by the possession of useful and elegant acquirements, by eminence in his own particular line of study, by general intelligence in other branches of science and art, by a love of literature, and by a generous and liberal assistance to those employed in pursuits congenial to his own. To his labours the architecture—and particularly the ecclesiastical and domestic architecture of the country, is deeply indebted for the restoration of what was decayed, and the improvement of what was defective." "There are, however, still higher qualities belonging to our nature, than those of mere intellectual excellence, and greater endowments than those of scientific acquirements. Mr. Britton is justly endeared to his friends by the virtues of his heart, as well as valued by them for the cultivation of his mind. Whoever is acquainted with him must be pleasingly impressed with the simplicity of his manners, the kindness of his address, and the open, candid, and generous expression of his feelings. The humble writer of these few lines has every reason to be proud of the honour conferred by his friendship, as he willingly confesses the advantage he has derived from his knowledge and attainments. Mr. Britton has enjoyed the enviable privilege of friendly and familiar intercourse with some of the most eminent persons of his age; and we can say that many who, like ourselves, originally came to him for advice and instruction, soon felt anxious to cultivate a more familiar acquaintance, and to make private friendship be the happy result of professional reputation. The names which appear in the list of subscribers before us, afford an ample testimonial of all that we have said. They extend through all classes, from the peer to the professional artist, and by their extension they stamp a more authentic value on their approbation. Such a band of friends any man may be justly proud of; and we trust that in Mr. Britton's mind and feelings, the present public evidence of attachment will shed a bright and genial lustre over the shadows of advancing age, as they are slowly and gently closing on a long and honourable and happy life." To which with perfect sincerity, and great cordiality, we say, amen.

College at Hong Kong.—The magnificent sum of 10,000*l*., it is said, has been contributed; one-half towards the erection of a college at Hong Kong, and the other half towards the endowment of a bishopric there.

The Croydon Atmospheric Line has been put out of condition by the hot weather affecting the valve.

THE IRON TRADE.

Notwithstanding the opinion entertained at the beginning of the quarter, that the prices could not be maintained, the iron trade has continued much as it was. The orders on the books for engineering purposes were so great, coupled with the expectations arising from projected railroads, that the masters determined on maintaining the prices declared at the last series of district meetings, and they have done so, and are now, in fact, congratulating themselves on their resolution. Two weeks ago, it was the intention of some of them to blow out a number of furnaces, in order that they might keep the supply fully within the rates of current demand. Now there seems to be a confident expectation amongst them that even an advance on the present high prices may be proposed at the next meeting. The great difficulty, however, has been to *maintain* the present prices; and that done, many of them are satisfied, as they well may be. The general belief, at all events, is, that the orders on hand will enable them to withstand any *reduction* at the next meeting. "If the American tariff," says the Birmingham correspondent of the *Morning Herald*, "which our last advices from that country left lying on the table of the Senate, had not been interrupted in its progress by the Mexican war, there can be no doubt we should have every reason to look forward to a great advance in the price of iron. At present the duty on sheet iron imported into America out of this country is 56 dollars. The proposed new tariff would reduce it 14½ dollars, which, at the present cost of iron in this country, and freight, &c., would enable the American manufacturers to have good Staffordshire iron for about 15*l*. a ton in place of some 25*l*., which it now costs in their own country. In the absence, however, of this great impetus, and knowing the state of our own market, I have no difficulty in saying there cannot be any further advance of prices."

On the other hand, the *Mining Journal* thinks that, "unless some extraordinary political or commercial event, which cannot be anticipated, takes place during the next two months, the present prices will, in all probability, be maintained—in Staffordshire, at least."

At Glasgow the prices of pig-iron are much the same as our last quotations. On the 6th of June the prices quoted are—69s. for No. 1, and 65s. 6d. for No. 3, per ton, net cash. Sales to a moderate extent were effected last week at 69s., 67s. 6d., and 68s. 6d., for No. 1; 65s., 66s., and 64s., for No. 3, net cash, and at 70s. by bill at three months—dealers not at all anxious to operate—market closed dull—but no decided decline to report

Spread of Knowledge.—At a meeting of delegates from mechanics' institutes in union, held last week at Huddersfield, Lord Morpeth, who presided, said, "That although politics were very properly excluded from meetings like that, he trusted he might be allowed to advert to a question which had of late much agitated the public mind. He alluded to the repeal of the Corn Laws. And why did he mention that? Because he trusted that as that question was about to be finally settled, it would leave an open stage for other questions that must succeed it. The repeal of the Corn Laws might bring more wheat for man, more oats for horses, more maize for cattle. But for men who spoke and reasoned, and enrolled themselves as members of mechanics' institutes, something more was required than the meat that perisheth. And when the legislature shall have done its part as regards material things, the people must put forth their efforts to educate the immortal soul. Then they would expect Lord John Russell to write a letter against the evils of ignorance, which are more fatal than the evils of fever and mortality; they would expect Sir Robert Peel to bring in a bill for a general system of education; they would expect Cobden and Bright to agitate for free trade in slates and primmers, for learning for the many, and literature for the millions. His lordship then enlarged upon the utility of mechanics' institutes, and recommended his hearers, whilst supporting them, to add to knowledge virtue, which would ensure them everlasting happiness and peace."

MIDDLESEX HOUSE OF DETENTION.—(Section from North to South.)*

Mr. MOSELEY, Architect.



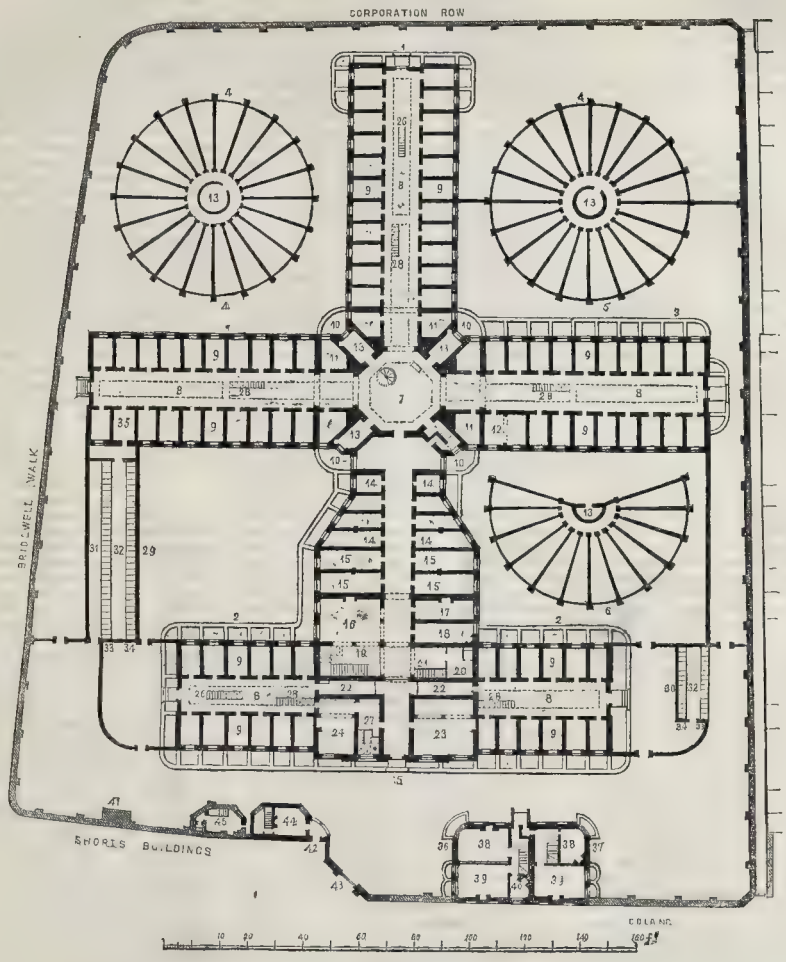
References to Section.

A Punishment cells.
B Area.
C Apparatus room.
D Level of ground-floor paving.
E Course of foul-air flue.
F Entrance for foul air from side and centre male wings.
G Entrance for foul air from side male wing.
H Stove for accelerating ventilation.
I Heating apparatus room. K Kitchen.
L Steward's store-room and office.
M Female keepers' room.
N Keepers' room. O Female wards.
P Passage from female wards to seats for females in chapel.
Q Chapel. R Seats for females.
S Passage to divide sex.
T Seats for males.
U Inclosure to passage of male prisoners to their seats.
V Officers' pews.
W Pulpit.
X Flue for collecting impure air from female wards, in central shaft.
Y Committee-room.

* See p. 277, in present number.

HOUSE OF DETENTION.—(Ground Plan.)

(*North.*)



References to Plan.

1. Male wings.
2. Female wings.
3. Juvenile wing.
4. Exercising yards for Males.
5. Ditto ditto Juveniles.
6. Ditto ditto Females.
7. Central Hall.
8. Corridors.
9. Cells.
10. Area. 11. Store.
12. School-master's room.
13. Officers.
14. Reception cells.
15. Solicitors' rooms.
16. Officers' mess.
17. Governor's office.
18. Surgeon's room.
19. Magistrates' staircase.
20. Washing-room.
21. Stairs to steward's department.
22. Entrance passages to female wings.
23. Clerks' office.
24. Female reception room.
25. Front entrance.
26. Stairs to basement.
27. Stairs to ditto of female department.
28. Stairs to one pair.
29. Visiting places for males.
30. Ditto ditto for females.
31. Passage for friends.
32. Ditto for officers.
33. Friends.
34. Prisoners.
35. Entrance to visiting-places.
36. Governor's house.
37. Matron's house.
38. Dining-rooms.
39. Drawing-rooms.
40. Study.
41. Dead house.
42. Wicket gate.
43. Entrance gates.
44. Porter's lodge.
45. Present lodge.

ROYAL INSTITUTE OF ARCHITECTS.

VENTILATION.

At a meeting held on the 8th inst., Mr. Tite, vice-president, in the chair, the foreign secretary, Professor Donaldson, communicated the death of Monsieur Vaudoyer, architect of Paris, an honorary member of the Institute. Monsieur Vaudoyer, by his publications and his works, has rendered good service to his art.

The Very Rev. the Dean of Westminster, Dr. Buckland, being present for the first time since his election as honorary member, was introduced to the meeting, and offered his acknowledgments.

Sir Thomas Deane, architect, from Ireland, being introduced as a visitor, laid before the meeting a set of drawings illustrative of the Abbey of the Holy Cross, at Tipperary, made by Mr. Woodward, and invited English architects to visit his country, where much would be found to interest them. In this abbey there were several peculiarities; no two windows were alike: the apex of the label moulding round the window heads, terminated in some instances in a sculptured head. The most striking point, however, was the occurrence of a raised platform in the centre of the south transept, known in the neighbourhood as the still "waking bier," and on which bodies were placed before burial. Amongst other peculiarities in Irish building, Sir Thomas Deane mentioned a label or drip at Kilmallock, where over each joint a pedimental stone was placed for protection, and produced a novel feature in the design.

An address on ventilation was then delivered by Mr. Joseph Toynbee, F.R.S.

Mr. Toynbee introduced the subject by stating, that during the whole of his professional career he had almost constantly been attached to public medical institutions, and that he had slowly become aware of the existence of an enormous amount of disease in the human race. A large share of this disease was incurable when once produced, but he was in a position to prove that it could be wholly prevented. He therefore felt that it was the duty of medical men while they devoted themselves to the cure and palliation of disease, also to exert themselves in behalf of preventive measures. In the performance of this duty he had investigated the sources of disease, and he found that one of the most fertile, was a want of a due supply of air in dwellings and public buildings. With this conviction he had accepted the invitation to deliver the present address, although he was conscious how little he was able to do justice to its subject.

In speaking on *the necessity for ventilation*, it was shewn that 10 cubic feet of air, or a volume double the size of the person breathing, is required, for the purposes of respiration and transpiration, every minute. The circulation of the blood was described as the process of carbonization. Respiration as the process of decarbonization in the 170 millions of air cells, forming a surface thirty times as large as that of the skin. In the process of transpiration, the so called insensible perspiration was continually given off, which together with the vapour expelled from the lungs, amounted to two fluid ounces every hour. Thus 500 people in a church during two hours, give off fifteen gallons of water into the air, which if not carried away, saturates every thing in the building after it has been breathed over and over again in conjunction with the impurities it contains collected from each individual. The use of lamps, gas, and oil, was shewn to deteriorate the air and to add much moisture to it.

The effects of neglect in carrying out plans for ventilation, are shewn in the production of three of the most formidable and frequent diseases which affect the human race,—fever, scrofula, and consumption. Numerous facts were adduced in proof of this view, and the way in which these diseases were produced was pointed out. Thus, it was shewn, that all those who were immolated in the Black Hole of Calcutta, who did not perish from immediate suffocation, died in a short time from putrid fever. The proportion of people dying of consumption who follow in-door occupations, is double that of those who work out of doors; and it increases as the space for labour is more contracted. Dr. Guy has shown that it is more common in the upper parts of large establishments, as printing-houses, &c., where the air is most vitiated. Towns exposed to the wind are much less liable to consumption than those which are well protected and sheltered, and the goitre afflicting the inhabitants of the valleys of the Rhone is produced by a stagnation of air. Instances were cited of schools, in which the mass of the children were scrofulous, and to whom an increased diet, warmer clothing, &c., were not productive of any benefit; and by the aid of proper plans of ventilation the disease disappeared entirely. This result has taken place in the Zoological Gardens, Regent's Park, since the new dens opened to the air have been in use.

It was then shewn, that hitherto there had been a total absence of plans for the supply of pure air in a sufficient quantity, to the abodes of human beings. Towns are erected in localities wholly unadapted for residences; they are constructed so as effectually to exclude the air, and often increase to so large a size as to be rendered from this cause only, most unhealthy.

The last portion of the address was devoted to the consideration of the means to be adopted for securing an efficient ventilation. The example set by nature ought to be followed, and the gentle changes produced by the wind should be as much as possible imitated. The great principle is, to admit into rooms and houses a large quantity of air at a moderate temperature (60° to 65°); and that there should be an outlet for the vitiated air. The pure air to be admitted within three or four feet of the floor, and to be warmed by aid of the fire-place. The various plans for warming the fresh air were examined, and their errors were found to have been, that a small quantity was admitted through a narrow channel, and at a temperature much too high, so that its nature was deteriorated. The subject of warming abodes was also alluded to; and it was shewn, that from the bad mode of construction of stoves and fire-places, and from improper materials being used, the smoke was not consumed, ventilation was rendered impossible, and the greater part of the heat dispersed up the chimney. Mr. Toynbee was happy to say, that he had recently examined some plans about to be patented by a gentleman who had devoted a long life to the subject, and had brought to it great chemical and practical knowledge, in which these evils would be remedied, and important advantages gained.

In speaking of the means for insuring the egress of the vitiated air, it was stated, that as its temperature on escaping from the mouth is between eighty and ninety degrees, it rises to the upper part of the room, from which there should always be a means of escape. Dr. Arnott's valve had been generally used for this purpose, and thousands of people will be indebted to its use for their lives and health. If it were the custom of this country to erect statues in memory of those who, like Jenner, *saved* the lives of thousands of their fellowmen, Dr. Arnott in manifold ways had indeed earned for himself this distinction. A modification of Dr. Arnott's chimney valve, by Daw, a working man, was alluded to and displayed, which had the advantage of always remaining open, unless voluntarily closed. Various suggestions were made, shewing how easily plans of ventilation may be carried out; and Mr. Toynbee concluded his very excellent address by appealing to the architects to carry out efficient plans in the construction of buildings, by doing which they would confer unbounded good upon the public, by improving the public health.

The chairman dwelt at some length on the fact, that there was no mystery in the science of ventilation—all was perfectly simple—the great point was to proportion the means of entrance and exit to the quantity of air required. As regarded decoration, there was more difficulty: the appearance of valves was offensive; and, moreover, the air in drawing through them left black lines around the edges.

The Dean of Westminster alluded to some houses in Edinburgh, ventilated by the late Sir John Robison, where the means of exit for the vitiated air was provided behind the cornices in every room.* The reverend gentleman took occasion to comment on the injury done by the open gully holes in our streets, and blamed the Commissioners of Sewers for not permitting them to be trapped. The necessity for permitting the escape of the bad air from the sewers was no answer. If central shafts were provided at certain intervals, with a single gaslight at the top of each, the sewers would be effectually ventilated, and the public health preserved. Several other gentlemen addressed the meeting at considerable length.

* One of these houses, we remember, is fully illustrated in "Loudon's Architectural Magazine."

SUPPOSED INJURY TO ELY CATHEDRAL.

In addition to our correspondent's letter, last week, it may be satisfactory to some of our readers to see the following remarks, which have been addressed to the *Athenæum* on the subject:—"The author of some observations, which were given in the *Athenæum* for May 23rd, respecting the works which are in progress in Ely Cathedral, is mistaken in supposing that the octagonal termination of the western tower, and the sub-arches beneath the original Norman work, are cotemporary and parts of the same design. The first was erected about the year 1386; the second were added, by Bishop Gray, about the year 1460; in consequence, as it is surmised, of the tower having sunk bodily through a space of nearly six inches,—occasioning the most extensive ruin of the adjoining wings of the western transept; of which the northern was taken down and the southern (which has been recently opened and restored) was left in a very dangerous state,—the crown of every arch being ruptured and dislocated; and one of the principal pieces, and much of the arcading and ashlaring, completely separated from the rubble filling of the wall. As the Norman piers of the tower are cased with new and very perfect masonry, it is impossible to speculate upon the state to which they were reduced by this subsidence; but the magnificent Norman zigzag arches, which are now partially (to the extent of about three feet in depth out of ten) exposed to view, are perfectly sound, there being only one considerable crack discoverable in them, occasioned by a partial twisting in the settlement of the south-western buttressing turret of the great tower. If any proof were wanting of the confidence of the builder of the sub-arches, in the stability and strength of the Norman arches above them, it would be found in the loose rubble filling,—which was, in three cases out of four, left between them, and which alone has been partially removed in the works which are now in progress.

It may be very readily admitted that the public have a just right to demand, in all works which are executed with a view to the restoration and stability of the great monuments of our ecclesiastical architecture, not merely extreme caution, but also the application of the most matured architectural and engineering skill and experience. We believe the correspondent of the *Athenæum* of the 23rd May, to be mistaken in supposing that the parties concerned in these works have not sought for and obtained the best advice and assistance which they could command. The whole structure of this tower has been most carefully studied and examined;—plans and sections of every part of it have been made;—and the course and extent of every crack in the structure (and they are less considerable and less dangerous than in most other towers of this description) have been, as far as possible, scrutinized and traced;—defective portions of it (particularly in the stage beneath the octagon, where great injuries had been done by unskilful additions subsequent to the restoration), have been carefully rebuilt with solid masonry, and boarded; a timber framing, of great strength, designed to brace together the sides of the tower, which had become not merely useless but injurious, from the rotteness of many of its essential parts, is in the course of restoration to a state of much greater efficiency than it ever before possessed:—and we believe that no precaution has been, or is likely to be, neglected, which is calculated to secure this noble structure, without further injury, to future ages."

We have yet to learn, with certainty, that an architect *has* been employed, and who the architect is.

THE STRIKE.

At a meeting of master builders, held at the Portico, Liverpool, on the 3rd of June, the following resolutions were passed:—

1. That having acceded to the benevolent request of Mr. Rushton, to meet a deputation of the working classes, for the purpose of endeavouring to arrange the differences that existed, and it appearing, from the assertion of the representatives of the workmen, that they were duly authorized to adjust those differences, and that the bar to such adjustment was the declaration that they did not, or would not, belong to the General Trades' Union; and the masters having withdrawn that declaration, and it having been agreed upon, in consequence, that work should be resumed on the same terms as before the srrike, this meeting feels regret in being obliged to record the fact, that the stipendiary magistrate has been most unfairly and uncourteously dealt with, the arrangement most dishonourably broken, and it was made manifest that no faith can be kept with those who have at present the management and the conduct of the Masons' Club.

2. That this meeting is more than ever strongly impressed with the opinion, that no further communication whatever should be held with the delegates of the clubs; that concession has now reached its utmost limit; and while they are willing to receive their workmen on the same terms as heretofore, they utterly repudiate the principle of club interference between the buyer and seller of labour; and they again pledge themselves to resist such unwarrantable interference; and,

3. That this meeting now considers it a solemn duty, looking at the amount of individual suffering, as well as of local inconvenience, that is likely to result from a renewal of the strike, to call upon all the public bodies, as well as private individuals, to aid them in putting down a combination which repudiates its own acts and assertions, which keeps no faith, and which is exercising a most arbitrary influence over hundreds of workmen who are anxious to proceed with their work, and which, if not checked, must tend still further to increase the misery, destitution, and general inconvenience which are now so severely felt.

The Raising Machine in the General Post Office.—The new machine for raising and lowering the letter-carriers and bags, which we described some time back,* appears to be somewhat uncertain in its operation: a recent accident has led to a partial prohibition of its use. Surely there can be no real difficulty in rendering its operation steady?

* See page 37, *ante*.

WESTMINSTER COURT OF SEWERS.

At a court, held on Friday, the 5th inst., Mr. Leslie in the chair, the collectors presented their accounts, and the clerk reported, that of the gross amount of the rates on the various districts, 46,617*l.* 13s. 3d., the sum of 39,116*l.* 7s. 9d. had been collected, and there were 7,501*l.* 5s. 6d. uncollected. The clerk further reported the treasurer's account, from which it appeared, that there were in the banker's hands a cash balance of 13,373*l.* 18s. 8d. —Orders on the bankers were signed for 372*l.* 14s. 1d.

Sixty petitions were then presented to the court, for 8,453 feet of new sewers, at the expense of the various applicants, and 461 new house drains.

Fifteen tenders were presented to the court for the supply of 500 gully grates. Messrs. Cottam and Hallen's was declared the lowest, and their tender was accepted. Tenders for 30,000 radiated bricks were then received. Messrs. Rutty and Verey were the successful competitors. A further order for an additional 150,000 was given, subject to the sanction of the next court, at the same price, 40s. per thousand delivered.

Thomas Rowe was elected fourth clerk of the works, *nem. con.*

In consequence of the great increase of business, the clerk and surveyor were ordered to look out for a person well qualified to discharge the duties of a builder's clerk, at a salary of 2*l.* per week, and report to the next court.

*** The largeness of the amount belonging to the commission, constantly reported as being in the banker's hands, excites the surprise of some of our readers. We will inquire into it.

RAILWAY JOTTINGS.

The project of transforming the Regent's Canal into a railway has become void in consequence of the required amount not having been subscribed; so that the 5,000*l.* deposited as caution money by the committee of the proposed scheme has become the property of the Regent Canal Company.——The Eastern Union line, which was opened on Tuesday week, for the conveyance of goods, cattle, and parcels, will be opened on the 15th for passengers. General Pasley inspected the whole line on the 4th instant. The most noticeable works appear to be the bridge erected over the deepest part of the cut, near Brantham, and consisting of five arches of 30 feet span each; and the embankment crossing the two tidal and navigable forks or branches of the Stour upon wooden viaducts, intercepting a piece of land, where the formation of a wharf and dock has been suggested. The completion of this line is exciting much interest in Suffolk, and the Ipswich people take great credit to themselves for their exertions in securing its formation. The fares between London and Ipswich are to be 15s., 10s., and 5s. 8d. —— The London and Birmingham Grand Junction, Midland, and Northern Railway Companies, have made arrangements for the conveyance of newspapers at a charge one-half that for parcels, provided the charge for a single package be not less than one shilling. The London and Birmingham Company require that the packages shall contain "newspapers only," and that they shall have authority to open and examine them whenever they have reason to believe that this regulation is infringed.——Excavations have been made for the Lincoln railway station, which is to have a Grecian portico. The contract is for 21,700*l.* ——The line of electric telegraph between the metropolis and Leeds will be completed in the course of the summer, when seven minutes will suffice to convey intelligence between the two. Even at present the communication reaches to the Midland station at Normanton, and the late division in the House of Lords was announced at Leeds about nine in the morning. ——The South Devon line from Exeter to Teignmouth was opened on the 30th of May. It is a single line of broad gauge, intended to be worked on the atmospheric principle but opened in the meantime for the convenience of the district as a locomotive line. Twenty miles of pipe are on the ground, but the stationary engines are not ready. The line commences at the Exeter terminus of the Bristol and Exeter Railway. The Exe is crossed by a pile bridge, and the line is carried over a street upon arches. At Dawlish, it is carried over a viaduct of granite under which is access to the beach. There are five short tunnels between Dawlish and Teignmouth, the intervals being protected by double sea-walls. At Star Cross the line passes quite through the water. The electric telegraph is completed to Teignmouth.—The railway speculators at Exeter are said to have pledged themselves to schemes amounting to 11,000,000*l.* ——On the 4th inst., Lord Redesdale presented petitions to Parliament from about 5,000 railway passengers, one of them signed by sixty-nine ladies, complaining of the inconvenience occasioned by the break of gauge. ——By a Parliamentary return printed on the 4th instant, it appears that out of 588 private bills applied for during the present session, for which a subscription contract has been deposited in the Private Bill-office, 514 were railway projects. There is a very good summary to this return, from which it seems that the estimated expense of the 588 undertakings is 265,842,386*l.* The capital stock is stated at 258,370,860*l.* and the money authorized to be borrowed 94,270,561*l.* The expense of the various railways, out of the sum set forth is, 259,329,450*l.*; the capital stock, 254,050,760*l.*; and the money authorized to be borrowed 90,472,095*l.*——"Of the 530 bills before Parliament at the beginning of the session," says the *Railway Chronicle*, "370 have, up to Whitsuntide, been finally disposed of, leaving 160 still before the Committees."

Summary of Bills granted.

	Miles in length.	Capital.
106 for England..	2,384½	....£59,411,462
62 for Scotland..	853¾	....£14,983,110
42 for Ireland..	970¼	....£12,063,000
210 Grand totals..	4,172½	£86,457,572

Of the above 210 there are—

New, or Independent Companies	61
London and Birmingham (Branches, Extensions, &c.)	5
Grand Junction	8
Great Western (broad gauge)	10
Midland and York and North Midland	20
Eastern Counties	4
Manchester and Leeds	5
South Eastern	7
South Western	5
Brighton and Croydon Companies	6
Caledonian	15
Edinburgh and Glasgow	19
Glasgow and Ayr	6
North British	4
Edinburgh and Northern	8
Aberdeen	2
Eastern Union	3
Norfolk	2
Great Grimsby and Sheffield	5
Ipswick and Bury St. Edmunds	1
Great Southern and Western of Ireland	8
Midland Great Western of Ireland	2
Cork and Bandon	1
Belfast and Ballymena	2
Dublin and Kingstown	1
	210

Earl Fitzwilliam, in the House of Lords, on the 5th inst., moved an order to the effect that the third reading of no more railway bills be agreed to, until the whole of the bills now under the consideration of Parliament be brought up. As his reason for introducing the resolutions in question, his Lordship alleged the ill success of the Government plan for winding up the affairs of the railway companies. The Earl of Dalhousie, Lord Kinnaird, and the Duke of Wellington objected to the resolutions, as the working of the Government measure had not been sufficiently tested; but all admitted that some modification of the standing orders, with the view to repress railway speculation, was absolutely necessary. The resolutions, however, were finally withdrawn.——The House of Lords (select committee on bills) have unanimously decided in favour of the London and York line.

Waterloo Bridge.—At the half-yearly meeting of proprietors held last week, the disbursements were shewn to be equal to the receipts; and, of course, no dividend was declared. The bridge has not been purchased by any railway company.

COURTS IN LIVERPOOL.

It would be very desirable to consider whether, in our circumstances, it would not be better to abolish courts altogether, and to take down as many houses as might be needful to convert them into short streets, opening at both ends into wider streets. There are besides, moral objections to courts, which we do not think have been sufficiently considered. A small court is a separate community, and its inmates must have a certain influence either for good or evil upon each other. The bad example of one family must necessarily influence others; and respectable people are obliged to consort with those whom they cannot esteem, but whom they cannot avoid. And when we consider how large a proportion of the female sex, industrious mothers of families, are condemned to spend their whole lives immured between the blackened walls of those narrow and pestilential localities, never, perhaps, seeing the sun shine into their houses, and knowing nothing in the wide universe but its miseries, it is enough to make the heart sick. And what must the reality be? Let our readers, especially our female readers, try to realise this. Let them consider at the same time, that these poor women are not only cut off from every intercourse with objects of natural beauty, but that they very generally spend their short lives in ill health, with their children sickly and dying around them; and all this because building land is valuable, and cannot be *sacrificed*. It certainly is valuable; for human sickness, and sorrow, and death, are counted light in comparison, while all the moral evil produced in the living, is equally disregarded. How many a respectable woman, by reason of familiarity with such scenes, has passed through all the downward phases of filth, bad habits, and drunkenness, to confirmed vice! The fact is notorious; and indeed it could not be otherwise, constituted as human nature is. We would for these reasons abolish courts, unless they were differently constructed from any we have in this town.—*Health of Towns Advocate.*

SELF-SUPPORTING VILLAGE SOCIETY.

On Wednesday week, the first meeting of the members and friends of this society, established in connection with the Church of England, was held in Exeter Hall. The Hon. W. Cooper, M.P., presided, and was supported by the Lord Bishop of Norwich, Lord John Manners, M.P., &c.

The first resolution, which affirmed the necessity of making some provision for the labouring classes, having in view their temporal and spiritual interests, was moved by the Lord Bishop of Norwich. The undertaking, his lordship thought, was a feasible one. It was mentioned to him in the first instance, by Mr. Morgan, the projector, and he was deterred from connecting himself with it in consequence of the similarity which he thought it bore to the plan adopted by Mr. Robert Owen, the socialist, in Hampshire; but he became convinced of his error, and was now persuaded that the scheme was eminently calculated to serve the interests of those for whom it was designed. Mr. Morgan's calculation was, that 45,800*l.* would be required, in order to build and furnish cottages for 300 families, with church, workshops, infirmary, &c., and that 15,000*l.* would suffice to purchase 1,000 acres of land. The village would be under the direction of a committee. The returns would yield 2½ to 3 per cent.

Lord John Manners, M.P., in seconding the resolution, made reference to Freiderickstan, in Holland, formerly an entire morass, but reclaimed through the combined exertions of a class of labourers placed there to try the experiment. He also cited a case of a similar character in Flintshire.

The resolution having been adopted, Mr. Morgan and several other gentlemen addressed the meeting, and subscribers to the new society were enrolled.

Commencement of New Buildings.—If architects will not take the trouble to inform us when "first stones" are to be laid, they ought not afterwards to complain of our omitting to mention the ceremony.

New Books.

Hand-book for Mapping, Engineering, and Architectural Drawing. By B. P. Wilme, C.E. &c. Weale, 1846.

The want of such a work as this has long been felt, both by teachers and pupils; it will be welcomed by a large class of persons, and found of the greatest service in every engineer's architect's and surveyor's office. The following selection from the contents will shew the comprehensive nature of the work:—

Examples of map details.—North points—Borders for plans, &c.: map drawing, map engraving, map writing, designs for titles, designs for trees from nature, hill shading, conventional signs, railway plans and sections; geological diagrams and sections; alphabets, with rules and examples of the mode of constructing them; architectural drawing, shewing also the method of colouring different materials; flourishing, examples of; colours; specimen plate of map drawing, exemplified in lithography, and example of surveyor's field book. It well deserves an extensive sale.

The annexed extract may be serviceable to some of our readers:—

Instruction for Zincographing Plans, Sections, and Drawings.

"Transfer a tracing of the drawing to be zincographed on to a zinc plate properly prepared for drawing on—the transfer is to be made in a manner precisely similar to that employed for lithographing. Having transferred the tracing, take off the latter, and with a perfectly clean silk handkerchief remove the superfluous red chalk which will appear on the plate—draw in the lines and other parts in precisely the same manner as on stone. In drawing on zinc be careful not to breathe on it, and keep it at all times in a dry place; the least damp has a tendency to corrode the metal, when the drawing would be spoiled. Great care is requisite to keep the surface of the plate free from dirt, even the fingers must not be allowed to touch it, or those places where they are allowed to rest, will be rendered quite unfit for use. It is a very good way to keep so much of the plate as is not actually being worked on covered up. If spots of ink or grease should accidently find their way on to the plate, they may be removed by rubbing such places with a little clean turpentine, and a piece of blotting paper. Zincography has much to recommend it in preference to lithography, as regards its use for plans and sections. It is not an invention of as long standing as lithography, and although the use and treatment of the zinc plate in the hands of the draughtsman is perfectly as simple as that of stone, yet with the printer the case is different. Printers in general have not had as much experience of zinc printing as they have had of stone printing, consequently there are fewer available zinc printers; this will not long be the case, for experience teaches us that zinc is the preferable material for railway plans and sections and for all works of magnitude requiring speed in the execution. Its extreme portability and cheapness are its principal recommendations. It is much easier drawn on than stone. It is a difficult matter to use the drawing pen without a ruler on stone, the surface being polished there is a liability to slip; but the zinc being grained, the grain very much resembling drawing paper, the drawing pen lays hold of it, and crooked or straight lines may be drawn with as great facility as on drawing paper. Drawing on zinc is very destructive to the drawing pen. It will be necessary to set the pen about three or four times a day to insure always drawing fine lines. The best drawing pen to use for drawing on zinc is Hawkin's Everlasting Pen."

Egypt: Temple of Dendera.—A late letter from Cairo (May 17th), written, by an intelligent traveller, to the *Literary Gazette*, after describing the interest he felt in a Nile voyage to and from the second cataract, informs us that the Temple of Dendera has been completely cleared of all the rubbish with which it was encumbered, and is now to be seen as one of the most perfect of the Egyptian temples.

The Battle of the Gauges.—The Board of Trade have reported on the gauge question. They find themselves unable to remedy the serious evil already existing, as they see no *just* way of compelling the entire reduction of the 7 feet gauge. With some few exceptions the narrow guage is to be hereafter employed uniformly.

Drainage of Camberwell.—Some alarming reports are in circulation, as to the spread of typhus fever in this locality, through the defective state of the drainage.

Miscellanea.

Brilliant Whitewash.—As the season has arrived, when every consideration of cleanliness and health prompts to the use of lime upon buildings, fences, &c., we give the following recipe for preparing the celebrated stucco whitewash, used on the east end of the President's house at Washington; colouring may be so added as to give any desirable tinge to the preparation:—"Take half a bushel of nice unslacked lime; slack it with boiling water, covering it during the process to keep in the steam. Strain the liquor through a fine sieve or strainer, and add to it a peck of clean salt, previously dissolved in warm water; three pounds of ground rice, ground to a thin paste, and stirred and boiled hot; half a pound of powdered Spanish whitening, and a pound of clean glue, which has been previously dissolved by first soaking it well, and then hanging it over a slow fire, in a small kettle, within a large one filled with water. Add five gallons of hot water to the whole mixture; stir it well, and let it stand a few days covered from dirt. It should be put on quite hot; for this purpose it can be kept in a kettle on a portable furnace. It is said, that about one pint of this mixture will cover a square yard upon the outside of a house, if properly applied. Brushes, more or less small, may be used, according to the neatness of the job required. It retains its brilliancy for many years. There is nothing of the kind that will compare with it, either for inside or outside walls."—*New York Sun.*

Boydell's Patent Hinges.—Mr. James Boydell, of the Oak Farm Iron-works, has just obtained a patent for improvements in the manufacture of hinges, both iron and brass. The first improvement consists of casting hinges, with the pivots on which they turn, in one piece: in order to accomplish this, one flap is cast, provided with a suitable core in the shoulder to receive the pivot on which the hinge is to work; after this flap is cast, and the cores removed, the other flap is cast upon its edge in such manner that the two exactly fit, and the fluid metal entering the core in the first flap, forms the necessary pivot. The second improvement consists in a mode of casting brass hinges, when separate pins or axes are to be applied, after the flaps are cast; they are cast on cores not going quite through at one end, and with a little projection at the other—so that, when a pin of the proper length is introduced, the excess of metal is beaten down and filed off, and the pin is completely inclosed. The third improvement consists in casting the flaps for several hinges in one piece, and then dividing them. In casting flaps for hinges it has been usual to have a separate mould for each flap, although several moulds are made in the same box; but the patentee proposes to cast a length of—say, six for instance—with projections on the mould to form grooves, where they are to be divided—so that each hinge can then be broken off, and finished by grinding. A fourth improvement consists in annealing cast-iron hinges in coke ovens.—*Mining Journal.*

The New Highway Bill.—Considerable opposition is manifested throughout the country to the new Highway Bill, now before Parliament. The objectors assert that surveyors of highways, appointed under the existing system, are more competent to discharge the duties of the office than any comparative stranger could be; in consequence of their local knowledge—that it is the interest of the present surveyors to employ the poor of their respective parishes—that the proposed change would take the management of parish matters, and parish monies, out of the hands of the parishioners—that it would be attended with increased expense, which country districts are ill able to bear—and that it would be unjust towards parishes which have been well managed, to make them pay for the negligent management of others.

Metropolitan Improvements.—A Government bill has just been brought into the House of Commons to enable the Commissioners of Woods and Forests to construct a new street from Spitalfields to Shoreditch, and for that purpose to raise a sum of 120,000*l.* on the "Metropolis Improvement Fund."

Skelton Church, Yorkshire.—Mr. Ewan Christian, architect, is about to publish a complete illustration of this peculiarly interesting example of the early English period.

Special Supervision.—The following extract seems to shew that the ants have architects, if not official referees:—"A wall had been erected, with the view of sustaining a vaulted ceiling, still incomplete, that had been projected towards the wall of the opposite chamber. The workman who began constructing it, had given it too little elevation to meet the opposite partition upon which it was to rest. Had it been continued on the original plan, it must infallibly have met the wall at about one half its height; and this it was necessary to avoid. This state of things very forcibly claimed my attention; when one of the ants, arriving at the place, and visiting the works, appeared to be struck with the difficulty which presented itself; but this it as soon obviated, by taking down the ceiling, and raising the wall upon which it reposed. It then, in my presence, constructed a new ceiling with the fragments of the former one."—*Huber.*

Glastonbury Cross.—Glastonbury is rich in architectural beauty; the ruins of its abbey are justly regarded as among the most beautiful in England, and are carefully preserved. It is with much pleasure we learn from the *Great Western Advertizer*, that the inhabitants are about to rebuild, in harmony with the peculiar features of the town, the High Cross at the intersection of the streets, on the foundation of the old Market Cross, removed A.D. 1806. Workmen are now engaged in opening the ground, and the foundation-stone is to be laid by Mr. Thomas Porch Porch, who has paid marked attention to procuring the best possible plan for the building. The Cross will be about fifty feet high, composed of Bath stone, and highly ornamented throughout.

Railway and Metropolitan Improvements.—Under this head the current number of the *Westminster Review* has a very interesting article containing several important suggestions, deserving the attention of our readers.

MEETINGS OF SCIENTIFIC BODIES

During the ensuing Week.

Monday, June 15.—Statistical, 12, St. James's-square, 8 P.M.

Tuesday, June 16.—Linnæan, Soho-square, 8 P.M; Civil Engineers, 25, Great George-street, 8 P.M.

Wednesday, 17.—Society of Arts, Adelphi, 8 P.M.; Geological, Somerset House, 8½ P.M.; British Archæological Association, Western Literary Institution, Leicester-square, 8½ P.M.

Thursday, 18.—Royal, Somerset House, 8½ P.M.; Antiquaries, Somerset House, 8 P.M.

Saturday, 20.—Asiatic, 14, Grafton-street, 2 P.M.

TENDER.

For Ely Corn Exchange and Poultry Market:—

Freeman, Ely	£1,900
Peck and Son, Cambridge	1,888
Bullock and Co., Cambridge	1,882
Sugars, Lynn	1,860
Newham, Lynn	1,726
Legge, Ely	1,644
Oats, Cambridge (accepted)	1,590

NOTICES OF CONTRACTS.

[We are compelled, by the interference of the Stamp Office, to omit the names of the parties to whom tenders, &c. are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent Garden.]

For the execution of Contract No. 2 on the Dereham and Lynn line of railway, commencing at the termination of Contract No. 1, in the parish of Marlborough, and terminating at Swaffham, being a length of 5¾ miles; comprising the usual works of excavation, embankment, bridges, culverts, &c., together with a station-house at Swaffham.

For the execution of the several works to be done in building an additional wing on the men's side of the Kent County Lunatic Asylum, Barming-heath, and making other alterations.

For the erection of a new barrack, &c., for officers, at Portsea, for the Board of Ordnance.

For the repairs of the roads over, and at the ends of all, or any one or more, of the following Hereford County Bridges for three years, viz.:—Parsons Pole, Buckton, Critlin Ford, Burrington, Kinsham, Arrow Green, Brookend, Aymestrey, Deerfold, Lye Pole, Stoney-street, Dilwyn, two at Irington, Hall of Gosford, Mortimer's Cross, Rossell, Combe, Rodd, Monkland, Broad Bridge, Orleton, Half of Cumberton, and Stoke Lacy Bridges.

For the erection of a warehouse on the east side of the basin at the Gloucester Docks.

For the erection of a warehouse adjoining that last mentioned.

For a supply of British iron for the East-India Company.

For the erection of a parsonage-house and offices at Tatland, near Looe, county of Cornwall.

For the construction and erection of a gas-holder of 80 feet diameter, with columns, girders, &c., for the Commercial Gas Light and Coke Company, at Stepney.

For the excavation and construction of a gas-holder tank, 81 feet in diameter, for the last-named company.

For the erection of new transepts and chancel for Lye Waste Church, Stourbridge.

For re-roofing and altering Lye Waste Church, Stourbridge.

For the excavators', masons', bricklayers', carpenters', joiners', plumbers', plasterers', slaters', and painters' works required in the erection of schools in Darley-street, Leeds.

For the erection of gas works for the town of Wetherby.

For a supply of ironmongery for the East-India Company.

For the colouring and whitewashing of the Lock Hospital, at Liverpool.

For the erection of new markets, &c., in the parish of St. Ann Shandon, Cork.

For repairing that portion of the post-road from Cork to Dublin, between Draddy's-hill and Knock-horgan Chapel, all in the barony of Cork.

For 5,000 gas-meters of the best quality and most approved construction for the Dundee New Gas Light Company, to be delivered in equal weekly portions during the months of July and August next. The tenders must state the dimensions of, and the quantity of gas capable of being registered by, the respective meters (prompt.)

For lime-washing all the rooms, wards, offices, and privies belonging to the Coventry Union Workhouse, and for repairing the plastering where requisite.

For supplying the River Clyde Navigation Trustees with British timber for one year, from 1st July next.

For supplying the trustees last named with iron and steel for six months, from 1st July next.

For supplying said trustees with nails and shovels for one year, from 1st July next.

For supplying said trustees with iron castings for six months, from 1st July next.

For supplying the same with lead and plumbers' work, oils and paint, &c., for one year, from 1st July next.

For the execution of the whole works of the Campsie branch of the Edinburgh and Glasgow Railway, commencing at a point near the Kinkintilloch station, and terminating near Campsie or Lennoxtown, a length of 3¾ miles or thereby.

For the erection of a store at Clare, Ireland.

For the erection of a market-house in the town of Drumkeeran, county Leitrim, Ireland.

For the erection of a manse and offices at Chirnside, N. B.

For the erection of a toll-house at or near the Cross Roads Tavern, near Carmarthen, for the Carmarthen District Road Trustees.

For the erection of a toll-house at Cenarth village for the same trustees.

For the erection of a toll-house at the end of Carmarthen bridge for the Commott's District Road Trustees.

For the erection of a toll-house at or near Parky-box, Kidwelly; for the trustees last named.

For the erection of a toll-house at or near Wernddu, in the parish of Llanegwad, for the Llandovery District Road Trustees.

For the erection of a toll-house at or near Cwmduad, for the Carmarthen District Road Trustees.

For the erection of a toll-house at or near Dafan Bridge, near Llanelly, for the Commotts District Road Trustees.

For the erection of a toll-house at or near the village of Llanon, for the district trust last named.

For the erection of a toll-house at Penybont, near Lampeter Pont Stephen, for the Llandovery District Road Trustees.

For the various works proposed to be done in the repairs of the Union Workhouse, near Hertford.

For the masons', carpenters', slaters', plumbers', and plasterers' works of a dwelling-house and farm-offices to be erected at Tulfich, on the estate of Suddie, in the parish of Knockbain, Ross-shire.

For the excavation and construction of certain tanks, &c. at Spon-end, connected with the Coventry Water-works.

For the building of the National Schools at Great Waltham, near Chelmsford (extension of time).

For either putting the present mill, belonging to the Commissioners of Drainage for the parish of Runham, in the county of Norfolk, into sufficient repair, or for erecting an engine to be driven by steam or wind of sufficient power effectually to drive a water-wheel of not less than 16 feet diameter, with scoops 15 inches wide. The land to be drained consists of about 300 acres.

For providing and laying down in the parish of Stowmarket, 700 yards, or thereabouts, of curb-stone of the following dimensions:—Scotch granite, 12 inch by 7 inch; York stoke, 9 inch by 7 inch (prompt).

For 250 tons of Guernsey granite, lumps for breaking, and also for such further quantities as may be required previous to the 29th day of September next by the Board of Guardians of the Poplar Union Workhouse.

For the erection of a church at Dudley.

For painting the exterior of the three workhouses and children's establishment belonging to the Stepney Union, and situate respectively at Mile-end, Ratcliff, Wapping, and Limehouse, either in one or several tenders.

For the several works contemplated by the trustees of St. Nicholas' Church, Great Yarmouth, in the reparation thereof, and by the committee of subscribers in the restoration and repewing of the same.

For the repair of 672 perches of the road and lanes in the town of Ennis, not to exceed 3s. 6d. a perch.

For the repair of 3,417 perches mail-coach road, from Limerick to Ennis, between Newmarket-bridge and Cratloe Police Barrack; not to exceed 6s. 8d. a perch.

For the repair of 328 perches mail-coach road, from Ennis to Limerick, between Frost's, at Cratloe, and Lansdown-bridge; not to exceed 5s. a perch.

For the repair of 867 perches mail-coach road, from Ennis to Limerick, between Latoon-bridge and Newmarket-bridge; not to exceed 6s. a perch.

For painting the workhouse of St. Thomas's Union, Exeter.

For building the first pair of houses at Aden-grove, Stoke Newington.

For the erection of certain additional buildings to the Malling Union Workhouse, Kent.

For the execution of the several works to be done in building an additional wing on the men's side of the Kent County Lunatic Asylum, Barming Heath.

COMPETITIONS.

For a design for a building proposed to be erected at the corner of North John-street and Dale-street, Liverpool, for the Royal Insurance Company, No. 1, Oldhall-street there. A premium of 50*l.* for the best plan, unless the designer is employed as the architect in erecting the building. A premium of 20*l.* will be given for the next best plan. (Time extended).

The royal medal will be given for a design for a building, suitable to the purposes of the Royal Institute of British Architects.

APPROACHING SALES OF WOOD, &c.
BY AUCTION.

At the New Inn, Gravesend: 200 large and 300 smaller oak trees, 1,000 oak spires, 20 ash and 12 elm trees, 350 hornbeam trees, birch, &c.

At the Horseshoes, Lower Hardres: several tons of oak, ash, and beech timber; also sundry lots of unmeasured oak and tops, &c.

At Gloucester: a stock in trade, comprising an assortment of well-seasoned Spanish and Honduras mahogany and rosewood, in plank and veneer; birch, beech, and pine in log, flitch and board, &c.

At Southampton: a 1½ horse-power high-pressure vibrating engine, with metallic piston, boiler, &c., complete; an 8-feet lathe, a 6-feet ditto, and a quantity of engineering tools.

At Bishopwearmouth: in suitable lots, a stock of timber deals, and stones.

At Leeds: a stock in trade, comprising 13 turning-lathes of various kinds, 16 pairs of vices, with anvils, grinding-machines and stones, bellows, tools, benches, &c.

At Cople, near Bedford: a quantity of oak timber.

At Liverpool: the materials of ten cottages.

At the Lower Grove, Myland, Colchester: about 140 oak trees and 114 oak standards.

At Whitby Wood, Birdbrook, Essex: a quantity of oak, ash, and elm timber and topwood.

At Upton Lovell, near Heytesbury: a portion of a stock in trade, comprising oak, ash, and elm plank and board, useful old building material and slabs, wagons, ladders, shafts, axles, &c.

At Airthrey Castle, near Alloa.—N.B. A large quantity of larch wood.

At Great Hadham and Standon, Herts: 1,000 larch firs, 22 oak, and 15 ash trees, with hurdle stuff, ash poles, &c.

At Knockbain, Rosshire: about 69 acres of Scots fir and larch timber, suitable for deals, scantlings, railway railing, &c.

At Radwinter, Essex: 107 oak timber trees.

At the Debden Hall Estate: 600 larch, and 200 spruce fir trees, 100 oak saplings, &c.

At Inverary: sale of wood postponed.

At Shelley and Layham, near Hadleigh: 100 cherry-trees, several very large elms, 10 butt ends of black Italian poplar, &c.

At East-street, Manchester-square: a builder's stock in trade, lease, and business.

At Suffolk-street, Rotherfield-street, Islington: six substantially-built carcasses, in a forward state of completion.

At Wanstead: 400,000 stock and place bricks.

At Wapping, High-street: a stock of ironmongery, two steam-engines, seven pair forge-bellows, 13 tons bar-iron, two tons steel, chain-cables, stoves, ranges, nails, hinges, locks, &c. &c.

At Oxford-street: 50,000 feet of Spanish and Honduras mahogany, several tons of rosewood, many hundreds of deals, battens, planks, &c. &c., an assortment of oak, beech, ash, elm, sycamore, &c. &c., with a variety of saws, screws, trade utensils, &c.

TO CORRESPONDENTS.

"Asphalte Varnish."—A correspondent wishes to know if any preparation is desirable "on planed Baltic deal wood, for the application of asphalte varnish."

"Rex" would find some useful hints in "Ricauti's Rustic Architecture." We will endeavour to write to him.

"D. J. J."—Mr. Barlow's paper is not yet printed.

"X."—We quite agree with our correspondent in his view of the importance of giving the jointing of gothic work in our illustrations, and strive to do so [when practicable. We shall probably print part of his letter.

"An Owner."—Inquire at the Office of Woods and Works.

"Foreign Plate Glass."—Mr. A. wishes to know the principal importers.

"Paddington Workhouse."—An inhabitant of Paddington wishes to express his dissent from the course pursued by the guardians.

"Constant Reader" (Northwich).—It is difficult to say how near to the window the building may be placed without fear of consequences. Adjoining owner would have to prove his injury by stoppage of light and air. Something would depend on the use made of the room in which the window is. As to garden wall, we should raise it without hesitation.

"Subscriber, ab initio," *"Clericus,"* and *"Country Gentleman."*—With every disposition to oblige correspondents, we have not time to reply to such wholesale questioning.

Received.—"H. M. P.," "H. B. S.," "J. B.," "J. C.," "R. Y.," "A Carpenter."

Books received.—"Hints to Landowners, on Tenure, Prices, Rents, &c. By Barugh Almack, Land Agent." (Longman & Co.) "Critical Dissertations on Professor Willis's Architectural History of Canterbury Cathedral. By Charles Sandys." (J. Russell Smith, Compton-street). "Principles of Gothic Ecclesiastical Architecture. By M. H. Bloxman, Eighth Edition." (Bogue, Fleet-street). "Patent Journal, No. II." "The Railway Register, for June."

*** Correspondents are requested to address all communications to the EDITOR, York-street, Covent-garden.

ADVERTISEMENTS.

NEW DELABOLE SLATE QUARRY COMPANY.

THE Public are respectfully informed that the whole of the Shares in the above Company are taken up, and that a MEETING will take place, at Two o'clock, on Wednesday the 17th, at the office of Messrs. BULLOCK and LESCOMBE, 35, Lincoln's Inn Fields,—but those parties who have been promised Shares, may still be allotted a limited number from those reserved for the Trade.—Apply, before Monday evening, to the managing Agent, Mr. C. S. RICHARDSON, 5, Whitefriars-street, City.

FIRE BRICKS.

WARD, Honduras Wharf, Bankside, and St. Michael's-alley, Cornhill, has just landed a large quantity of his very superior manufactured Fire Bricks, of Stourbridge, Welsh, and Newcastle. Prices very low. Shipments made for the East and West Indies, &c., with the greatest promptness. Gas companies, engineers, builders, and all large consumers supplied from ships in the river at a much lower price. A very large stock on hand of Bricks, Lumps, Tiles, and Clays.

River sand and gravel by freight to any wharf and dock.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery

Best Patent Cut Clasp.

3d.	4d.	6d.	10d.	20d.
5d.	7d.	8d.	1s. 6d.	2s. per 1000.

Best Sheet Cut Floor Brads 10s. per cwt.
Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6d½., 7d., 8d. per inch.
Self-acting Kitchen Ranges with Oven and Back Boiler.
Wrought Bars and Bright Fittings.

3 ft., 3*l.* 3s.	3 ft. 6 in., 3*l.* 12s. 6d.	4 ft., 4*l.*

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3*l.* 6s.	3*l.* 12s.	3*l.* 16s.	4*l.*	4*l.* 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5*l.*	5*l.* 15s.	6*l.* 5s.	6*l.* 10s.	7*l.*

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 8½d., and 4d. do.
Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.
Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.
—CAST-IRON UPSETS.

IRON-WORK FOR BAKERS' OVENS.

F. A. TIDDEMAN, Purfleet Wharf, Earl-street, Blackfriars, keeps an assortment of Stocks, or Mouth-pieces; Plates, Furnace-bars, Top and Fall Pieces, Stoppers, Chimney-bars, Inside, Outside, and Ashpit, Doors and Frames, Boilers and Frames, Lamps, &c. &c.; all of the best description, at very moderate prices.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 169, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

PAPER-HANGINGS.

BUILDERS and DEALERS may be supplied with Paper-hangings of every description from a large stock of the best manufacture, at very low prices for cash, by HORNE and ALLEN, Paper-hanging Manufacturers and Importers, 41, Gracechurch-street, London.—N.B. Any papers made washable at One Penny per yard extra. Also, a stock of French Papers always on hand.

TO PAPER-HANGERS, HOUSE-DECORATORS, BUILDERS, SHIPPERS, &c.

JOHN TODD MERRICK & Co., having removed to their new Manufactory in New Oxford-street, take the opportunity of soliciting the inspection of the trade to their extensive stock of paper-hangings, comprising every variety, from the cheapest to the most costly and elegant drawing-room patterns. They also invite attention to their complete assortment of decorations, suitable for every description of room; and beg to announce that they are now ready to receive orders, furnish estimates, and enter into contracts in any situation, and to guarantee the execution of them in the first style.

J. T. M. and Co. wish particularly to state that they will execute any French pattern that may be brought to them, fully equal in quality, at the same price that can be purchased in Paris, thereby effecting a saving of the duty and carriage to the purchaser. They have recently imported a most complete assortment of French patterns.

TO BUILDERS, PLASTERERS, AND OTHERS.

JUST IMPORTED from Rouen, a quantity of FRENCH PLASTER OF PARIS, and now lying in Handham's Mechanical Wharf, Thames-street. The whole (about 10 Tons) will be sold at 36*s.* cash.—For further particulars, apply to Mr. HAMMILL, Topping's Wharf.

PLASTERING LIME, that may be used immediately without risk of blistering, manufactured expressly for Plastering, and sold at the usual price, at FORREST'S WHARF, Earl-street, Blackfriars. Sheds for the slacking and mixing of lime. Accommodation for loading and landing bricks, sand, ballast, &c.

TO ARCHITECTS, BUILDERS, & BRICK MAKERS.

PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Roads, Gardens, and for Liquid Manure. BRICKMAKERS' PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to 12-inch bore, kept for Hire.
BENJ. FOWLER, 63, Dorset-street, Fleet-street

TO CIVIL ENGINEERS AND ARCHITECTS.

J. E. WOOD begs respectfully to inform Gentlemen engaged in the above profession, that he undertakes Engraving on any Metal, and Printing Architectural and Mechanical Subjects of every description, cheaply, and will be happy to wait upon Parties about to illustrate their Works and Inventions with specimen Prints of Machines, Buildings, Maps, Plans, &c.; having been engaged with parties in Illustrating works of high repute in the profession, he feels confident that any subject of the above nature placed in his hands will meet with all possible care and attention.
289, High Holborn.—June 11th, 1846.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge. — Wyatt, Parker, and Co., Agents. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

ORNAMENTAL TILES FOR COVERING BUILDINGS.

ROBERT BROWNE'S newly-invented CURVED ITALIAN TILES, for which invention the Society of Arts and Sciences awarded a medal. The Gothic Grooved Ridge Tile, with vertical ornaments, invented by R. B. in 1840; also a variety of plain Gothic Ridge Tiles adapted for tile or slate coverings; ornamental Plain Tiles of various patterns.

Tiles form in winter a warmer and in summer a cooler covering than slates or metal, and may be burnt of any desired colour. Address ROBERT BROWN, Tile Works, Surbiton Hill, near Kingston, Surrey.

DAVEY'S PATENT SLATE RIDGES and HIPS are very superior in appearance to lead, as well as more durable and much cheaper, and are admitted to be the most valuable articles for the purpose hitherto invented. They consist of two side pieces and a roll, either united together to form one solid piece, or in separate parts, and in lengths of from four to six feet. The roll is made of various sizes, perfectly round, and in the strongest way of the slate. They may be purchased of the patentee, W. DAVEY, Broad Quay, Bath, or of any slate dealer in London or the country. Parties ordering a cargo of roofing slates may procure these ridges at the cheapest rate from Mr. JAMES WYATT, Port Penrhyn, Bangor (where they are manufactured), of whom and of the patentee further particulars and prices may be obtained.—Be particular to order DAVEY'S Patent.

HIP TILES to suit slate roofs in colour; Ridges, with plain or rebated joints, roll tops, and vertical ornaments; drains, many sizes, with plain or socket joints; paving in squares, hexagons, octagons, &c., different colours; roofing, in Grecian or Italian styles, other devices also, or plain; conduits, which do not injure pure water; fire-bricks and tiles; clinkers, and out-door paving; sundry wall-coping, garden-borders, chimney-tops; also tubular and other flues of peculiar material. No agent, but a depôt at 22, WHITEFRIARS-STREET, FLEET-STREET, LONDON, under Mr. PEAKE'S personal care, to supply genuine TERRO-METALLIC goods at fair prices as per quality; also, additional Stock at No. 4 Wharf, Macclesfield-street, South, City Basin.

The TILERIES, TUNSTALL, STAFFORDSHIRE, are near the centre of England, whence boats are sent direct to any inland place; or to the Mersey for the coasts, the colonies, and elsewhere.

PAVING, 2s. 9d. PER SQUARE YARD Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27s. 6d. per ton.

TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorised CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced. I. FARRELL, Secretary.
Stangate, near Westminster Bridge, Jan., 1845. Seyssel Asphalte Company.

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Aspnalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

TO ARCHITECTS, BUILDERS, &c.

GAS LAMPS, GAS BRACKETS, GAS PILLARS, BURNERS, &c. &c. In calling the attention of architects, builders, &c., to their assortment of Gas Furniture in general, C. DEBAUFER and SON respectfully announce they continue to fit up premises of every description on the most approved and newest system of gas fitting. An experience of forty years justifies us in making the above assertion.—P.S. Country orders attended to with dispatch.

10 and 11, Creed-lane, St. Paul's.

WALLIS'S PATENT LIQUID WOOD KNOTTING. — This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 20s. per gallon.

IRON BRIDGES, PIERS, &c.

*** For the Numerical Explanation of DREDGE'S PRINCIPLE, see the "Mechanics' Magazine," No. 1172.

THIS system removes from the Arch to the horizonal line the horizontal force of the whole Bridge, which makes the roadway as powerful as the arch itself, and the arch, with half the material, more than double its original power. The pressure on the key-stone of the arch is the horizontal force of a Bridge, which acts directly on that point as a dead load of self-destruction; and it has thrown down, within the last eighteen months, nearly sixty arches of Viaducts and Bridges.

EXAMPLE:—The Menai Bridge, whose depth is 1-14th of its length, and the suspended weight 800 tons, its horizontal force is 2,800 tons of self-destruction on the centre; hence it would require but a small portion of the material and cost of that bridge to construct one over the Menai Straits on this plan, that would possess far greater power and stability than the present structure.

This principle has been fully tested nearly ten years, by the consstuction of fifteen public bridges for the Government and others in Great Britain. It is also established in India.

Bath, 3rd April, 1846.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

REDUCTION IN THE PRICE OF BUNNETT AND CORPE'S PATENT REVOLVING IRON SHUTTERS.

THE validity of this Patent being completely established, the Patentees have much pleasure in stating that the very extensive demand, and the employment of improved machinery in the manufacture, have given them an opportunity (of which they gratefully avail themselves) of making a considerable reduction in the price of this well-known and tried invention, thereby rendering them the cheapest as well as the best iron shutters in use. Every improvement suggested by practical skill and most extensive application has been adopted, and no effective REVOLVING IRON SHUTTER can be constructed without infringing B. and C.'s patent. The worm and wheel, as patented by them, being the only safe, durable, and efficient mode of raising and lowering such shutters, these shutters can be applied horizontally, either above or below the window, or vertically, as introduced by BUNNETT and CORPE, in some of the largest establishments: they are made with bent or corrugated laths, if required.

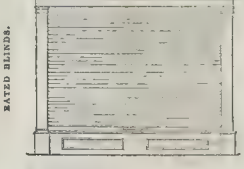
BUNNETT and CORPE also manufacture REVOLVING WOOD SHUTTERS, with their patent raising machinery, or with counterbalance weights, and with proper metallic hinges, without which no shutters can be safe or durable.

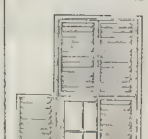
BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop Fronts fitted in a superior manner with Iron Shutters, Patent Brass or Zinc Sashes, Moulded Engraved Stall Board Plates, best Plate Glass, and internal Brass Fittings of all kinds, on the most advantageous terms. Estimates given and contracts taken in Town or Country.—All kinds of metal works executed to any design. Metal Drawing, Rolling, and Stamping for the Trade. OFFICE, 26, LOMBARD-STREET, LONDON. WORKS, at DEPTFORD, KENT.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.

PATENT SAFETY IRON SLIDING SHUTTERS.





The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 115, Old Street, London; or at the Licensees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using BENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licenses Granted.

BUILDERS and the PUBLIC about putting in NEW WINDOWS or altering old ones, should inspect HERRING'S new PATENT SASH, before they go to any expense, which is universally being adopted in town and country.—Exhibited daily at the Patentees, 14, Kingsgate-street, Holborn, also at JOHNSON and PASK'S, Sash-makers.

SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.

JOHNSON & PASK,
1, AMWELL STREET,
Clerkenwell,



Beg to state that they continue to make Sashes, glazed complete, at 10½d. per foot; also, Shop Fronts to any design, and with the best British plate-glass. Every description of joinery on the lowest terms, and of the best materials and workmanship.

A full list of prices forwarded by return of post to any part of the country.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

BRITISH and FOREIGN SHEET GLASS for Horticultural purposes, &c., may be had at JAMES BROMLEY'S, 315, Oxford-street, London, at the following reduced prices:—

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Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Shew-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.

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For complete lists priced.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

WINDOW GLASS, LEAD, VARNISH, and COLOUR MANUFACTORY.—Crown Window Glass, in squares under two feet, 4½d. per foot; glazing, 5d. per foot; sheet glass, 4d. per foot; best white lead, 26s.; seconds, 24s.; thirds, 22s. per cwt.; linseed oil, 2s. 2d.; boiled oil, 2s. 5d.; turpentine, 3s. 9d.; fine oak varnish, 10s.; carriage, 12s.; copal, 14s.; body copal, 20s.; gold size, 10s.; paper varnish, 10s.; linseed oil putty, 7s. 6d. per cwt. per firkin; patent dryers, 42s.; black paint, 28s.; lead colour, 24s.; Oxford ochre, 42s. per cwt.; best pan water-closet, 34s. complete; ½-brass cocks, 2s. 8d. each. Milled sheet lead, patent pipe, beer-machines, tapping-cocks, and brushes and colour of every description. Thomas Millington being the manufacturer, can supply a much better article than most other houses. Address, THOMAS MILLINGTON, 87, Bishopsgate-street Without, London.—Established upwards of 90 years.

OHIO MELODISTS.—ROYAL ADELAIDE GALLERY.—Every evening at half-past Eight o'clock.—These inimitable artists continue to delight crowded houses by the drollery of their personation of negro life. The Concert conducted by Mr. A. Sedgwick. Vocalists—Miss Stuart and Mr. Binge. Also the juvenile dancers, Miss Palser and Master Waite. A large model of a new method, invented by an American, for obviating the difficulties of the Break of Gauge on Railways. Nickel's Compressed Air Railway, Lecture on Chemistry, Microscope, Dissolving Views, and Chromatrope daily. On Tuesday, Thursday, and Saturday, at Three o'clock, Major Beniowski's Lecture on Artificial Memory, and on Tuesday and Friday, a Lecture on Phonography. Admission, 1s.

ROYAL POLYTECHNIC INSTITUTION.—Dr. RYAN'S new and interesting Lecture on the Chemistry and Philosophy of Diving, at half-past three daily, and on the Evenings of Mondays, Wednesdays, and Fridays. Prof. Bachhoffner's Lectures on Natural Philosophy, with brilliant experiments, daily. Macintosh's Revolving Engine, Coleman's Patent Locomotive Engine for ascending and descending inclined planes, Farrell's Archimedean Railway, the Atmospheric Railway, an Envelope Cutting Machine, all in action. New Dissolving Views. Portraits of distinguished Men in the Government and Army of Lahore, magnified by the Opaque Microscope. The Oxy-hydrogen Microscope, exhibiting a fine Collection of Living Objects, &c. &c.—Admission, 1s.; Schools, Half-price.

The Builder.

No. CLXXVI.

SATURDAY, JUNE 20, 1846.

ON Tuesday last, his Royal Highness Prince Albert laid the first stone of the new Laboratories about to be erected under the able superintendence of Mr. James Lockyer, architect, at the back of the house, on the north side of Hanover-square, occupied by the College. The Prince has shewn particular interest in the establishment of this very important institution, which originated in a conviction felt by many eminent agriculturalists, that, in order to understand the economy of vegetable life, and to place the practice of farming upon a scientific basis,—greater encouragement should be afforded than hitherto to the study of *Organic Chemistry*. Agriculture, medicine, and many collateral sciences, mainly depend upon organic chemistry for their future progress. There is, indeed, scarcely any art or manufacture, which is not susceptible of improvement by the aid of the scientific chemist.

In our own particular department, chemical science is of the greatest importance, and the establishment of a means of advancing it must be regarded with interest. The investigation of the nature of cements and plasters, the composition of pigments and varnishes, the chemical action of one material on another, the effect of atmospheric influences, decomposition, and decay, are some amongst the many instances in which it applies in the science of building. In the application of chemistry to the manufacture of glass, too, and the production of gas, we are considerably interested, and we shall hope to find many young architects, and young engineers amongst the students in the new college. Every facility should be afforded to young men wishing to pursue this study, and strong efforts made to induce greater attention to it, throughout the country, than is now generally paid to it.

A numerous attendance of distinguished men on Tuesday, shewed the interest with which the institution is viewed by those best able to judge of its importance.

The area around the stone was boarded; commodious standings were constructed on either side, and the whole was protected by a huge awning, stretching down to Oxford-street, where the front of the new building will appear.

When the prince had deposited the coins, spread the mortar (in his most approved manner), and set the stone, Mr. Lockyer having previously exhibited the drawing, the Earl of Clarendon addressed his Royal Highness at some length, on the services he had rendered to the institution, and on the advantages which might be expected from its establishment. This institution, he thought, was destined to promote that science the want of which had been long and severely felt by this country, and was daily becoming more apparent. His lordship, after commenting upon the beneficial effects likely to result from the establishment of these laboratories, and the patronage of his Royal Highness, concluded by observing, that he was confident such patronage would stimulate every member and student in the school, to elevate the character of the college by their zeal and assiduity. The noble earl made a very eloquent address: we must, however, take one exception to the tone of it, which would have left the impression on the mind of any person not otherwise informed, that England had no chemists, and had done nothing for chemistry,—an opinion which needs no refutation on our part.

Lord Clarendon having concluded, the Bishop of Oxford ably advocated the institution, maintaining that philosophy and religion had no battle to fight; that the voice of nature (her phenomena) was the voice of God, and that by learning properly to understand that voice, we became better acquainted with his power and goodness.

The prince replied, that it had given him great pleasure to assist in the establishment of the college, as he was satisfied that its operations would tend to advance science, art, commerce, and agriculture. He would always be found ready to give his assistance, and had no doubt that when its objects and intentions were better known, the public would come forward to support it.

The inscription on the stone, as follows, was then read, and the prince departed:—

THIS STONE
WAS LAID BY HIS ROYAL HIGHNESS
PRINCE ALBERT,
FOR THE LABORATORIES OF THE
ROYAL COLLEGE OF CHEMISTRY,
IN PRESENCE OF THE COUNCIL AND MEMBERS,
JUNE 16, 1846.

The new buildings will consist of three laboratories in the basement, ground, and first floors, each being 33 feet by 38 feet in the clear. It is intended when the funds of the college permit, to add other laboratories to those now about to be erected, for which preparation is made in the design. The interior fittings and the ventilation are not yet definitely arranged. As regards the latter, flues will be formed communicating with underground culverts, to be worked either by the furnaces, fan, or shaft. When the building is more advanced, we may revert to this very important part of the arrangement.

The Oxford-street front presents a rusticated basement with doorway in the centre and two semi-circular headed windows on each side. Above is a range of six three-quarter Ionic columns, carrying an entablature with windows in the spaces between them. The front is low, in consequence of a restrictive clause in the lease, and would be improved by the addition of some slightly elevated feature in the centre, above the cornice.

The original tender made by Mr. Grissell amounted to 3,100*l.*, but has been reduced to 2,180*l.*, the funds available for the purpose not justifying a larger expenditure, and for this sum the works will be executed by him.

We repeat our expression of best wishes for the perfect success of the new college; and that it will create a body of scientific chemists, amongst the classes engaged in arts and manufactures, and thus confer extensive benefits on the country. We are glad to find it is provided, that a student who manifests an aptness for chemical research, and who distinguishes himself by diligence, may, after his second session, on the recommendation of the professor, be admitted by the council to continue his studies in the laboratory without the further payment of fees. We hope that arrangements will be made to admit students of humble means; and can hardly avoid thinking with Prince Albert, that when the objects and intentions of the college are better known, the public will come forward to support it.

THE LATE MR. JOHN LE KEUX,

ARCHITECTURAL ENGRAVER.

IT may be safely said, that no English engraver has done more to enhance the fame of his art, and give peculiar interest and value to that branch which he professed and practised for so many years than the late JOHN LE KEUX. Rooker and Lowry had, before the commencement of his career, produced excellent plates, and the latter had practised several novelties and improvements, by the aid of machinery and skilful tooling; but Le Keux not only surpassed those talented artists, but gave to geometrical architectural plates, and subjects of architectural *antiquities* in particular, beauties, effects, and excellences, which were unknown before his time.

It is therefore a gratifying task to put on record some facts and observations on the life and talents of this eminent artist and estimable man, not merely in testimony of his professional merits and personal worth; but of their influence on that peculiar branch of art which he prosecuted with zeal and ability for so many years.

John Le Keux was born on the 4th of June, 1783, in Sun-street, London, where his father was established as a pewterer, and was in the habit of making the common pint and quart pots for publicans. On these his eldest son, John, practised the chaleographic art, by engraving ciphers, names, signs, and devices, for the respective proprietors. In this way he soon became an useful and profitable assistant to his parent, who, to secure his services, had him articled to himself as an apprentice. The father and son were of uncongenial minds; the youth was ambitious, ardent, high spirited, and generous; the parent cold, indolent, and heedless. Such contrarieties could not coalesce, and the former embraced the first opportunity of detaching himself from the latter; and when about seventeen years old, placed himself in the studio of James Basire, who then had in his house several pupils, including Le Keux's younger brother, Henry.* At the time the Le Keuxs were with him Basire was a popular, though not a very skilful engraver. He was extensively employed by Mr. Gough, Mr. Nicholls, and the Society of Antiquaries, for their respective topographical and antiquarian publications; and on their plates his pupils were systematically and almost mechanically engaged. There was little done to arouse their emulation, or to lead to fine and skilful execution. Plate after plate was brought before the public without the least appearance of advancing the style and character of art, or giving novelty and beauty to engraving. The drawings were mostly by Schnebbelie and Carter; the latter of whom produced a valuable and interesting series of plans, elevations, and sections, of the abbey and cathedral churches of St. Alban's, Bath, Exeter, Gloucester, and Durham;—and these certainly afforded much instructive employment to the pupils, and no doubt, were the means of inspiring John Le Keux with a taste for subjects of that character. To quote from a brief notice in the Art-Union,—"refining upon the manner of his master, he formed for himself one combining both truthfulness and taste of delineation, in a degree almost unprecedented;—one equally removed from dry, mechanical, and mere painstaking correctness, on the one hand, and from that sort of freedom which is more spirited than scrupulous, on the other. In almost every production of Le Keux there is striking evidence both of his perfect intelligence of, and his *con amore* sympathy with, the subject; and without them mere exactness of imitation will accomplish comparatively little in architectural drawing;—will at the most give only approximations to what is professed to be described. Such engravers and draughtsmen as John Le Keux and his brother, as Mackenzie and Cattermole, all at once advanced architectural illustration to a rank in art which it had never before reached in this country. The beauties of gothic buildings, previously seen,—so far as regards the representations of them upon paper,—chiefly through the mists and fogs of most wretchedly prosaic engravings, burst forth to view in their real splendour, when lighted up by the warming as well as illuminating rays of taste so flung upon them."

Le Keux remained as a pupil with Basire

* George and William Cooke, and John and Richard Roffe, were also pupils of Basire.

about four years. Some of his earliest plates, after quitting him, appeared in the *Beauties of England and Wales;* and in 1808 he was employed upon the plates of *Britton's Architectural Antiquities*, the second volume of which was then in course of publication. From that time the history of John Le Keux is intimately connected with that of Mr. Britton's numerous and valuable works of ancient ecclesiastical architecture. During the progress of the *Architectural* and the *Cathedral Antiquities*, he engraved more than 250 plates for those two works alone. The execution of the earliest of these not only gave great satisfaction to the author and his partners in the *Architectural Antiquities*, but excited much attention amongst the lovers and patrons of that class of literature. Indeed, it tended in a great degree, if not to originate, at least to give a decided character to the other and subsequent work, the *Cathedral Antiquities*. To secure Mr. Le Keux's cordial co-operation, and to give him a permanent interest in the success of the last-mentioned work, he was admitted to a share in its property and profits, with the author, Messrs. Longman and Co., and Mr. Josiah Taylor, the late respected publisher of many architectural works. Le Keux engaged to engrave a certain number of plates in each year, at prices proportionate to the quantity of work bestowed upon them; those in the volume illustrating *Salisbury Cathedral* being named as specimens. From drawings by Mackenzie and Baxter, Mr. Le Keux executed sixteen plates of that cathedral, which were so much admired and praised by critics, artists, and connoisseurs that, whilst they produced both envy and opposition,* they gave to the artist at once a character and name, and proved how materially the efforts of the draftsman could be aided by a skilful and tasteful engraver. Many instances might be referred to in the subsequent progress of the *Cathedral Antiquities*, as well as in other works, in which the chief excellence of the illustrations is due to Mr. Le Keux. That work was not brought to a close till the year 1835; but during its progress the same engraver had executed thirty-one plates for Britton's *Picturesque Antiquities of English Cities* (4to. 1830), seventy-eight for the *Public Buildings of London* (from drawings by A. Pugin, 8vo. 1825-8), and forty for Britton's *Dictionary of Architecture and Archæology;* making, with other plates in similar publications, upwards of 400 plates for works jointly undertaken by the same proprietors. It was also in connection as a partner with Mr. Britton and Mr. Pugin that Le Keux engraved fifty of the beautiful plates, illustrating the *Architectural Antiquities of Normandy*, (4to. 1827), and many of those in *Pugin's Specimens of Gothic Architecture.*

In Mr. J. H. Neale's work on *Churches*, all the plates were engraved by Le Keux; and some of his best engravings are also to be found in Neale and Brayley's *Westminster Abbey*, Blore's *Sepulchral Monuments*, and the fine topographical works of George Baker, and others, had also the advantage of his talents. In fact, his name is to be found in all the best publications illustrative of the architecture of the middle ages that appeared in his time; and many of his engravings can scarcely be surpassed in spirit, brilliancy of effect, and truthfulness of delineation.† Mr. Le Keux's personal industry could scarcely be surpassed. It is sufficiently proved by the immense number of his plates. He had but few pupils, and often occupied himself in his profession sixteen hours a day. Challis, Turnbull, Tingle, and his son, Mr. J. H. Le Keux, have been the most successful among those who studied under him.

In 1833, Mr. Le Keux commenced the publication of the *Memorials of Oxford*, in which he and Mr. Parker, of Oxford, were joint proprietors. In that work the many architectural beauties of the city and university,—admirably drawn by Mackenzie,—were still more exquisitely engraved by Le Keux. It was published in numbers (8vo. and 4to.) periodically, and completed in 1837,—the 50th number, to conclude the work, being published in that year. The *Memorials* comprise 100 plates; and 200 wood-cuts, by Jewitt, of Oxford. The letter-press was written by the Rev. Dr. Ingram, the learned president of Trinity College.

About this time we find him engaged on the *Churches of London*, by Mr. George Godwin, for which publication he engraved nearly all the plates.

On the completion of the *Oxford*, Mr. Le Keux turned his attention to the sister university, which he proposed to illustrate in the same manner. Mr. Parker had purchased his interest in the former previous to its completion; and the success of that work led Mr. Le Keux to decide on publishing the *Memorials of Cambridge* entirely at his own risk. This undertaking was less extensive than the Oxford, and was completed, after many delays, caused by the engraver's serious and painful illness, in 1843, by the publication of the thirty-eighth number. The two volumes, containing seventy-six plates, are in no degree inferior to any of Le Keux's previous works. The jealousy of local booksellers, and other annoyances incidental to the mode of publication which he had adopted, it is believed caused him to regret his determination; but he persevered until the work was finished, though Messrs. Tilt and Bogue have since become the proprietors of it. The letterpress was written by Mr. Thos. Wright, F.S.A., and the Rev. H. L. Jones, F.S.A.

The distressing illness which deprived the public for some years towards the close of his life of the labours of Mr. Le Keux, has been adverted to. Under this affliction he was soothed by the affection of his son-in-law and daughter, Mr. and Mrs. Bergmann, with whom he resided, near Maidenhead. He occasionally resumed the exercise of his profession, but never to any great extent. After a brief illness, he died on the 2nd of April last, aged 62, at the residence of his son, Mr. J. H. Le Keux, who manifested much dutiful affection and attention, and he was interred in the cemetery of Bunhill-row, London. B.

* The Verger of Salisbury Cathedral, Mr. Dodsworth, who had published a small "Guide" to the church, was induced by the persuasions of an artist, who was *at the same time* employed to make drawings for Mr. Britton, to undertake a work precisely similar, and in direct opposition, to the *Cathedral Antiquities*. From local connection, great activity, and personal canvassing, Dodsworth obtained a long and respectable list of subscribers; but the plates in his volume were far inferior to those in Mr. Britton's, and he became involved in expenditure so far beyond his anticipation, and in labours and anxieties so harassing to an irritable temperament, that instead of advancing his fortune or happiness, his undertaking seems to have injured both. The letterpress accompanying the volume was from the pen of the judicious and learned Mr. Henry Hatcher, of Salisbury, who has since written a most valuable history of that city. An account of the rival works of Dodsworth and Britton would disclose much curious matter in the annals of authorship and the arts, and add another gloomy chapter to D'Israeli's *Quarrels of Authors.*

† The engraving of the font in Walsingham Church, Norfolk (Britton's *Arch. Antiqs.* vol. iv.), and the door-way to Redcliffe Church, in the same volume, excited much attention and admiration at the time they were published, for their exquisite fidelity and brilliancy of effect.

IRON CONSERVATORY IN THE BOTANIC GARDENS, REGENT'S PARK.

A VERY few years have sufficed, with good management, to transform a piece of nearly barren land, in the Regent's Park, into luxuriant gardens, affording a retreat as quiet, retired, and beautiful, as if fifty miles from smoky, flaring London. A pleasant inequality of surface, well-assorted trees, and pretty piece of water, assist in varying the character of the gardens in different parts. The view on ascending the mount, formed on the eastern side of the ground, is charming, and the whole arrangement is creditable to those concerned in the management.

A new conservatory has been constructed under the direction of Mr. Decimus Burton, and is now nearly finished. Although of large size, it is in reality only half the centre part of the proposed building, to be called the Winter Garden, which will, when complete, afford a delightful resort for the numerous subscribers, and enable them to enjoy the luxury of the parterre at all seasons.

The building is constructed of iron, mostly wrought, the pillars and guttering alone being cast. The water from the roofs is conducted by the internal pillars, to drains communicating with large tanks under ground; from whence it is pumped up for the supply of the house. The house is heated by warm water, circulating partly in pipes and partly in shallow troughs, the latter being placed near the glass, and containing numerous registers for the emission of steam, when required. The pipes are arranged beneath the surface, in brick channels, and have large outlets for the hot air, with air ducts at intervals, to create a current, and prevent the too sluggish action of the hot air in the drains. The boiler-house, or furnace-room, is below ground, at some distance from the building. The boilers used by the contractor are those of Messrs. Burbidge and Healy.

The structure is ventilated by sliding lights in the roof, acted on by a simple contrivance, which opens and shuts the whole simultaneously. The house is glazed with sheet glass, 21 oz. to the foot, in long lengths. There is a lean-to house at each end of the building, to serve as abutments; these will be removed when the structure is continued.

The present building contains eleven thousand two hundred and fifty feet superficial. It was erected by Mr. Turner, of the Hammersmith Iron Works, Dublin, and cost about 6,000*l.*

The winter garden, when completed, will measure fifty thousand nine hundred and eighty-two feet, superficial area, or upwards of an acre. The outline of the roofs (an obtuse pointed arch), when seen inside at the intersections, is not wholly unobjectionable, but was doubtless well considered as relates to strength, and the transmission of the sun's rays.

PLASTER AND CEMENTS.

BUILDINGS OF MIXED MATERIALS.

SIR,—Having given considerable attention to the nature and properties of plaster of Paris and cements, as applied to building purposes, you will probably allow me a space in your valuable miscellany, to make a few scattered remarks relative to the observations made on French plaster by Mr. De Lassaux, at the meeting of the Institute of Architects, noticed in the THE BUILDER of the 16th of May last.

Mr. De Lassaux stated, that "in France, plaster is employed extensively for external works, and endures well; whereas that in England will not stand the weather." Are we to infer from the latter portion of this sentence that the English gypsum, from which the plaster of Paris is manufactured, is inferior to the crude material of France,—and that plaster made from the French stone will resist the action of our atmosphere for a considerable number of years?

With all due respect and courtesy to Mr. De Lassaux, as a foreigner and a man of science, I must distinctly say to the contrary, for experience has taught us, that it is in vain to try the experiment in our climate, for the very best plaster that can be made in Europe will not resist the humid, variable, and uncongenial atmosphere of Great Britain, particularly in the more northern portions of the country. We have tried various experiments, both with the English and French plaster stones, and the results have invariably been in favour of the English article, both as regards strength and colour; of course, relative to the latter quality, neither the French nor English alabaster will bear any comparison with that found in such abundance in Tuscany and other parts of Italy,—but this is inferior to the English in strength.

The statement made by one member that the cost of plaster is 3*l.* 10*s.* and 4*l.* 5*s.* in England, seems erroneous, for I observe it is advertized in THE BUILDER by Chas. Goodwin, in London, at 2*l.* 10*s.* and 3*l.* 10*s.*, and it is sold at Carlisle, where it abounds, *under* 1*l.* 10*s.* *per ton*, and at Newcastle-upon-Tyne at 2*l.* 15*s.*

The very nature of plaster stone (it being a sulphate of lime, and consequently an absorbent of damp and wet) at once renders it perfectly and totally unfit for external adaptation, except in a dry and mild climate of southern latitude, and perhaps it may not be deemed out of place to observe, that the external plaster work of England suffers more by the sudden changes of the weather than the continuance of wet or damp; take for instance two or three days of continued rain, succeeded by a severe frost, and immediately after it a rapid thaw, which would assuredly have the effect of forcing *plaster* entirely away from the ground-work, on which it had been formed, in consequence of its having in the first instance absorbed the wet. These remarks lead me to advocate the very great superiority of pure *genuine* Roman cement, as an external stucco; for, in the first place, it is a perfect repellant of wet and damp, consequently very

superior for all hydraulic purposes; 2ndly, it works much more freely than plaster, when mixed with *clean washed river sand;* and, 3rdly, it is ten times more durable; but it must be clearly understood that I allude to the *genuine material only*, not the numerous spurious articles, bearing the name, which now inundate the London, Hull, and Glasgow markets, many of which are infinitely worse than crushed lime.

The best Roman cement ever used in England was made from stone discovered on the estate of the late Lord Mulgrave, near Whitby, by Mr. Wm. Atkinson, architect, and applied very extensively to external works in England and Scotland by the late Mr. Francis Bernasconi, plasterer, of London, and the late Mr. Geo. Robson, of Durham. Amongst these works may be named the upper story of the great central tower of Durham Cathedral, by Bernasconi,—this example has been executed nearly fifty years, and the plain surfaces remain comparatively good, and partially covered with lichen; but the crockets, finials, heads, and other ornaments are hastening to decay, arising, principally, from an excess of cement having been employed in its admixture with sand.

This work forms a melancholy lesson, destructive of the application of cements altogether for all kinds of external facings, at least in our own country, for they are one and all nothing more nor less than paltry and contemptible subterfuges, completely beneath the true dignity of architectural design, and should never be used when good bricks and stone are to be found; and even the latter material, unfortunately, in numerous instances is of the most perishable nature, great care being required as to its selection, in proof of which we can now point to handsome sandstone structures, that have not been erected ten years, which are already in a state of decomposition. If, therefore, the architect has any ambition to build for eternity, he must either employ *granite* or *good well burnt bricks*, and above all things, not mix up stone and brick, as in St. George's Cathedral, and other churches in and about London. Who ever heard tell of a *brick and stone cathedral* by the men of the middle ages, or by the great Wren?

All public buildings on a large scale, such as cathedrals, colleges, halls of justice, theatres, palaces, mansions, &c., should surely be constructed externally of *one material*, and in cases where our English architects adopt brick, why not follow the system of Schinkel, the eminent German architect, viz., to model and mould all the embellishments and mouldings in clay, which produces a uniformity of colour and effect?

Our late lamented friend and companion in architectural labour, Mr. Peter Nicholson, held the theory, that a building should appear as if it were cut out of a solid, in stone or marble; this we consider stretching the matter too far; but Mr. Nicholson was essentially Greek and Roman in his ideas, and the fact of this theory being impracticable, renders it somewhat absurd, and we see no great objection to joints appearing in their proper places, provided they do not cut up the general masses and outlines of the structure.

The great evil of the present age appears to be an attempt to make a *grand display*. Some architects adopt the decorated period of Gothic architecture, developing in some instances a great variety of tracery, *no parapets or clerestories*, with a total absence of towers or steeples; and in others a mixture of yellow coloured brick, with stone dressings, as instanced above. Now, we beg humbly to suggest, in preference to this mode of procedure, that the judicious architect, instead of aiming at elaborate and ornate display, should contemplate and adapt from the glorious early English examples to be found in the cathedrals of Lincoln and Salisbury, the north transept at York, and the magnificent specimen of the nine altars at Durham, and produce from them structures of more simple forms, complete in all their parts, with nave and aisles, choir, clerestory, parapets, and the tower and spire, instead of the garbled and unsatisfactory productions, which are constantly being inflicted on the present age of architectural mediocrity.

In opposition to such, I cannot help alluding to the new church at Camberwell, the designer of which appears to have grappled with his subject in the truly vigorous early English feeling, which we are endeavouring to advocate. We entreat the brick and stone London professors, instead of the pie-bald brick and stone Gothic, to give us structures composed externally of *one material, effective, and complete in all their parts*, that will reflect honour on the age in which we live, and hand down the names of their designers to an admiring posterity.

So ends my present theme, and should you deem these remarks worthy of insertion, I shall in a future paper, make further observations on the latter portion of your review of the meeting of the Institute of Architects above alluded to, in which mention is made of *Portland and John's cement, mastic*, &c., by the chairman, Mr. Poynter, and Mr. Godwin.—I am, meanwhile, yours, &c.

FRANK TYRRELL.

Newcastle-upon-Tyne, June, 1846.

PROFESSOR WILLIS ON ECCLESIASTICAL ARCHITECTURE.

CONCLUDING LECTURE.

On Tuesday, the 9th instant, Professor Willis gave the eighth and concluding lecture of his course. He ascribed some importance to the theory of the eastern origin of the pointed arch, and did not consider the dissimilarity of other parts a sufficient objection. He also dwelt upon the known influence of the Moorish universities, to which students flocked from all parts of the world. These men, returning to their native countries, would describe the architecture of the cities in which they had been educated, and, probably not being architects, would be able to give little more than the form of the arch to the workmen, whom they wished to execute it. These would construct the pointed arch with the mouldings previously in use. Thus we had many buildings, in which the round arch and the pointed arch were employed together, and the pointed arch had the zig-zag, and other enrichments of the Norman. At length, the architects seem to have got tired of the shallow Norman mouldings, and having, as we learnt from Gervase, better tools, they worked them with deeper hollows, as previously mentioned.

The first change, therefore, which took place from the Norman style was in the form of the arch, and the second, in the mouldings. But the piers also were worked on a different system; and ornament, instead of being only scratched upon the surface, had all the relief and elegance, which the improved facilities admitted of. Still the tracery principle was wanting; for the windows of the early English period were merely groups of openings. When this principle came in, which it did probably about twenty years earlier in France than in England, like the pointed arch, it did not immediately alter any thing else. Rickman's views, like those of many other able writers, had been based upon the assumption, that no Gothic building of any importance existed out of England; the continent then being closed by the long war. There was, however, great credit to be attributed to him, and the professor thought it better to retain his nomenclature, at least, until some other terms should be introduced, which could be generally agreed to. The important epoch of the introduction of tracery had wholly escaped the notice of Rickman.

Respecting the current use of the term "transition," as applied to the periods, when one style was supposed to be progressing towards another, the professor said he considered it loose and unscientific, leading to an erroneous impression of the changes of style. He thought, that a more accurate impression was realised by viewing each part separately;—thus, when tracery was introduced, it did not at once gain its proper mouldings, but was worked with those previously in use. The great difficulty attending this, at length led to the use of fewer mouldings. As in this case, so in the transition to perpendicular, and throughout all the parts of a building.—The transition to perpendicular was more gradual than any other. Indeed, the geometrical and flowing patterns continued till the close of the style; and there were also the "imbricated," and other patterns, in which perpendicular lines were hardly discoverable. He might, perhaps, have met with an example of the perpendicular style on the continent, but it might be held as a rule, that that style was confined to England. The mouldings of the late perpendicular style were wholly different from those of the early English period. Taking a door, or window arch, these mouldings were not composed of rounds and hollows, in groups as in the early style, but were the classical outlines, with very slight relief. The *groups* were indeed separated by bold hollows, but their different members were extremely shallow. A form, like the brace in music, which we might call "brace moulding," was very common.

The professor then referred to models upon the table; one representing a compartment in the length of Norwich Cathedral, and the other a similar portion of York. In the Norman cathedrals, there were three horizontal divisions. The triforium, in the centre, was large and lofty, in all respects resembling the aisle below, and was lighted by windows of its own, as in St. Sophia, at Constantinople. He was not aware that this gallery had been used for the separation of the sexes; it appeared to have been erected, merely from traditional usage. Besides this gallery, there was one in the clerestory wall, serving as a passage. The windows of the triforium had certainly not been intended for the use of the nave, for they could not be seen from any point below. Therefore, during the later period, the wall was raised, the windows blocked up, and perpendicular windows inserted at a higher level, the whole being covered with a flat roof; and this was the actual state at Norwich, Peterborough, and some other places.

The importance of the triforium, as a distinctive feature, became gradually less and less. York Cathedral was an example of a curious substitute, made by prolonging the mullions of the clerestory window, in the space of wall, against which abutted the roof of the side aisle. In late examples, even the semblance of a triforium was omitted. As to the object of this gallery, it could not have existed without some use, and he thought, that that purpose was the hanging of tapestry, which we knew was used at great festivals of the church. The term "triforium," as applied to the centre compartment, showed in a curious manner, how a term might be fixed in a signification, to which it had not been confined, The only old author who used it was Gervase, and it originally applied to *any* passage. It was in fact a Latinized form, after the manner of the middle ages, of the English word "thoroughfare."—In the early English windows, the glass was placed nearer to the outside than the inside of the wall; but in later examples, it was actually nearer to the inside, whilst in many cases, there was space for an external gallery.—He then gave some further explanation of the forms of mouldings, and said that he could not better conclude his lectures than by endeavouring to impress upon them this fact, that, though it was quite true there were different styles, the various details of a building had become changed at separate and distinct periods.

The professor concluded his course amidst great applause. We regret that our reports have necessarily been limited to such important heads, as would be most valuable to our readers, but we cannot omit to remark, that the professor's happy manner and his admirable models, rendered the subject interesting and clear to a general audience, to an extent that few lecturers have reached.*

Novel Mode of Interment.—Mr. T. Brookhouse, Roman cement manufacturer, of Derby, having died, was interred in All Saints' churchyard on Tuesday week. A thick layer of cement was spread at the bottom of the grave just before the coffin was lowered; the sides and ends were then filled, and another layer of the same material at the top completely hid the coffin from view, and rendered it air-tight. Ere it hardened, which the cement did in a few minutes to the consistency of the hardest stone, the deceased's name was traced in the yielding mass, so that, if at some future age the deposit should be disturbed, the name of the occupier of the interior may be read.—*Globe.*

British Institution.—This gallery is now open for the exhibition of works of the old masters, and consists chiefly of portraits of eminent persons.

* In report of last lecture, line 13 from commencement, for "abbey arches" read "abbey churches."

FREEMASONS OF THE CHURCH.

ANCIENT ORNAMENTAL GLASS.

JUNE 9; Mr. French, architect, in the chair. The Earl of Zetland exhibited an enriched foliated frame, designed to hold the orders of General Dundas. The Hon. Stewart Mackenzie contributed twelve pictures in boxwood, being specimens of early German carving. Mr. A. Black exhibited some drawings of Details in Heriot's Hospital and Glasgow College, Scotland.

Mr. A. J. Stothard offered a few remarks in connection with his paper, read at a former meeting, relative to the supposed mode which the ancients adopted for the production of the Portland Vase; observing, that he was more especially led to present them by way of supplement, in consequence of his hypothesis being apparently confirmed by a very interesting paper, which appeared in the *Literary Gazette* of the 16th ult., from the pen of Campanari the elder, "On the Glass of the Ancients," who states, "That the ancients, among other interesting things, discovered glass to a perfection which their posterity are very far from having attained; vases, cups, and utensils of all sorts, as deposited in the museums of Europe, and that of Herculaneum, as dug out of Hetruscan and Roman tombs;" that they "wrought basso-relievi: the most useful and important, as observed by Winkelmann, was certainly the glass paste with which cameo and intaglio were exactly imitated." Without passing over Campanari's paper seriatim, such parts only as more especially bore on the subject were referred to.

The next paragraph stated, "That *it was certain* that the impressions of these glass cameos were made *with casts* taken from the original," which, the lecturer remarked, would of course pre-suppose that the basso-relievi were from models, previously prepared on the body of whatever it might be of which it was to form a part; that they were cast, Campanari says, was evident, because on the surface might be discovered by the naked eye a roughness termed slavatura, as clearly indicated by remnants of several parts not polished; in others can be seen marks of a fissure in the stamp—as in the glass paste belonging to Mr. Emerson—in others an unevenness, caused by a fault in the intaglio applied to it, as in the cameo in possession of Mr. Hertz. The lecturer remarked, that he attributed such a fissure to arise from such parts of the melted glass or metal not being at a proper degree of heat when they came in contact, and which would in all probability form a line of that character. Some small specimens of works of the ancients, which were laid on the table of the college at a recent meeting, belonging to Earl Cadogan, had every appearance of having been cast. But he passed on to works of a much larger character referred to by Campanari, one of which was a large cameo in the Bibliotheca Vaticana, as described by Winkelmann. On the Portland Vase, or the fragments of it when in a shattered state through its late mishap, it might be observed, that the parts from which the white figures had been separated by the blow, shewed clearly that the *whole* surface of the vase was equally polished. That the wheel was used by the aneients cannot be disputed, and is fully admitted by M. Campanari, who supports Mr. Stothard's idea, that it was only done to remove the slavatura or roughness left on the surface of the basso-relievo in the casting, while the field of the vase, from the mode described in the previous paper of the latter, would be preserved as originally blown; this appeared to be confirmed by Campanari, when stating, "that from the examples referred to, it was evident that the ancients first took models in clay of the basso-relievo they wanted to represent, and then they affixed to the vases *casts from the models*, as with casts from intaglio they reproduced the original engraving in glass.

On this part of the process Mr. Stothard and this authority did not agree, the former supposing them to be affixed by casting the basso-relievo on the body of the vase, while the latter believed them to be cast in a detached form, and affixed subsequently; in closing his remarks, the former expressed deep regret that the polished surface beneath the figures of the Portland Vase, was not compared with those parts of the body of the vase termed the field; for by doing so, it might in all probability have been ascertained, if the wheel had passed over the blue ground not so covered by the basso-relievo, as certain angles would of necessity appear thereon if it had, while those parts covered from the wheel by the basso-relievo would be without such marks, as he believed that no art or polishing would produce that *evenness* and *brilliancy* of character which will be found on the metal as blown. Such an examination, he did think, would set at rest the question whether the whole had been cut with the wheel, as in cameo engraving, as supposed by Mr. Doubleday, to whose hands it was committed for restoration, or if the figures had been cast as suggested by the lecturer, while the blue ground of the vase was preserved in its original state, by being covered with *loam* while casting the basso-relievo thereon; if the latter, we may yet hope to see some works of this character produced in our own day; especial ground for such an expectation may be derived from the valuable researches of Campanari.

A communication was then read from Mr. James Finn, her Majesty's consul at Jerusalem, on the buildings in Avignon, &c., to which we shall refer on another occasion. A converzatione is to be given on the 29th inst., on the occasion of opening new rooms.

MEDALS OF THE SOCIETY OF ARTS.

WE had the pleasure of witnessing the distribution of prizes at the house of the Society of Arts, in John-street, Adelphi, on the 12th instant. A numerous, but select, assemblage, amongst whom were many ladies, had met in expectation of seeing his Royal Highness Prince Albert in the chair, as president of the society, to distribute the numerous medals and other prizes; but much disappointment was felt when it was intimated that the result of a slight accident prevented his Royal Highness from attending. Mr. Scott Russell appeared to have much gratification in stating, that a deputation of the office-bearers appointed to wait upon Prince Albert at the Palace, in order to give him information as to the affairs of the society, had found that they had gone there to receive information, not to contribute it; and that his Royal Highness not only appeared to be thoroughly versant with the doings of the society, but to have well considered various subjects demanding improvement, and regarding which he pointed out to them, in the most business-like manner, how they should proceed. Amongst other suggestions, his Royal Highness proposed, with reference to the fine green marble of Ireland, the value of which did not appear to be known even to its proprietors, much less to the district in which it abounds, that a premium ought to be offered next session for the most perfect slab of it, as a specimen, to be contributed to the society. It appears, also, that the prize patterns of ordinary stoneware for tea and dinner services for the poorer classes, in which the society has taken great interest, are the result of a suggestion made by his Royal Highness, with the view of improving and gratifying the taste of those who could not afford to purchase elegant forms wrought in expensive material. In short, said Mr. Scott Russell, we have a most intelligent, most willing, and most valuable president, of whom we are very proud.

It is but justice to Mr. Scott Russell himself, however, to say, that the society appears to be deeply indebted to him also, as one of the very main-springs of its present successful state of operation; and he appears to be well sustained and seconded in his vigorous and untiring efforts by his more immediate colleagues in office.

The spectators were somewhat compensated for the want of the Royal president, by the appearance of his Highness Ibrahim Pacha, followed by several of his suite in their Egyptian costume, and all of whom appeared to be much interested with the proceedings. The chair was occupied, singularly enough, by the Pacha's old antagonist Admiral Codrington, with whom the Pacha good-humouredly shook hands on being unanimously elected a member of the society.

In our further remarks, we must, of course, confine ourselves to what more particularly concerns us. And first in order amongst the prizes for improvements in mechanics and mechanical arts, is,

No. 1. To Mr. M. Ricardo, of Brighton, for his machine for registering the speed of railway trains, the gold Isis medal.

"Mr. Ricardo's machine," the committee remarked, "is simple, ingenious, and accurate. The correct determination of the travelling velocity of trains at all points of the journey, with the duration of stoppages, by self-acting mechanism, is an important object, and the preservation of such a record for the use of the directors and managers of a railway is likely to promote the public security, and the efficiency of superintendents."

No. 3. To Mr. T. R. Crampton, C.E. of 18, Sussex-place, Kensington, for his improvement in the construction of the locomotive steam-engine, the gold Isis medal.

The committee announced Mr. Crampton's invention as "a mode of constructing locomotive engines, by which the centre of gravity may be placed lower than in the ordinary construction, and at the same time allow as large a driving wheel to be used as any practical man may desire. He is enabled by this means to construct a more powerful engine than heretofore on the narrow gauge, without diminishing its stability."

No. 4. To Mrs. Varley, of Charles-street, Clarendon-square, for her method of ventilating rooms without cold currents, or complex apparatus, the silver medal and 5*l.* 5*s.*—The committee appeared to think that Mrs. Varley has accomplished her object, so as to afford thorough ventilation without draughts, an object not yet, it appears, otherwise accomplished on behalf of either our legislature or our judicial administrators of the law.

No. 5. To Mr. Joshua Jeays, of 9, Green-street, Marlborough-road, Chelsea, for his orthogonal system of hand-railing, the silver medal.—"Mr. Jeays' system of getting out with the hand-rails," the committee remarked, "is new, ingenious, and economical; and there is little doubt it would be useful to mechanics, if generally adopted."

No. 9. To Mr. T. Falconer, of 10, Park-street, Limehouse, for his improved plough for carpenters, joiners, &c., the silver medal and 5*l.*

No. 10. To Mr. W. G. Gover, of 8, Chester-square, Pimlico, for his patent removable window sash, the silver medal:—"Mr. Gover's window sash," the committee observed, "affords great facility for removals. It is light when in its place. The fixed head is important, and the expense is moderate. The benevolent object of the inventor, namely, prevention against accident, is well carried out by novel means."

No. 14. To Mr. H. B. Cowell, of 4, Compton-street, Ball's-pond, for his improved ball-tap for cisterns, the silver medal.

No. 15. To Mr. J. E. McDonall, 22, Tavistock-street, Covent-garden, for his improved Archimedean screw-drill, the silver Isis medal.

No. 17. To Mr. G. Scott, of 13, Fletcher's-row, Clerkenwell, for his apparatus for drilling and tapping gas and water-pipes, the honorary testimonial and 5*l.*

No. 21. To Mr. D. Middleton, of 9, Bailgate, Lincoln, for his self-sweeping chimney pot, the honorary testimonial.

In the fine arts a number of medals were distributed, many of them to young persons, both male and female, and some to mere children, for meritorious endeavours; but of these we cannot here take any special note.

No. 48. To Dr. Ritterbandt, of 9, King William-street, Strand, for his method of preventing incrustation in steam-boilers, the gold Isis medal.—Chlorine or muriatic acid, in the form of muriate of ammonia, is the agent recommended by Dr. Ritterbandt. The incrustation being of a calcareous nature, and lime, when combined with muriatic acid, being of a soluble and indeed highly deliquescent nature, muriate of ammonia dissolves the incrustation by simply contributing its muriatic acid to the lime, and converting it into the soluble muriate of lime.

No. 49. To Mr. B. Albano, civil engineer, of 24, Essex-street, Strand, for his patent cannabic composition, the gold Isis medal. On this subject the resolution of the committee was stated to have been "that in their opinion Mr. Albano's patent cannabic composition is new, and an article which is cheaper and in many respects superior to any material

hitherto known or used for the manufacture of raised figures." It appeared to consist in the application of a thin woven texture, such as linen or cotton, to the surface of the mould, the inequalities being afterwards filled up with a resinous composition.

No. 51. To Mr. G. Franchi, of 69, Myddleton-street, for the best imitation of ivory in plaster composition, the silver medal and *5l.* 5s.

No. 54. To Mr. H. Page, of 8, Bishopsgate-street Without, for his patent oil-integument or skin of paint, the silver medal. "This was an invention whereby," as facetiously remarked, "Mr. Page can oil-paint your house in the interior of his own," so as to prevent the annoyance of smell, &c., from newly-painted walls. It consists simply of painting on large square surfaces, previously coated with wax or other substance, allowing the coat of paint to be easily peeled off. The sheet of paint is quite flexible, having much the appearance indeed of a piece of soft silken texture. A peculiar advantage of this mode of painting in oil was stated to be the possibility of thus covering walls with marbled patterns in oil.

A vote of thanks was passed to the chairman, and the meeting separated.

RAILWAY JOTTINGS.

As anticipated in our last impression, the Eastern Union extension of the Eastern Counties line, from Colchester to Ipswich, has been opened for passengers, but on Thursday week, and not on the 15th, as was proposed. The cost of this line of rail per mile, stations included, was 20,000*l.*; it was constructed under the superintendence of Mr. Bruff. The journey at the opening was performed in 40 minutes. ——Another line, the Middlesborough and Redcar, was also opened on Thursday week. ——The Salisbury line to Bishopstoke, it is said, will be ready for inspection, previous to its public opening, on the 10th of August. The works have already advanced close to the city, and they are in progress by night relays as well as by day.——Mr. Hopkins's improvement in the construction of rails is at present exciting attention. Safety and economy are the advantages claimed by the inventor. This new rail is a combination of iron and paynised or semi-metallized wood. A continuous line of timber is capped with iron, slightly projecting over the wood on the side next the wheel, in such a manner that, while the wheels are in their proper place, it does not touch; but should a jolting or jumping motion occur, with a tendency to run off the line, it is sufficiently close instantly to receive the concussion, and thus to slide the wheels off again into their proper place. Besides safety and economy (the cost per mile for a double line not much exceeding 2,000*l.* instead of 4,400*l.* to 6,000*l.*), Mr. Hopkins maintains, that a firmer hold or grip will be thus taken by the locomotive wheels in ascending inclines, and that increased comfort to the passengers will accrue from the absence of all noise as well as oscillation or jolting of movement.—— The Swindon station seems to be, in more respects than one, a thriving offspring of our growing railway system. It is said, that although 700 artisans are already employed in and about the factory, 500 more will be put on so soon as dwelling-houses can be built for them. We lately observed, too, that they are uniting the *dulce* with the *utile*, extensive musical arrangements being in course of establishment amongst the operatives and others connected with the railway company, who are affording them substantial countenance in the promotion of their laudable and harmonic union——Mr. Pemberton Milnes, in lately giving his evidence before the London and York committee, stated, that in consequence of the abstraction of traffic from the North road, the number of post-boys in one well-known town, where there were formerly twenty, had dwindled down to two, and that one of these had lately hanged himself.——When the Grand Junction line was opened, only one goods train passed nightly up the line; but now there are fifteen, each containing half as much more as the one did.——General Pasley is said to be the author of the Board of Trade's Report on the Gauges. It is thought to bear "internal evidence of his mark."——The picture on the break of gauge, published in the *Illustrated News*, was offered and admitted in evidence before the committee on the Southampton and Manchester line in the midst of "great laughter."——Several of the provisional committees on defunct schemes are resorting to a new mode of proceeding against defaulting allottees. They are endeavouring to induce those who have paid up their deposits, to sign an assent in favour of the procedure of the committees against those who have not paid up, under pretext of obtaining the funds necessary to clear off the liabilities of the companies. But in many cases the plan has failed, being suspected to be merely a manœuvre to guarantee the projectors in any law expenses which they may think proper to incur in this last struggle for victory.——By the way, an important decision as to the non-liability of allottees, was announced on the 12th instant, in the Exchequer case of Walstab *v.* Spottiswoode, which has formed the subject of so much discussion in the railway world of late. The Lord Chief Baron's judgment in this case is to the effect, that in every case where the ostensible or professed object of the proposed company fails in being carried out, the provisional committee alone are liable for the expenses which may have been incurred; not only so, but that any party to whom shares have been allotted is entitled to recover from the provisional committee men the entire amount of deposit paid by such party, not even deducting the trifling per centage for provisional registration. In the present case, only 4,000 shares out of 80,000 were paid upon, but the provisional committee nevertheless thought proper to charge the applicants for shares, who had paid their deposits, with the expenses incurred. The court was crowded to excess, and the decision evidently surprised and disappointed most of those present. We do not agree with the chief baron.——In the French Chamber of Peers, on Thursday week, the Dijon and Mulhausen railway bill was passed.——The French preparations for the opening of the Great Northern line, *on Sunday*, the 14th inst., were on the most magnificent scale. "A detachment of waiters, amounting to 600 in number," says a private letter, quoted in the *Times* of the 15th inst., "left, or was to leave, by the trains this day for Lille, and many other trains are occupied in conveying the viands, wines, fruits, confectionary, and ices, for the monster entertainment, which is to celebrate, to-morrow, at Lille, this important event." The *Univers* very properly reprobates the conduct of certain high functionaries, in appointing the Sabbath day for such a purpose.

NO TUNNEL THROUGH GREENWICH PARK.

From correspondence, reports, &c., issued within the last few days by order of the House of Commons, it appears that although the Board of Admiralty had given their sanction to the Gravesend Railway passing through Greenwich Park, and although it was resolved by the Board of Visitors of the Royal Observatory on the 6th instant, in accordance, as it would also appear, with the astronomer royal's opinion, that no very serious inconvenience would probably result to the observations from the passage of a railway in a tunnel, at the distance of 850 feet from the observing rooms; nevertheless the Admiralty "deem it on the whole, most prudent to withdraw their sanction to the tunnel through Greenwich Park for the proposed railway being proceeded with, at least until another session of Parliament, when further experiments may induce a more concurring opinion as to the real effects such a measure will have on an observatory situated at the distance stated from such railroad tunnel."

Their lordships appear to have been moved to this decision by the consideration that "although they have the greatest confidence in the opinion of the astronomer royal more particularly charged with the observations at the observatory, and of course perfect reliance on the correctness of the decision of the majority of the learned visitors of that institution," yet "persons of distinguished ability whose opinions are entitled to be received with deference (namely, as it would appear, Sir John Herschel and Mr. Babbage, whose proposed amendments of the minute of the Board of Visitors were negatived), have given strong and decided contrary reports."

THE PROGRESS OF IMPROVEMENT IN DONCASTER.

It affords us pleasure to perceive from a local paper, that a course of spirited and rather extensive improvement is about to be commenced in Doncaster. Plans for the clearing away of old houses, and the erection of a new town-hall and new market buildings have been recently approved of by the town council, and finally adopted. The present town-hall is to be razed to the ground, but the new one is to be erected on the site of the old Angel Inn, in French gate. It will be built of stone, with four Corinthian columns, supporting a pediment, next the street. It is proposed to surmount this pediment with the figure of Justice, on the present town hall,—a production of Guise, once the right-hand man of Nollekins. The elevation of the hall will comprise two wings: length of the whole edifice from front to back 152 feet; width of front, 63 feet; extreme height of pediment, 46 feet; so that the present hall is of insignificant dimensions when compared with the new. The angle of the proposed market-buildings commences at the corner of the Union Inn, and the line extends in the direction of the Plough Inn, at the end of the present town hall. The length of this portion is 226 feet. The other, which extends from the angle already mentioned, in the direction of the corn market, is 137 feet. Width of whole, 72 feet. There will be four principal entrances. Each door-way will be decorated with four pilasters, and the windows ornamented with circular heads. The base will be formed of rusticated ashler stone, and the whole exterior built of Darfield stone. The roof will be formed of iron, covered with blue slate, and supported by 18 cast-iron columns, 31 feet high, and so disposed as to distribute gas-light to the whole interior. Our limits prevent us from noticing at present the interior arrangements into shops, &c., but we may add that these improvements are more extensive than any ever witnessed at one and the same time in Doncaster; and considering their utility and convenience for business, together with the simultaneous railway accommodation in which the town will henceforth participate, a new era of advancement appears to be opening on this district, both in town and country.

"THE WOODS AND FORESTS."

MATERIAL FOR A NEW CONFLAGRATION AT WESTMINSTER HALL.

"We all recollect," says a correspondent of the *Times*, "that when the Houses of Parliament were consumed by fire, some ten years since, antiquarians and others immensely congratulated each other that that venerable Gothic pile, Westminster Hall, was saved from the general ruin;" yet "at this moment we find that beautiful edifice surrounded by timber and other inflammable materials, as ingeniously disposed and laid out for the destruction of the Hall by fire as the greatest enthusiast of incendiarism could desire." It is too true. "The Commissioners of this Forest of Wood, or Woods and Forests, have not only erected, outside the hall, architectural meat-safe looking erections—the early English domestic style, I presume—for the Vice-Chancery authorities, the long-armed flues of which actually touch the wall of the ancient edifice—but the interior is absolutely filled with tall climbing wood partitions and boardings, as if by sympathy of mischief it was intended that no possible chance should be given away for the entire destruction of the building in the event of a spark lighting on any portion of it." Surely, since so great a share of these time-venerated edifices has been already *stolen* from us by the devouring element, the *door* should now, at least, be shut against the ravager, lest he return upon us, and consume even the little that remains. Has the *a posteriori* prudence of the old proverbial maxim not even yet occurred to the honourable commissioners?

Prison Reform.—We are glad to find that a proposed testimonial to the memory of the late Mrs. Fry, is to take the shape of an institution for the refuge of discharged female criminals. Our remarks of last week on the subject of prisons have elicited responses most gratifying to ourselves.

ELIZABETHAN FRIEZES.

Fig 1



Fig. 2



EXAMPLES OF ELIZABETHAN FRIEZES.

In the early Italian architecture, we find the sides of large rooms had a regular entablature, the frieze of which was of great dimensions, and adorned with boldly sculptured compartments, filled with paintings; between, were groups of children, festoons of flowers, scroll work, sometimes gilt, and an endless variety of decoration: beneath the small architrave the walls were hung with tapestry, and a richly painted ceiling above completed the whole. The early Italian architects were painters, and even sculptors; and the junction of the three sister arts was thus made subservient to the decoration of their buildings. Scarcely any style of interior enrichment can be imagined more beautiful or in better taste, admitting greater variety in form or colour, than the one the old Italian masters introduced.

Our old Elizabethan buildings, which were imitated from these Italian palaces, present us with an innumerable quantity of these ornamented friezes; the whole, however, at a very humble distance, both in style and execution, from the Italian. In the common examples, these friezes contain shields, and where the compartments are numerous, for want of a better filling up, or a more skilful artist, the figures of a horse, a bull, a camel, a lion, &c. &c., are introduced; these figures are apparently copied from the book prints of the time. The great hall at Aston has a frieze, adorned with

the numerous crests appertaining to the family. The best of these ornamented friezes are at Crewe Hall, in Cheshire, where they are in great variety, and at Aston Hall, in Warwickshire.

Fig. 1, is a frieze from one of the rooms at Montacute, in Somersetshire; here the ceiling is plain, but the walls, up to the lower moulding of frieze, have the usual rich oak framing. An Italian example, somewhat similar to this, though greatly superior in taste and execution, is in the great saloon of the Massimi Palace at Rome, the work of Baldassarre Peruzzi, architect and painter.

A few examples are given in illustration: Fig 2, is from the carved parlour at Crewe. There are fourteen of the oval compartments, each containing a different figure,—such as Faith, Hope, Charity, Religion, Temperance, &c. &c. These figures are not the work of a very skilful artist. Above the cornice is the very curious strap ceiling of the room, and the walls are lined with richly carved oak panelling.

Fig. 3, is the cornice of a low room at Campden House, Kensington; it is of oak, the framing being continued to the ceiling.

Fig. 4, is a frieze from a room at Stockton House, Wilts; this apartment is not above twelve feet in height, the cornice is therefore small.

Fig. 5, is a section of the cornice of the hall at Boston House, Brentford, introduced here to show the method of keeping the rib of ornamented ceiling separate from the cornice of the room.

In conclusion, the numerous pictorial publications on ancient Italian architecture exhibit to us interiors, which in the olden time, formed the type of many of our own, copied, it is true, in a more humble degree, but still displaying much of the spirit and taste of the original.

C. J. R.

SIR JOHN RENNIE'S CONVERZATIONE.

On Saturday evening last, Sir John Rennie, as president of the Institution of Civil Engineers, received the members of that society, and a crowd of men eminent by rank or attainments, at his residence in Whitehall-place, where he entertained them with profuse liberality, and set before them a number of most interesting models and works of art.

Amongst the former may be mentioned one of the biscuit-baking machinery, invented by Grant, and erected at Portsmouth Dockyard. Struvé's machine for ventilating mines by exhausting the upward current in the air shaft, elsewhere alluded to in our present number. Mr. Mellian's proposed method for conveying railway trains across the river Dee, by means of a platform travelling upon rails fixed on piles across the bed of the river. The St. Katherine's Point and Menai Lighthouses, sent by the Trinity Board. Mr. Robert Stephenson's long boiler narrow gauge locomotive, and the Great Western broad gauge locomotive. Plans of the proposed harbour of refuge at Dover, by Mr. George Rennie. A model illustrating Mons. Hallette's atmospheric system. A model of Mr. Ricardo's instrument for registering the velocity of railway trains.

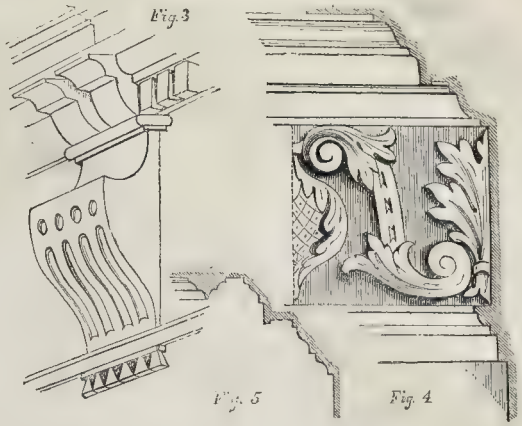
Mr. Oldham's machine for numbering and paging registers at the Bank of England, and also applicable for all tickets where a series of numbers is desirable, excited some attention; as did that of Mr. Rand, for making collapsible tubes to hold artists's colours and scents, which we described some time ago.

Some good specimens of machine wood-carving, by Taylor, Williams, and Jordan, were also exhibited.

The temporary room constructed last season, has given place to one in accordance with the "Buildings Act," elaborately decorated. Sir John opens his house again to-night (20th) on the 27th, and on the 4th of July, and is entitled to the best thanks of the institution over which he presides, for thus munificently maintaining its dignity and advancing its interests.

Cork Provincial College.—The Board of Works has approved of the plans for this building, drawn by Sir Thomas Deane. The erection will be very extensive, and in the Elizabethan style.

ELIZABETHAN DETAILS.



JOINTING OF ANCIENT MASONRY.

Sir,—As you occasionally, give some very interesting specimens of the architecture of the middle ages in your useful publication, will you allow a stranger to urge that to aid in the development of the principles upon which the pointed architecture is founded, all the jointing of the arches, jambs, pillars, capitals, and bases should be delineated; this will enhance the value of your illustrations, and from the beauty of construction being first depicted in your professedly practical work, you will ensure the approval of all architects and students in the profession.

Notwithstanding this is the age of plaster, and some will say, "*no matter how constructed, as joints need not be shewn,*" in pointed architecture, they are indispensable, all must be real, its constructive ingenuity constitutes one of its greatest beauties.

Where the innovator has not despoiled, nor by insertion destroyed the stability of our ancient buildings, how perfect the arch remains! The *masonry*, worked on principles unerring, retains its pristine elegance, for all the forms were the result of study,—nothing was constructed at random.

The arches in the nave of our small churches will always be found separate, three in number, as shewn by A. When they are of considerable span, as in our larger churches (not in stone counties, as there generally the walls are faced with the same inside and out) a rough discharging arch of rubble stone is placed over the cusped arches, and the walls, also rubble or brick, are covered with stucco for *painting* in *water colour*.

Only last year a *country* architect was desired by a certain society, to make key-stones to his pointed arches of nave windows and doors of a church, submitted to them for aid towards its erection, in a poor district, and the specification for their construction was altered by the clerk.

Door-arches spring from a solid foundation formed by the capital, which is invariably cut in the angle of a large stone, built in the wall,—hence the capitals and bases (similarly formed) are so frequently found in Norman and early pointed doors without the pillar shafts; the arch-blocks of the doors will be found invariably as in the sketch, B. These are cut into mouldings and ornamented, as in the plan, C.

Early decorated tracery was worked, sometimes partly in the marginal arch, and frequently independent of it; and as Mr. Billings shews, in his Carlisle Cathedral, so beautifully jointed, that, in case of decay, a single stone may be removed, and a new one inserted, without affecting any other part of the tracery stones.

I have found in modern works the most preposterous construction: mitred, and even oblique joints!—the result of ignorance in each case, but in the latter,* combined with obstinate determination to get advice and example at defiance.

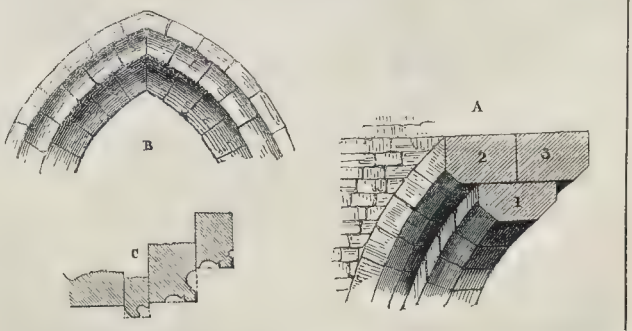
In all old works, we find obtuse angled terminations, or at any rate, none beneath a rectangle, even in the acute-angled combinations founded upon the equilateral triangle.

I am, Sir, &c.,
X.

London, 6th June, 1846.

* A new church-door in Yorkshire, by a junior.

JOINTING OF ANCIENT MASONRY.



THE NATIONAL GALLERY OF MADRID.
[1845.]

THE topic of national galleries of art is now so deservedly popular, that the following notices on that of Spain, will be read with interest — the more so, as it will thence appear that Madrid has preserved an *immense* number of valuable works from the period, when it might really be called the capital of the world.

Although that city is very ancient, still, the actual Madrid may be considered a creation of Philip II. and his two immediate successors. It was the two architects, *Juan Battista de Toledo* and *Juan de Herrera*, who impressed on this metropolis the stamp of greatness and splendour, by which it so forcibly strikes the beholder. Even up to the present period, the architectural style of Madrid exhibits traces of that splendour, for which the pompous reign of the above king was conspicuous.—Amongst the works executed by the late king, Ferdinand VII., was the restoration of the Palace near the Prado, begun by Charles III. It was built after the designs of *Juan de Villanueva*, and first destined for a museum of natural history. Although the expenses of the mere restoration amounted to seven millions of reals—yet the subsequent idea, of collecting all the pictures scattered hitherto in the various royal palaces, into one huge collection, having been once conceived, the huge building near the Prado was soon put into perfect repair. When the Gallery was first opened in 1819, it counted 311 pictures —which have risen since to 1,949; still, there are a great many paintings, which await the complete expansion and finishing of the building, for being added to the above. These are such as are either deposited temporarily in the vaults of the Gallery, or remain yet in the royal palaces; as for instance,—the Escurial, which has yielded 101 of the finest works to the Gallery, possesses yet more than 600, many of first rank. It will astonish most of our readers, if they be informed of the great riches of the Madrid Gallery in paintings by Spanish and Italian masters. Thus, the Gallery contains 46 pictures of Murillo, 53 of Ribera, 14 by Zurbaran, 18 of Juams, and 62 of Velasques —masters, of whom a very few, or no specimens at all, are in our public collections. Equally well provided for are the other schools, as there are 10 paintings of Raphael, 55 Giordanos, 43 Titians, and 27 Tintorettos. Even the French and German schools are adequately represented in the Madrid Gallery—while the Dutch and Flemish are uncommonly rich, owing to the once connection between Spain and the Netherlands. Thus, Rubens appears with 62, and Teniers with 52 numbers in the catalogue. — There is amplest scope here for comparing the merits of the *Spanish* school with that of the others—a comparison by which Murillo cannot but gain in appreciation. In him, we may say, dwells a world of ideas, heaves a sea of passion—and his inward eye has mostly pierced the outward forms and penetrated up to the soul of the characters he represents. This, certainly, cannot be better appreciated than here, where 46 pictures shew him in all the varied forms his rich mind was able to assume. It is in this gallery, also, that one of the finest works of Raphael—"*la Perla*," is to be gazed at, known by several good engravings. The *colorit*, however, no engraving can render—which, in the faces of the holy Virgin and the child presents a mixture of white, incarnate and bluish hues, which only Raphael could combine. The expression of joy of Philip V., on receiving this *unique* masterpiece, "Es la perla de mis cuadros!" is the reason of the *name*, by which it is generally known.

Another picture, of almost similar celebrity, is the portrait of *Monna Lisa*, by Leonardo da Vinci. This was considered in her time (sixteenth century) the queen of beauty—and her rich blond tresses and splendid form of neck and bust, seem to entitle her to that appellation. An engraving by Calamatta, pretty faithful, is, however, little known in England. Of Murillo's pictures the most striking is the Ascension of the Holy Virgin—standing on the crescent, surrounded by angels. The whole figure possesses, to say so, a *paradisiac* expression, and the hands of the Virgin, crossed over her breast, bespeak a devotion, which becomes imparted to every beholder of this splendid art-work.

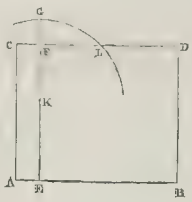
That some good pictures of *Albrecht Dürer* and even *Lucas Cranach* should be found here, is not to be wondered at, if the riches of Spain in the middle ages are taken into account. The first picture of Düreris an allegory of youth, old age, and death—of great character, as is every thing else of this master. Another, also allegoric, represents three females (perhaps the Graces) under a laurel tree, two sing from out a book, the third plays the lute.* An inscription on the rear of the canvass states, that it was presented, in 1548, by Count Solms at Frankfort to Count de Ligne, and thus it may have come from Brabant to Spain. Besides these, there are also two pictures of the Virgin in the Gallery (Nos. 1019 and 1611)—and a portrait of Dürer painted by himself. Of Lucas Cranach two hunting-scenes, painted for the Elector of Saxony, adorn the Museum. Of the sixty-two pictures of Rubens, many represent the ascetic life of saints—a subject not usually treated by that master, and only to be explained by the fact of having been made by the order of the Philips of Spain, who were very partial to similar subjects.

Many of the pictures of the Madrid Gallery had been removed under Napoleon to Paris, whence every thing belonging to the crown was returned; not so the pictures, which French generals and others had *acquired*, at times, in a very suspicious way, as the plea of private acquisition was made valid in this case.— The Madrid Gallery is open to the public every *Sunday*, but artists and strangers are admitted every day on presenting orders of admission from the director, or their passports. The great order, cleanliness, and perfect illumination of the pictures deserve every praise. [*From German sources.*] J. L——Y.

* We believe, that to give even a summary notice of these pictures, is useful, as they were hitherto buried in the rooms of the Spanish palaces, and hardly known to exist.

CONVERSION OF AREAS.
ANSWER TO "ZERO'S" QUESTION.†

Let AB be the diameter of the main. Upon AB describe the square ABCD. Make AE equal to one-seventh part of AB; draw EF parallel to AC, and produce it to G, making



FG equal to CF or AE. Bisect GE in K, and with centre K, and radius KG, describe a circle cutting CD in L. Then will FL be the diameter of the smaller pipe sought for.

The truth of this may be demonstrated as follows:—

FL is a mean proportional between FG and FE (6 Euclid, 13), *i.e.* between CF and FE.

∴ the square of FL = the rectangle CF, FE, which is the parallelogram CE.

But parallelogram CE is one-seventh part of square BC (by construction, for AE = ⅐ AB).

∴ square of FL is one-seventh part of the square on AB.

But circles are to one another as the squares of their diameters (12 Euclid, 2).

Therefore a circle, having FL for its diameter, will be one seventh the size of a circle having AB for its diameter; *i.e.* one-seventh the size of the main in question, which is precisely the condition required to be fulfilled by each of the smaller pipes, since the whole seven put together are to equal it in area.

The above admits of easy check by calculation. Put A equal to the diameter of the smaller pipe; then we have

$$a^2 = \frac{(30)^2}{7} \text{ or } a = \frac{30}{\sqrt{7}} = \frac{30}{2{\cdot}645} = 11{\cdot}34 \text{ inches.}$$

G. W. R.

*** We have received several other answers, but think it scarcely necessary to give them.

† See p. 262, *ante*.

ILLUSTRATIONS OF ANCIENT ARCHITECTURE,
IN THE LINE OF THE GREAT WESTERN RAILWAY.*

"The decidedly early English remains are, principally, parts of the churches of Acton, Langley Marish, Stoke-Poges, and Hitcham; some windows at Upton; the very curious polygonal east apsis at Tidmarsh; the south wall of the nave, and east end of the chancel at Compton; the font at Rotherfield-Greys; the very beautiful chancel of Cholsey, erected by the abbots of Reading, and late in the style. The very curious nave of Ardington; the tower of St. Helen's, Abingdon; and the tower of Harwell, are early examples of the style, and the latter very much resembles the decidedly Norman tower of Fingest, near Henley. The nave and font of Wantage are in this style, as is the beautiful north aisle of Dorchester, on the south door of which is a curious example of an early English pointed doorway, with a square head, similar to one seen on the north side of Nantwich church in Cheshire; in both cases the head is part of a regular string course, which rises to be carried over the door; but the general appearance of this arrangement resembles the perpendicular style. The nave and chancel of Childrey are early English, as also are the tower and north porch of West Hannay, the tower and spire of Shillingford, and the fine church of Uffington, each being a complete example of the style. Towards Bristol the early English remains are not numerous. The chancel at Keynsham is good, and the north or Newton chapel at Bitton is a most perfect and beautiful specimen. There is also an excellent early English chapel on the north side of the cathedral of Bristol; part of St. Mary's, Redcliffe, and of the Mayor's chapel, are in the same style.

The transition from the early English to the decorated style includes some examples of great beauty. This transition is seen in the western windows of Bray; the chancel of Ashampstead; the east window of Brightwell, Berks; the very singular chancel of East-Ilsley; and the chancel of North-Stoke, recently taken down and rebuilt, or rather restored, in excellent taste, under the care of the vicar, Mr. Twopenny. The great windows at Lewknor, Basildon, and North Moreton chancels, very much resemble each other, and are good specimens of this transition style, as is the tower of Ardington, the chancel of Great-Coxwell, the north aisle and chancel of Stanford in the Vale, parts of Lyford, and the chancel of Draycot Cerne. Complete decorated churches are rare, but examples of the style in the shape of windows, and other additions, are very common indeed. Langley and the north aisle of Bray are decorated; and at Shottesbrook is a complete cross church, with tower and spire all of one date. Further westward, in the same style, may be enumerated, parts of old Windsor; a south aisle and chapel at Clewer; the chancel south door of Basildon, late in the style, and resembling certain monumental canopies at Aldworth; the south aisle of Aldworth, a very complete example; the font of South-Stoke; the nave of North-Stoke; and the chancel of Moulsford, all early in the style. The north transept of Blewberry; the nave and aisles of Brightwell, Berks; the nave, chancels, and very early south chapel at North-Moreton; parts of Benson; the very early nave of Warborough; the nave and chancel of Didcot; parts of Lockinge; East-Hendred; the chancel, north aisle, and other parts of Ardington; the nave of East Hagbourne; and the nave, aisles, and curious wooden south porch of Long Wittenham. Besides these may be mentioned the north door of the nave of East-Ilsley; the nave and chancel of Didcot; much of Steventon; Spersholt tower and south transept; the transepts of Childrey; Bradenstoke Abbey; the south aisles of Sutton-Benger, and Christian-Malford; the nave and transepts of West Hannay; parts of Compton-Beauchamp; the tower and nave of Langley-Burrel; and Chippenham chancel. Bristol itself contains some very fine decorated examples. Such are the choir, transepts, and tower of the cathedral, as they at present appear; parts of the Bishop's Palace, of an early date; the beautiful north porch of Redcliffe; and a great part of the Mayor's Chapel.

* From "History and Description of the Great Western Railway, including its Geology, &c.; with numerous Views." See p. 255, *ante*. Bogue, Fleet-street.

To the decorated period, also, are due most of those fine monumental effigies of knights and ladies, that are not unfrequently found even in very obscure parish churches. Such are to be seen at Burghfield, beneath an early decorated niche; at Dorchester, at Cholsey, Childrey, Wantage, and Bathampton. In the church of Aldworth, there are no less than ten figures, of which seven lie beneath canopied niches. To this same period, also, is to be referred a description of decorated window with a flat top, not generally known, but extremely common in the vale of Berks, and near Oxford. It resembles exactly in its general figure and dimensions the usual late perpendicular window, but its dripstone and mouldings are decidedly decorated, and the heads of the light generally, if not always, trefoiled. Among very many examples we may mention those in the churches of Streathley, in the north aisle; South-Stoke, south aisle; West-Hendred; East Lockinge; Dorchester, north aisle; and Drayton and Cowley, near Oxford.

Among the numerous examples of the perpendicular style may be mentioned the church of West Drayton; the towers of Henley and Compton; the church of Ewelm; the towers of Dorchester, Warborough, Henley, and St. Mary's, Wallingford, all very late in the style; the church of Yattendon; the early tower of East Hendred; the south aisle of Didcot; the towers of South-Stoke, Long and Little-Wittenham, North-Moreton, East-Ilsley, East-Hagbourne, Aston Tirrold, and Blewberry; the tower and south porch of Childrey; the chancel and south porch of Lyneham; the towers of Sutton-Benger, Shrivenham, South-Marston, Chippenham, Draycot-Cerne, Bitton, and Keynsham, are in this style, as are the excellent chapels attached to the churches of Faringdon and Chippenham. In the valley of the Avon the perpendicular style preponderates: the tower of Box is late perpendicular, as is the whole of Bath Abbey Church; the towers of Newton, St. Loe, Bitton, and Keynsham, are late in the style; that of Brislington is a little earlier, and a fine example; Bath-Easton tower also is a particularly handsome one. In the city of Bristol the perpendicular remains are excellent; among them may be mentioned much of Redcliffe, partaking also of the decorated character; the lofty tower and church of St. Stephen; St. Augustin's, St. John's, St. Peter's, St. Thomas's, and the Temple; also the vestry, and a late perpendicular altar-piece at the Mayor's Chapel.

The architectural antiquities are almost wholly ecclesiastical. There is, however, a singular late perpendicular house at Ockwells, in Bray parish; and at Sutton Courtney is a house, a part of which is of early English date. The Abbey of Bisham, now a dwelling house, presents some good early English masonry, including a fine door. At Great Coxwell, an abbey barn in the decorated style remains quite perfect, and is certainly the most magnificent barn in the kingdom. There is also a good decorated barn at Bathampton."

NOTES IN THE PROVINCES.

The amount of the fund collected for the Birmingham baths is at present about 6,000*l.*; but it appears that 18,000*l.* might have been now in hand, had working committee-men been appointed; eligible sites have been obtained. ——Baths and wash-houses are also about to be supplied to the poorer inhabitants of Worcester.——The tender of Messrs. Forman and Frow (the contractors for the alterations in the river at Wisbech), being the lowest for the erection of the Wisbech Museum, has been accepted.——The foundation-stone of the new church in the Victoria-road, Seacombe, was laid on Saturday week. It is to be dedicated to St. Paul, and capable of accommodating 800 persons. Mr. Hay, of St. George's-crescent, is the architect; and the cost is estimated at 2,000*l.*——The new pier at Beaumaris was opened for the accommodation of the public on Tuesday week. There is now convenient landing at all times of tide.——Other 500*l.* are to be expended on the alteration and improvment of the Bishop of Exeter's episcopal residence; altogether 3,500*l.* have been allowed by the Ecclesiastical Commissioners for this purpose.——St. George's Church, Kingswood, Gloucestershire, having been rebuilt at an expense exceeding 2,000*l.*, was to be opened on the 9th current.——The pier-heads at Bridport are about to be run out several feet further into the sea.——The foundation-stone of the new steam establishment at Keyham, Devonport, will be laid in August by the present First Lord of the Admiralty, if then in office. The contractors are Messrs. Baker and Son.——The church at Nafferton is undergoing considerable repair and decoration, and an organ is being built for it.——The sum of 3,800*l.* has been collected for the erection of the new chapel of ease at Cirencester, on the plan of Mr. Scott, the architect of the church near the Swindon station. It is to consist of a north aisle, with a porch, a nave, and chancel, to which a tower and spire may be added as the funds permit. A further sum of 1,600*l.*, however, is required.——The foundation-stone of the addition to Tintern Parva Church was laid on Monday week before last. A portion of the old walls is to be also rebuilt, and the church repewed when thus renovated and enlarged.——The alterations of Durham Cathedral, with the view of restoring the interior to something like its original state, have been for some time in progress. The chapter-room is being restored, the columnar work and tracery being covered over with stouthing and plaster; but the room has been curtailed in its dimensions to add to the size of the deanery gardens.——The second reading of the Places of Worship (Scotland) Bill, to compel the landed proprietors to yield sites for buildings in connection with the Free Church, was moved by Mr. Fox Maule in the Commons on the 11th instant, but opposed by the Government; Sir James Graham moving that it should be read that day six months. The debate was adjourned to the 17th instant.——A new church is in the course of erection at Sutton Waldron, near Shaftesbury, Dorsetshire, at the sole expense of the incumbent, the Rev. A. Huxtable. It is in the decorated style, consisting of nave, chancel, south aisle, western tower and spire, and south porch. Mr. G. Alexander, of London, is the architect.

ACTION AGAINST A DISTRICT SURVEYOR.

An action for slander of title, brought by Mr. Pater against Mr. Baker, was tried on Saturday last in the Court of Common Pleas. We obtain the following particulars from the *Morning Post:*—

The plaintiff in this case is an attorney, the defendant a district-surveyor. An auction took place, on the 2nd of last March, at which certain houses of the plaintiff's, in Agar-town, were put up for sale. The defendant on this occasion entered the auction-room, and, it was alleged, uttered as nearly as might be the following words:—'My object in attending this sale is to warn purchasers, if any there should be, that I cannot allow those houses to be finished until the roads are made good. I have no power directly to compel you to make the roads, but I can stop the completion of the houses until the roads are made good.' On the part of the plaintiff it was now stated, that he had lost the opportunity of selling his property in consequence of the observations made by defendant. Subsequently to this, referees were appointed by the parties, for the purpose of examining the roads in question, and of reporting whether they had or had not been so constructed, with respect to width and so forth, as to fall within the provisions of the Metropolitan Building Act of the 7th and 8th Victoria. On the 16th of March the referees had a meeting, and the defendant Baker was declared to have made this statement. 'The reason why I pursued Pater (the plaintiff) was, that I could not attack Agar, the ground landlord, and Pater being the steward and collector, I thought he was the best person to attack.' These referees made their award on the 28th of March, and decided that the roadways were rough and unfinished, but were of sufficient width to comply with the requirements of the Act of Parliament. The plaintiff thereupon commenced his action against the defendant, alleging that he had maliciously interfered to prevent the sale of his (the plaintiff's) property; and he sought to recover 18*l.* 12*s.* for the expences of advertisements and other matters connected with the abortive sale. These being the facts, the question was, had the defendant acted maliciously, or simply and *bonâ fide* in the conscientious discharge of his duty as district surveyor. On the one side it was argued that malice must be inferred—first, from the fact, that there was no ground for the surveyor's interference at all; and, secondly, from the fact that the sale had been advertised for several weeks previous to the day the auction was to have taken place. The defendant, therefore, in coming forward at the critical time and in the manner which he did, could have had no other object in view than to injure the plaintiff Pater. On the other hand, for Mr. Baker, the surveyor, it was contended he could not be supposed to have acted maliciously, as he had no ill feeling towards Pater; and secondly, because he had, in the discharge of his duty, on the 27th of February, given notice that he required the owners of these houses in Agar-town, to have the roads in question properly repaired. This shewed that before the day of sale, the surveyor had intimated his opinion that the roads were not in the state required by the Act of Parliament, as well as might be, even though they were of the proper width. It was urged, too, that in point of fact the sale was not lost, as the property might have been sold as soon as the objection raised had been removed by the award of the referees.

Mr. Justice Erle left the case on the facts stated to the Jury, who found for the plaintiff Pater, with 18*l.* 12*s.*

THE PROGRESS OF ORNAMENTAL DESIGN.

At a meeting of the Archæological Institute, on the 5th instant, Mr. Birch introduced the subject appointed for discussion,—"Personal ornaments of all periods;" and in the course of his address offered a few remarks on the causes which have influenced the general character of *ornamental design*, as distinct from *art* on the one hand and mere *manufacture* on the other. He observed that the earliest ornaments of every race were doubtless some natural production,—flowers, leaves, berries, amber, ivory, shells, minerals. Afterwards, as skill in metallurgy and other arts increased, these substances were imitated in some more convenient material. The types of the original objects, thus becoming perfectly familiar to the race, would exert a considerable influence on the character of their ornamental design for many generations. Again, the primary substances thus employed were replaced, in the progress of wealth, commercial intercourse, and mechanical skill, by more esteemed or abundant materials. From the influence of habit, the class of ornament proper in one material was retained improperly in another, —though sometimes with very felicitous effect. Thus, the ornaments of the earliest Greek and other fictile vases seem imitations of the basket-work of an earlier generation; the glass necklace of the Celts was copied in the metallic torques. This process of irregular adaptation is probably always going on in the art of a race,—like irregular formations and self-adjustments of their language.

In that subsequent period of the history of a race when architecture, sculpture, and painting, are distinctly and fully developed, these arts have exercised a great influence over the contemporary ornamental design. As the principles of design became more clearly understood, the love of imitation common to man led to the introduction of the forms of nature in ornamental design. This was not, as in the first efforts of the savage, the mere reproduction, in a new material, of animal and vegetable substances, but the artistic representation and adaptation of animal and vegetable life. The process seems to have been as follows:—In the fashioning of any object intended for use, the dictates of a common necessity have given birth to much the same type in the productions of races the farthest apart in date and situation; but, after the fulfilment of the primary want, there arises the desire to adapt, in the structure of the object, analogous forms from vegetable or animal life, and to incorporate the work of nature and of man into one design. The Greek race appears to have possessed extraordinary natural capacity for carrying out this love of imitation. An intuitive tact led them to discern in nature, and borrow in art, the forms best suited for the required design. A never-failing sense of beauty shaped these selections into harmonious composition, and their practical genius kept

always in view the prescribed material and the prescribed form,—the conditions subject to which work was to be executed.

The principles of artistic imitation having been acquired by the artisan in the school of the great sculptor or painter, his general principles of composition would be further regulated by the same masters; that is to say, if the compositions of the great artist of a particular race and period were contained within a certain range of lines, with more or less of flow, intricacy, or simplicity, the same characteristics may be distinctly recognized in the ornaments produced by the artisan of the same race and period. In some cases, we see the mouldings and decorations of architecture directly borrowed, as in the Mæander and other patterns of the Greek robe.—The character of ornamental design would be further influenced —1. By the desire to imitate the exotic fashions and patterns introduced by commerce from other countries. 2. By the associations of religion: certain forms, because originally symbolical, were adopted in the fashion of articles of household and daily life, and retained long after the meaning of the symbol had been forgotten. It has been the great difficulty of the archæologist to discern when the symbol was first employed as such in ornament, and when it became purely conventional.

VENTILATION OF MINES, WELLS, SEWERS, &c.

Struve's patent mine ventilator seems to be a very obvious application of a very simple principle, viz., that on abstracting a portion of atmospheric air from one end of any receptacle, an equal portion will rush in at any other opening to supply its place. That such an application of such a principle, therefore, should be held entitled to protection by patent in the present day, is a melancholy proof of the indifference amongst miners to the frequent destruction of human life from want of ventilation in mines. In the application of Struvé's invention, the upcast shaft is closed, superseding the necessity of the furnace hitherto used, and is connected with, and forms a passage for the air from the mine, to one or two large air pumps of either single or double action. The lower part of the exterior case contains water, which, while it forms the packing in which a hollow cylindrical piston works, keeps it hermetically sealed. The apparatus may be made almost of any size, so as to take out of a mine any quantity of air, whatever may be its depth or extent. It may also be made to create a partial exhaustion of the mine, by closing the downcast shaft, which, if repeated several times, would effectually drain the goaf of a colliery.

"The causes which have operated to prevent the improved ventilation of mines, are, we have no doubt, numerous," says the *Mining Journal;* "in some cases, objections have been made to the expense of adopting untried plans which may fail; in others, a prejudice against all innovation on the good old methods has prevailed; and, in too many cases, we believe cupidity, on the part of butties and underground agents, has been the operating cause. Whatever may have been the unfortunate circumstances, which have perpetuated a system fraught with danger to human life and property, there is now no further excuse for delay."

In connection with the subject of the ventilation of, or removal of bad air from, wells and sewers, as well as mines, a recent suggestion of some value may here also be noticed. The methods hitherto in use for removing carbonic acid, or sulphurated hydrogen gases, from situations where they have accumulated in such quantities as to become fatal to human life if taken into the lungs, are slacked lime water, or currents of air, the first slow and the latter not always practicable. M. Faucille has lately suggested, and successfully acted upon, a plan for the complete absorption of these gases. In sinking a well at Vichy, the carbonic acid was evolved in such quantities, that the men could scarcely proceed with the work. He erected a small boiler, on the principle of the œlopile, the tube from which reached to the bottom of the well. A powerful steam blast was kept up—which at first was opaque, from the gas uniting with the lime, contained in the water, but soon became transparent—and in thirty minutes the works could be proceeded with.

LIST OF NEW PATENTS

RELATING TO ARCHITECTURE, ENGINEERING, &c. GRANTED FOR ENGLAND.

Furnished by Mr. A. Prince, of the Office for Patents of Inventions, Lincoln's-inn Fields, London.

[SIX MONTHS FOR ENROLMENT.]

John Carter, Fleur-de-lis-street, London, ivory merchant, for improvements in paddle wheels. May 5.

Alfred Vincent Newton, of Chancery-lane, mechanical draughtsman, for certain improvements in machinery for manufacturing screws. May 5.

William Church, of Birmingham, for certain improvements in machinery, to be used in making candlestick pans, and various other articles which are usually produced wholly or in part by means of the process called stamping; and also in machinery for making sockets or tubes for candlesticks and tubes, or tubular articles applicable to various other purposes. May 5.

Thomas Melling, of the firm of Melling and Co., Rainhill, Lancashire, engineers, for certain improvements in steam-engines, marine, stationary, and locomotive; and in machinery and apparatus connected therewith, parts of which are also applicable to regulating the flow of fluids generally. May 7.

Edward Shepard, of Trafalgar-square, gent., for certain improvements in the construction of gates, doors, shutters, and other articles of the like construction, and in fastenings to be attached thereto. May 7.

Mark Rollinson, of Brierly-hill, near Dudley, engineer, for certain improvements in steam-engines. May 7.

Alexander Angus Croll, of Suffolk-street, Clerkenwell, chemist, for improvements in gas meters. May 12.

Julius Jeffreys, of Norfolk-crescent, Hyde-park, gent., for improvements in steam-engine boilers and furnaces, and improvements in propelling vessels. May 13.

Stephen Perry, of Woodland-place, St. John's-wood, gent., for certain improvements in the manufacture of rings, straps, bands, and bandages, cords and string, and in their application to clockwork, to locks, and other fastenings, to presses, to books, to paper-holders, to candle-lamps, to window sashes, to doors, to window-blinds, to seats and surfaces for lying and reclining upon. May 19.

Hugh Greaves, of Hulme, Manchester, engineer, for improvements in the construction of railways and the carriages to be used thereon. May 22.

John Walker Wilkins, of Stanhope-street, Hampstead-road, for certain improvements in water-closets. May 26.

Charles Bertram, of Gateshead, Durham, Esq., for certain improvements in the manufacture of artificial fuel, and in the application of the residual products to useful purposes. May 26.

Timothy Keenick, of West Bromwich, iron-founder, for improvements in glazing and enamelling the surfaces of cast-iron. May 26.

James Montgomery, of Salisbury-street, for certain improvements in the construction of steam-boilers and steam-engines, and in steam vessels, and in the machinery for propelling the same. May 26.

Edward Alfred Cowper, of Smethwick, near Birmingham, engineer, for improvements in the manufacture of railway chairs. May 26.

Nathan Defries, of St. Martin's-lane, engineer, for improvements in gas meters. May 27.

Richard Marvin, of Portsea, Southampton, gent., and William Henry Moore, of Southsea, for improvements in gratings of metal or wood for the fronts of houses, and general purposes for the admission of light and ventilation. May 28.

Henry Seymour Westmacott, of 28, John-street, Bedford-row, Middlesex, gent., for an improvement in the construction of rotatory engines. May 30.

IRELAND.

Furnished by Rich. Telford, Office of Patents, 5, Harcourt-street, Dublin.

John Nott, of the City of Cork, gent., for certain improvements in the means of communicating intelligence from one place to another. April 20.

George Howell, of 4, Larkhall-lane, in the County of Surrey, gent., for coating with a metal the surface of articles formed of copper or copper alloys or iron wrought or cast. May 5.

William James Cantelo, of No. 4, Paris-street, North, Lambeth, in the County of Surrey, gent., for improvements in apparatus for hatching eggs, and raising the young, and for heating hot houses and other buildings. May 5.

Henry Smith, of Liverpool, engineer, for improvements in the manufacture of wheels for railways, and in springs for railway and other carriages, and in axle guards for railway carriages. May 13.

Miscellanea.

Oxford Architectural Society.—This society met on the 3rd inst., the Rev. the Master of University in the chair. In the list of presents received since the last meeting were a model of the statue of Cardinal Wolsey, at Christ Church, a lithograph of the remains of a sepulchral chapel, presumed to be that of Abbot Wallingford, recently discovered built up in the wall of the south aisle of the Abbey Church of St. Alban, presented by the St. Alban's Architectural Society. Mr. G. G. Scott exhibited some tracings of stained glass, from churches in Berkshire. After some observations upon them by the president, Mr. Parker remarked upon the usefulness of tracings of this kind, and recommended members to employ themselves, during the vacations, in procuring copies. They were most valuable, both on account of their practical utility as models, and as being, in so many cases, likely to survive after the frail originals had perished The Master of University made some suggestions as to the arrangement of floor tiles, the effect of which he considered would be heightened by the intermixture of plain tiles among the enriched ones. Mr. Boutell said that such was the arrangement in many ancient churches. He added, that the St. Alban's Architectural Society would gladly entertain any members of the Oxford Society, at their next meeting, June 17th. Mr. Parker made some remarks upon the so-called Roman tiles at Colchester, which he believed were of much later date, in opposition to a view incidentally expressed in Mr. Addington's paper.

Antiquities at Gravesend.—The new fortifications on the site of the burial-ground of the chantry, erected by Aymer de Valence, are rapidly proceeding. The original chapel, though cased over with modern brick work, is still standing. It is now converted into the military hospital. In the recent alterations necessary to such conversion, partitions, &c., were removed, which then developed its original shape; it was 59 feet long and 17 feet 7 inches in breadth, within the walls, and was covered with a cove roof, probably originally lined with boards. The height of the edifice from the floor to the highest point of the cove was about 16 feet.

St. Barnabas's Schools, Pimlico.—On the 11th instant, as we learn from the daily papers, the foundation-stone of these schools was laid by Earl Brownlow, upon ground in Queen-street, given by the Marquis of Westminster. It is intended very shortly, in connection with these schools, to erect a church exclusively for the poor, at an expense, including the schools for 600 children, and a parsonage, of 14,000*l.*, to be raised by alms, of which 8,000*l.* has already been contributed. As usual, the architect's name does not appear.

New Work on Gothic Ornament.—The prospectus of a new monthly work of examples of Gothic ornament has lately been issued. The author, Mr. J. K. Colling, proposes to give decorative enrichments of various dates, classified, and drawn to a larger scale than those in existing books. The plates will be lithographed with the pen, and some of them will be given in colour.

The Societies.—The Royal Society and Society of Antiquaries terminated the session on Thursday last, probably more to the satisfaction of the various officers than usual. On Monday, the Institute of Architects will hold its last meeting for the season.

St. James's, Bristol.—It is intended to raise a fund for the repairs, painting, and other improvements of this church.

British Archæological Association.—Arrangements are in active progress for the ensuing congress at Gloucester.

PRESERVATION OF MONUMENTS IN FRANCE.—The *Moniteur* publishes a report presented to the Minister of the Interior, by M. Mérimée, Inspector of Historical Monuments. It appears from this document that, notwithstanding the insufficiency of its resources, the Committee of Historical Monuments has not only not suspended any of the grand restorations that were undertaken by it, but has even been able to purchase some monuments which would otherwise have been lost. The most important is the church of St. Julien, at Tours.

MEETINGS OF SCIENTIFIC BODIES

During the ensuing Week.

MONDAY, June 22.—British Architects, 16, Grosvenor-street, 8 P.M; Geographical, 3, Waterloo-place, 8 P.M.

TUESDAY, 23.—Civil Engineers, 25, Great George-street, 8 P.M.; Syro-Egyptian, 71, Mortimer-street, Cavendish-square, 8 P.M.

THURSDAY, 25.—Royal Society of Literature, 4, St. Martin's-place, 4 P.M.

FRIDAY, 26.—Philological (London Library, 12, St. James'-square), 8 P.M.

NOTICES OF CONTRACTS.

[We are compelled, by the interference of the Stamp Office, to omit the names of the parties to whom tenders, &c. are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent Garden.]

For building a Crescent of thirty-five houses at New Peckham.

For the erection of the Trinity Church National Schools at Nottingham.

For the repair, in one lot, of the whole of the roads of the Yeovil Turnpike-road Trust, being about 26 miles in length, for 7 years.

For the erection of a parsonage-house at Sandown, Isle of Wight.

For the repair of Lingfield church, Surrey; comprising principally repairs of the roof, masonry, and new paving.

For a supply of Castle-hill paving, 1st class, 2½ inch thick, at per superficial foot, for the town of Hertford.

For a supply of 3-inch tooled Yorkshire paving, at per superficial foot.

For taking up, preparing, and relaying old York paving at per superficial foot.

For a supply of granite curb, 12 inch by 6 inch, at per running foot.

For taking up, preparing, and relaying old curb at per running foot; the whole to be properly squared and bedded in mortar, including every material required for the same.

For the erection of four cottages at Merc, in the county of Wilts.

For the purchase of a large quantity of excellent building materials, near Norwich, comprising beams, lintels, sashes, doors, &c.; a quantity of Portland stone coping, 2,000 white lumps, 1,000 pavements, &c.

For the formation of the extension line of the Chester and Birkenhead Railway, from near the Grange-lane station to the new docks at Bridge-end, Birkenhead, comprising bridges, excavations, embankments, culverts, drains, retaining and fence-walls, and all other necessary works for completing the same, ready for the ballast and rails.

For the erection of a new permanent station at Monk's Ferry, comprising clay and rock excavations, ballasting, laying rails, providing and fixing turn-tables, &c.; carpenters' and joiners' work, brick and stone work in station walls, and about 300 squares of iron roofing.

For the erection of coal, stone, and lime stores at Pool-street, near Grange-lane station, on the above line, consisting of excavation, embankment, building, retaining and other walls of brickwork, timber, and iron work, and road making.

For a supply of iron to the Forth and Clyde Canal Company for one year, from July 1.

For a supply of castings to the same Company for a similar period.

For a supply of nails for same period.

For a supply of British and foreign timber.

For a quantity of lime, bricks, and cement.

For a supply of paint, oils, &c.

For a supply of lead, all for one year, from July 1.

For the excavation and construction of certain tanks, tunnels, filter-beds, and other works connected with the water-works at Spon-end, Coventry (extension of time).

For the erection of about 2,280 lineal feet of quay-wall, &c. for the Clyde Trustees, in continuation westward of the quay-walls on the south side of the harbour of Glasgow.

For completing an extensive addition to Rear-Admiral Duff's mansion-house of Drummuir, in the county of Banff. N.B. Stamp tenders.

For alterations in the remaining portion of the present mansion-house of Drummuir above named: separate tenders.

For supplying Her Majesty's several Dockyards with tools.

For the sub-letting of the stone-work required in the works of the Caledonian railway, in the vicinities of Crawford, Abington, Lamington, Thankerton, and Carnwath.

For working a number of quarries engaged by Messrs. John Stephenson and Co. in the above works, with the carting and building, together or separately.

For the reconstruction of the parish church at Brimington, near Chesterfield, with alterations of the former plans.

For building sewers in Temple-lane, Pleydell-lane, Gilt-spur-street, and other places within the City of London.

For a supply of iron and steel, lime and cement, sand and gravel, oak, fir, mahogany, &c.; window glass, paints, &c., for Pentonville prison.

For a supply, for one year, of Haytor, Aberdeen, and Carlinose kerb, 12 inches by 8, per foot lineal, for the Southampton Paving Trust.

For a supply, for one year, of Hayter, Aberdeen, and Carlinose half-sovereigns for channels, &c., for the Southampton Paving Trust.

For a supply, for one year, of 2½-inch tooled York paving, for the Southampton Paving Trust.

For a supply, for one year, of best broken Guernsey granite, gravel, lime and sand, for the Southampton Paving Trust.

For paving and repairing the carriage and footways of the parish of St. John, Clerkenwell, &c.

For Lighting and Warming the new workhouse of the Clifton Union, and for providing a cooking apparatus for 1,200 persons (extension of time).

For the erection of a school-house in connection with the Presbyterian congregation of Ballynahinch, Ireland.

For the painting of the meeting-house of the above congregation.

For the excavation of the new reservoir in Old Park, Belfast, and conveying to the Breast embankment the clay and materials required for its formation.

For supplying the vestrymen of St. Marylebone, Middlesex, with flints, gravel and Hoggin.

For the bricklayers', carpenters', smiths', plumbers', and painters' and glaziers' works (for the vestrymen of St. Marylebone), at the churches, chapels, court-house, &c., of the said parish.

For supplying the vestrymen of the parish of St. Marylebone with Guernsey, Groby, or Whitby chippings, or other hard materials, calculated for the repair of roads, &c.

For the execution of that lot or portion of the Dundee and Perth line of Railway from Pitfour to Barnhill,—a length of 4 miles 1113 yards, or thereby. The works not heavy.

COMPETITION.

The Blackburn and Preston Railway Company offer a premium of 100*l.* for the best design, and 50*l.* for the next best design for laying out the station land, and planning buildings, &c., for the accommodation of the goods traffic at Blackburn.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At St. Osyth Priory: a large quantity of oak and ash timber trees, bavins, &c.

At Chingford, Essex: 300 oak trees and 250 seconds.

At Chamberlain's Farm, Clavering: 85 oak, ash, and elm timbers, 20 oak saplings, 100 pollards, &c.

At Newton Burgoland, Leicestershire: 168 ash, 28 oak, and 17 elm and beech timber trees.

At Langley Park (Norfolk?) about 100 oak timbers, 400 oak stands, some ash timber, &c.

At the Gawthorpe estate, near Padiham, Lancashire, upwards of 1,000 oak trees.

At the Viaducts, Accommodation-street, Vauxhall, Birmingham: an assortment of building materials.

At Hurn Farm, near Crow, Ringwood: 54 oak trees, 22 fathoms of wood, &c.

At the Creek Ironworks, Deptford: two high-pressure steam-engines, sawing machines, &c.

At Union-street, Birmingham: two large foundries, four smaller foundries, a 24-horse power steam-engine, a large turning-lathe, and other useful machinery, &c.

At Fakenham, Norfolk: premises established for nearly a century in the plumbing, glazing, and painting business.

At Sutton, Coldfield: 12 lots of oak timber.

At Gala, near Galashiels, N.B.: 40 peeled oaks of large size, also a number of lots of peeled larch, suitable for railways.

At Soham, Cambridgeshire: a stock in trade, comprising 1,000 feet of well-seasoned planks, 600 feet of elm and poplar boards, with several lots of tools, benches, &c.

At the Imperial Press Factory Yard, Cumberland-street, Curtain-road, Shoreditch: a stock in trade of fancy and other woods, circular and vertical saw frames and saws, zinc plates, iron screw and other presses, &c., &c.

TO CORRESPONDENTS.

"*Reader.*" The water-closet must be constructed of incombustible material. Notice must be given to the district Surveyor.

"*Kentish Rag Stone.*" A correspondent wishes the name of the principal quarryman residing either in Lenham, Sevenoaks, or Maidstone.

"*C. & V.*" We cannot promise to go so far, but will try.

"*J. W., York.*" The paper shall appear. The competition for the Royal Medal is not confined to members of the Institute. We will give the particulars soon.

"*Country Builder.*" If your estimate was a fair one, you have a claim in justice, though probably not in law.

"*A. F.*" Questions as to ancient lights always depend much on the particular circumstances of the case. A reply without full knowledge of these might mislead.

"*A. C.*" (*Newcastle*), shall hear from us.

"*F. W. B.*" How does the proposed society differ from one already before the public?

"*Stain for Oak.*" A Correspondent inquires "what is the best mixture to stain new oak carving a good nut brown, to imitate old work."

"*Llandilo Church Competition.*" Competitors are becoming impatient, and urge us to ask for a decision.

"*H. M.* (*Bristol*)." We are not aware what the local acts are (if any), but should say, no person could use your drain without paying for it, and with your permission.

"*Luton Town Hall Competition.*" Some correspondents complain of the decision. We shall be glad to receive correct information.

"*R. Mulford.*" The sale was by auction, and is over.

Received.—"J. D. P.," "J. W. Kroy," "Y. R." (Clapham), "Rex," "A. A.," "Observer."—"Railways; their Rise, Progress, and Construction," by Robert Ritchie, C.E., &c. (Longman and Co., London). An interesting and useful work to which we shall refer.

ADVERTISEMENTS.

FINE ARTS.

By Her Majesty's — Royal Letters Patent.

LORIMIER'S TRANSPARENT PLANES for Perspective Drawing; BENJAMIN WEST, Patentee.

"This Instrument will enable Artists and others to make any Drawing, whether from Nature or Models, in perfectly true perspective, so that a likeness or landscape may be taken in a few minutes absolutely perfect. It is used by her Majesty's Royal Sappers and Miners, Chatham. To Travellers it would be found serviceable, since it can be employed without the knowledge of drawing."—*Art Union.*

Price 18s. and 28s. Apply for Agents to BENJAMIN WEST, 2, St. James's-walk, Clerkenwell.—Sold by BARRITT and Co., 173, Fleet-street, London; GRIFFIN and Co., Glasgow, and by all Fancy Stationers, &c.

FURNITURE.

WANTED to PURCHASE, from 200*l.* to 500*l.* worth of Second-hand FURNITURE, in large or small quantities, for which a fair price will be given in cash, without any deduction for valuation, and removed at the purchaser's expense; linen, china, glass, books, pictures, and musical instruments included, if required.—Apply to Mr. J. CHAPMAN, 6, Great Russell-street, Covent-garden. Valuations made for the legacy duty, rents collected, &c.

FIRE BRICKS.

W. WARD, Honduras Wharf, Bank-side, and St. Michael's-alley, Cornhill, has just landed a large quantity of his very superior manufactured Fire Bricks, of Stourbridge, Welsh, and Newcastle. Prices very low. Shipments made for the East and West Indies, &c., with the greatest promptness. Gas companies, engineers, builders, and all large consumers supplied from ships in the river at a much lower price. A very large stock on hand of Bricks, Lumps, Tiles, and Clays.

River sand and gravel by freight to any wharf and dock.

PORTER'S CORRUGATED, and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanizing Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway, and other Iron and Smith's work Manufactured of the best quality. Iron Fence and Hurdles as usual.—The Trade Supplied.

MOREWOOD AND ROGERS' PATENT GALVANIZED TINNED IRON.

T. W. BEALE begs to acquaint the public that he is prepared to lay roofing, plain or corrugated, fix pipes, gutters, &c. Also chimney-tops and ventilating cowls of every description; also water and oil cisterns, of this incorrodible and fireproof metal. He manufactures all kinds of baths, as hip, shower, Roman, open, slipper, sponging, foot, children's, and self-heating baths; also toilet-cans and pails, slop-pails, coal-scuttles, cash and deed-boxes, and fire-proof safes of every description, 10 per cent. cheaper than any house in London.

The PATENT GALVANIZED TINNED IRON is applicable to the following uses:—The Lining of Ships' Store Rooms, Ships' Water Buckets, Water Jugs and Receivers, and for almost every purpose to which zinc, tin, copper, brass, or any other metal is now applied; is more durable, and manufactured at much less expense. An experienced workman sent to any part of the kingdom. All orders punctually attended to. For particulars, apply to T. W. BEALE, 46, Bridge House-place, Newington Causeway.



PATENT GALVANISED TINNED IRON.
(MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and water-closets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 20z. to any required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quick-set-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

By Her Majesty's — Royal Letters Patent.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED METAL.—This article was at first sold under the name of Galvanised Tin Plates, but the Patentees finding that the public, in some instance s, overlooking the word Tin, confounded the article with Galvanised Iron, and that the character of their metal has thereby sustained injury, are desirous of giving it a name so distinctive as to prevent such mistakes, and consequent disappointment to purchasers in future. They therefore respectfully request purchasers to inquire for MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON. In order to enable the public readily and at first sight to distinguish between the two metals, it may be well to inform them, that Galvanised Iron has a plain zinc-like appearance, while M. and R.'s Patent Galvanized Tinned Iron has a smooth crystalline surface.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON, Patronized by the Admiralty and the Honourable Board of Ordnance, being extensively used in her Majesty's Dock-yards, at the Tower, and elsewhere, for every variety of Roofing, and other purposes, where a strong, light, cheap, and durable material is required.

It has been found by experience that this article is beyond all comparison superior to zinc; possessing, as it does, all the advantages arising from the strength and firmness of iron, combined with perfect immunity from rust; whilst it is free from the very serious objection which applies to zinc viz. its contraction and expansion, consequent upon every change of temperature, and from which circumstance leakage must of course result.

This material is not likely to be destroyed by fire, as is the case with zinc and lead, which melt and run down, thus freely admitting fresh air to the fire, and causing it to burn more fiercely. It is, therefore, obviously well adapted for all the purposes above-named, and most importantly so, when there is the possibility of fire. It is also peculiarly suitable for chimney-tops, gutters, spouting, and out-door work generally, possessing the strength of iron, without its liability to corrosion. It is by far the most economical metal roofing that can be obtained, in consequence of its strength, as it may be laid without boards, and upon the lightest rafters.

This mode of preserving metal from rust does not only apply to sheet-iron, but also to manufactured iron in any form, as bolts, nuts, hinges, nails, &c. &c.

For full Particulars apply to S. HOLLAND, 31, Grace-church-street.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Pantiles.



MOULDINGS BY MACHINERY.

W. BUDDLE, Sawing, Planing, and Moulding Mills, and Marble Works, 3, IRONGATE WHARF, PADDINGTON, begs to inform the Trade, that he has erected most superior Machinery for working Wood Mouldings, and ventures to hope the reduced Prices and excellent Workmanship will ensure him an order as a trial. A Lithographed sheet, with 40 designs of various mouldings will be forwarded free, upon application.—A Large Stock of well-seasoned MOULDINGS ALWAYS ON SALE.—Wood Sawing and Planing in all its branches executed in the best manner and lowest price.—Large covered Premises to Store Goods, and Drying Rooms to season Boards, fit for immediate use.—Marble and Stone sawing by Machinery.—Marble and Stone Chimney Pieces, at the lowest prices, by Machinery.

TO BUILDERS AND OTHERS.

R. OLIVER'S SAW MILLS, Surrey Canal Side, Albany-road, Camberwell; sawing veneers, plank, deals, and battens, by steam-power; prices of sashes and frames at per foot, superficial, glassed and hung with lines and weights complete.

Single hung at per foot :—	s. d.	s. d.
1½ ovolo	1 3	to 1 4
Double hung, 1½ ovolo	1 4	to 1 5
Double hung, 2 ovolo	1 5½	to 1 7½

Sashes and frames at per foot superficial	d.	d.
Single hung, 1½ ovolo	8½	to 9
Double hung, ditto	9	to 9½
2 inch ditto	10	

Doors at per foot superficial	d.
1½ inch pannel doors, from	4½
1¾ Ditto ditto from	5½
2 Ditto ditto from	7

Shop fronts, staircases, handrails, equally low; Venetian blind lathes 1s. 4d. per 100 feet run superficial; blind stuff cut at 3s. per 100 feet superficial; beech quarters cut at 1s. 3d. per 100; turning in all its branches; doors of various sizes kept for sale. Terms, Ready Cash.

SIR WILLIAM BURNETT'S PATENT for the Preservation of Timber, Canvas, Cordage, Cotton, Woollen, &c., from Decay.

TESTIMONIALS.

From THOMAS GRAHAM, Esq., M.A., F.R.S., L. and E., Professor of Chemistry, University College, London.

"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.

"The wood appears to be fully and deeply penetrated by the metallic salt; I have found it in the centre of a large prepared paving block.

"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the crystallizable salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.

"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Teplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotised principles it contains, by entering into chemical combination with them.

(Signed) "THOMAS GRAHAM."

"University College, 25th October, 1845.

From Professors BRANDE and COOPER.

"London, 4th November, 1845.

"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.

"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.

"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.

"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.—(Signed) "WILLIAM THOMAS BRANDE,

"JOHN THOMAS COOPER."

"To Sir William Burnett, K.C.H., F.R.S., &c. &c."

Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 53, King William-street, London-bridge.

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JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expresaly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producesble by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

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WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of polish have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

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1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

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STEPHENS'S LIQUID OAK, MAHOGANY, ROSE, and SATIN WOOD STAINS, for Staining various sorts of Inferior Woods, so as to give them the appearance and character of the more costly and ornamental kinds; also for reviving the natural colour of Wood Carvings and Panellings, and other ornamental Wood Work, when such has become faded from age or other causes.

IN THE BUILDING AND DECORATING NEW CHURCHES, where it is desirable to give to the cheaper kind of Woods the appearance of Solid Oak, or to make Deal assume the character of Oak Panelling, whereby the effect of the more costly may be produced by the use of a cheaper material, these Stains will be found more effective than any means hitherto employed.

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The BIRCH WOOD, which has a fine natural grain, with little colour, is particularly suited to the application of these Stains; and the appearance which it assumes after Staining is so near that of the natural wood, that is is only when the grain and colour of the latter is particularly fine that it is preferred. Beech, Birch, Elm, Ash, and other Woods, English and Foreign, receive the Stains and produce various imitations.

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Prepared by HENRY STEPHENS, and may be obtained at 84, Stamford-street; at the Office of "The Builder," 2, York-street, Covent-garden, and in Manchester, at CRAKE'S MARBLE WORKS, Garratt-bridge, David-street, at which places specimens of their application may be seen.

The Builder.

No. CLXXVII.

SATURDAY, JUNE 27, 1846.

THE struggle between the advocates of the rival gauges, has led to the production of a large number of books, touching railways, the majority of them with the view of influencing public opinion, rather than of obtaining profit for their author by the sale of them. The friends of the narrow gauge have been the most energetic in this course, and there is no doubt that it has materially contributed to produce the conviction now so generally felt, that the broad gauge must yield to the narrow; a conviction materially strengthened, of course, by the recent report of the Board of Trade on this subject, and the proceedings of Government thereon.

In addition to the books thus produced, have been many others on the history of railways, the construction of railways, works for the instruction of railway surveyors, and pamphlets on railway administration and railway accidents; so that a collection of the whole would form a railway library of no small extent.

That our Governments have acted blindly in respect of railways, from the first development of the system till the present time, is universally admitted; property has been wasted to an immense extent in consequence, and many advantages sacrificed which, by another course, might have been obtained without difficulty. No guiding power over the various wealthy companies, enabled by Act of Parliato traverse the land, and intent solely on carrying out their own views and promoting their own interests, has been exerted; no provision made for general accordance, no thought, in short, taken for the future. The necessity of interference, for the sake of the public, has been long seen and advocated, still Government has kept aloof, until the inconvenient results, now only *beginning* to be felt, force them to step in, to try to remedy what they ought to have prevented.

The Committee of Privy Council for Trade, called on to inquire into the question of gauge, —to propose a cure for what was incurable, without a great sacrifice,—performed their difficult task much in the manner that might have been expected: they recommended that none but the uniform narrow gauge (4 feet 8½ in.) should be used in all public railways now under construction, or hereafter to be constructed—with a few specific exceptions; but as to producing uniformity of gauge, they say:—

"Adverting to the vast expense which must be involved in an entire alteration of the broad gauge, and having regard to the circumstances under which the companies employing this gauge were established, and to the interests they have acquired, my lords cannot feel themselves justified in recommending that it should be proposed to Parliament to compel the entire reduction of the seven feet gauge."

They assume that the uniformity of gauge cannot be obtained, and then proceed to submit regulations, to reduce the admitted inconvenience inflicted on the public within the narrowest limits.

Resolutions to give effect to their lordship's recommendations are now before the House of Commons, and will probably be made law. We venture however to assert, that a long time will not elapse before the question is again mooted, and that when this is the case, the adoption of some means to produce absolute uniformity of gauge will be insisted on. The evils of the break, the annoyances and expense it entails, are every day more felt, and the agitation against it grows every day stronger.

Mr. Sidney, in his work on the "Railway System,"* gives the following summary of opinions on this point:—

"Mr. Brunel admits that the break of gauge will be an inconvenience. 'The amount of it,' he observes, 'will depend very much upon the particular line of country upon which the change takes place, and upon the interests of the parties on either side, to increase or diminish the amount of inconvenience.' Mr. Seymour Clarke thinks the public will experience very little inconvenience, and that there is no particular difficulty at the unloading at Didcot, except when people go in shoals to Oxford. Mr. A. Saunders thinks that where two gauges meet, 'there is an inconvenience, but I cannot call it an evil,' which is certainly a very ingenious, but not very definite answer to an inconvenient, not an *evil*, question. These three gentlemen all propose the same remedies for the break, viz., small packages and parcels to be moved by a force of porters, or the body of the carriages to be removed bodily from the narrow wheels and axles, and laid down on broad frames and wheels, or to run the whole, carriage-wheels and all, on broad trucks, and to pack minerals and coals in iron boxes, two to be transferred to one broad gauge truck. Mr. Cubitt considers that this transfer is a 'mere matter of cost,' which indeed is perfectly true, and the same may be said of the additional price of a bale of cotton carried from Bristol to Manchester by rail. Mr. Vignoles does not believe the public could be made to pay the extra expenses involved by a break of gauge. In practice, as before stated, he avoids the difficulty by invariably preserving the strictest *uniformity* between the lines he constructs and the lines he runs into. Mr. Stephenson, Mr. Nicholas Wood, and Mr. Ellis, the deputy-chairman of the Midlands, give instances on the Erewash, on the Liverpool and Manchester, and on the Midlands Railways, where the loose boxes, and all the other remedies proposed by the three advocates of the broad gauge, have been tried on a large scale, and entirely failed. Mr. Wyndham Harding, and Mr. J. M. O'Connell, from the results of their experience at a break of gauge, prove, in the most complete and satisfactory manner, that although on *paper* very ingenious palliatives may be prepared, in practice a break of gauge is a commercial evil which would alone neutralize half the benefits of the railway system. The evidence of these two gentlemen is most important, from its eminently practical character. But by far the most striking evidence given on the break of gauge, as well as upon the comparative merits of the two gauges, is that tendered by the carriers. Making every allowance for the natural prejudices of Mr. Chaplin and his partner in favour of the narrow gauge lines, with which the former is connected, it is quite evident, from the facts brought forward by these gentlemen, as well as the parties connected with Mr. Pickford, that a break of gauge necessarily involves trans-shipment, and that trans-shipment involves loss by misdirection and pilferage, as well as a detention of hours, and an actual money-tax of from 1s. 6d. to 2s. 6d. per ton."

If this be not sufficient to convince the reader who is in doubt about it, let him either as a merchant, or as the father of a few daughters, with cloaks, work-bags, and band-boxes to match, either with or without the baby in arms, who *may* be left behind, once try the experiment, and we undertake to say he will be found ever afterwards a determined enemy to break of gauge.

The perfect completion of our railway system is a matter of the greatest importance; it will open fresh sources of wealth, increase the power of the country, elevate the character of the people. The greatest intelligence should be brought to bear upon it, and all means taken to effect it in the best and *least costly* manner. We have made some woeful mistakes, and shall have to pay dearly for them by-and-by. Let us well consider future proceedings, so that we may avoid similar errors hereafter. The money that has been uselessly spent on nearly every line yet constructed, is enormous; the aggregate, it is not too much to say, would construct iron roads, under wise regulations, one-third the extent of those already in the kingdom. Look at the following statement:—

"The cost of the London and Birmingham Railway was about 52,882*l.* per mile; the Grand Junction, 22,293*l.*; Liverpool and Manchester, about 50,923*l.*; Great Western, about 56,372*l.*; London and Brighton, about 56,981*l.*; London and Greenwich, 267,270*l.*; London and South Western, about 28,004*l.*; London and Blackwall, 287,693*l.*; London and Croydon, 80,400*l.*; Birmingham and Gloucester, 29,000*l.*; Manchester and Leeds, 47,824*l.*; Midland Counties, 35,402*l.*; York and North Midland, 23,066*l.*; Dublin and Kingston, 59,122*l.*; Edinburgh and Glasgow, 35,024*l.*; Glasgow and Greenock, 35,451*l.*; Glasgow, Kilmarnock, and Ayr, 20,607*l.*; North Union, and Bolton and Preston, 27,799*l.*; Dublin and Drogheda, 15,652*l.*; Dundee and Arbroath, 8,570*l.* per mile.*

This list is highly suggestive, but we cannot now pursue the subject further. In concluding our present remarks, we avail ourselves of an article in the *Westminster Review*, to which we referred a fortnight ago, for the following extracts bearing on the railway question.

As to the late wild speculation:—

"The object of existence is explained by philosophers to be educational. They tell us that the world is a school in which we are to learn wisdom rather than practise it; and the daily evidence of facts would seem to confirm the theory. The teachings of experience are, however, expensive, and we should endeavour to profit by every lesson. The last, upon *roads*, has been a costly one. The difference in the market value of railway stock, between the first of September, 1845, and the first of April, 1846, is estimated, upon *scrip* shares alone, at sixty millions sterling! There is no instance upon record of a corresponding depreciation of property to the same extent within the same time. The celebrated South Sea bubble and the Mississippi scheme of the last century were confined to a limited sphere of operation as compared with the late wide-spread empire of railway speculation, embracing England, France, Germany, and our colonial possessions; in all producing simultaneously the like results."

Waste of money in preliminary expenses:—

"The legislature did nothing to economize the resources of the public, and unhappily it did worse than nothing in this respect, for it contrived additional means for wasting those resources; and so contrived them, although unintentionally, as to increase the eagerness for speculation, by supplying fuel for the flame.

We allude now to the standing orders of Parliament, and the legislative provisions of various acts affecting new railway projects, of which it is not uncharitable to assume that the real objects were two:—1st, the characteristic one of protection to landowners, empowering them to make their own terms with a company, or to defeat a bill upon a thousand and one technical points; and, 2nd, the discouragement of undue speculation by multiplying impediments, increasing expenses, and by bringing every new company to the verge of bankruptcy, to test its solvency.

This policy has now been pursued for some years. The parliamentary charges incurred by the London and Birmingham and Great Western Railway Companies in obtaining an Act of Incorporation were 160,000*l.*! The two Direct Manchester lines, without even

* Edmonds, 154, Strand. 1846.

* Railways; their rise, progress, and construction: by R. Ritchie, C.E. Longman and Co. 1846.

passing the standing orders committee, are understood to have expended a similar sum; and probably double the amount has been wasted in the struggle of three powerful companies for a London and York line. At first sight it seems incredible that such large sums could be fairly or honestly applied, but the principal items of these accounts, we believe, would admit, if examined, of a legal, if not of a satisfactory explanation. It is required, for example, by the legislature, that every person interested in property to be purchased for a line shall receive notice in due form of the intention of the company, by *personal* service, for which the usual professional charge is 1*l*. A letter delivered through the post, with a penny stamp, would answer the same purpose, but would be a non-compliance with standing orders. On a long trunk line there may be 20,000 owners of property to receive notices; and, consequently, 20,000*l*. to be paid to a solicitor for this duty alone, if the funds of the company will admit, and in the absence of any stipulation on the part of the directors that the work should be done at contract price."

"It does not seem to be understood, that to compel the public to commit an unnecessary outlay is practically the same thing as the misappropriation of a corresponding amount raised by taxation. If an ordnance survey of England, for the purposes of railway extension, would have prevented the loss of three or five millions, fruitlessly spent by five hundred defunct railway companies in the surveys of last year, the neglect which occasioned this loss is surely as grave a fault as the squandering by Government of three or five millions of revenue in works of no public utility."

New powers are being created by railways:—

"The world has seen many changes; but, in all ages, those who have contrived to concentrate its resources to the greatest extent have been the rulers of mankind. The powers of the Shepherd Kings grew out of the possession of large flocks and herds, and exclusive rights of pasture: the power of the feudal aristocracy out of the laws of primogeniture. Free-trade legislation has destroyed the power conferred by monopolies of food; but a monopoly of the means of locomotion may prove a more formidable influence than any power which has yet been tolerated in the hands of the few. We doubt not the Chancellor of the Exchequer will be left in possession of Downing-street; but what if in Capel-court a *railway cabinet* should one day meet to discuss the affairs of the nation! Imagine a Trades' Union, represented by the chairman of half-a-dozen great amalgamated companies, directing a gross revenue larger (as the railway revenue will be in a few years) than that which now pays the interest of the national debt and defrays the whole public expenditure of the United Kingdom;—a Trades' Union, omnipotent as a monied corporation, in the Bank parlour; controlling the funds, and dictating the terms of Government loans by operations in the buying and selling of Exchequer bills, or 3 per cent. stock, on a more extensive scale than the Rothschilds; a board dispensing a larger patronage than that of a French minister; with an army of paid agents to collect or diffuse information at every accessible point between the Land's End and the Orkneys, and the electric telegraph to transmit it!"

The writer takes a new view of the formation of *termini*:—

"What is it railway projectors mean, when they talk of a terminus? If by a terminus they contemplate a place where a railway train must stop and turn back, and where every passenger who has farther to go must get out and walk, it is clear that the only suitable place in all England for a terminus is the Land's End. At the Land's End all travellers would agree in opinion that they had arrived at a termination of their journey; but in all other places, where one traveller wishes to stop, another is equally desirous of going on. The termini of twenty passengers by a train from Euston-square, may be at twenty different towns. On the Brighton line, the object of one tourist may be to see Reigate, that of another to go from Brighton to Worthing or Hastings; and so with visitors to the metropolis; no one terminus, however central, would meet the convenience of all. Those who have friends in Pimlico do not wish, on arriving at Shoreditch, to have a second journey to begin. Farringdon-street would suit them better, as more central, yet the majority of those who might stop there would only do so because compelled; and some bound for the continent would wish to stop nowhere in London, but to pass right through, with as little delay as possible, on their way from Manchester to Dover.

It is obvious that the word *terminus* is inappropriate to any railway object. Common roads have no termini. Every road or lane leads on to some other road or lane, the whole forming an infinite series of links. The old Bath-road, for instance, does not *terminate* at the White Horse Cellar. A country gentleman travelling post may, if he please, put up there, or he may drive on to the Spread Eagle, Gracechurch-street; or, without getting out of his carriage, he may take fresh horses and continue his journey through Essex to Colchester.

Continuity of railway communication is the want to be supplied. Besides continuity, the public require, not termini, but stations only; which, however, may be of various kinds:—small stations and large stations; stations for passengers; stations for goods; dock stations; river-side stations; stations for making up long trains; stations for engines and repairs; stations at considerable distances apart; and omnibus stations, at intervals of every five hundred yards in densely-populated districts."

The construction of two main *through* lines is advocated, one running east and west, the other north and south. We hope shortly to see some grand and comprehensive plan proposed and determined on.

BUILDINGS IN AVIGNON.

The following is the substance of the paper read at the last meeting of the Freemasons of the Church, and already referred to:—

Arriving at Avignon on the 13th of February last, I experienced a peculiar degree of exhilaration from the charms of the surrounding scenery, and especially from the indescribable brilliance of the atmosphere. But aware of the important standing which this city held in the middle ages, I was even more interested in the buildings and other memorials of antiquity which remain there.

My course commenced by making a circuit of the well-preserved Italian gothic walls, the whole extent of which, together with the occasional gates, present one and the same characteristic feature; they are, however, no longer available for purposes of defence.

My next act was to wander within the streets, merely to receive the general impressions which such a survey would produce; and this to the utter rejection of the local guides who tender their officious services to strangers; intending afterwards to examine the special objects of interest.

The streets are very narrow, but passably clean, and the houses, of brilliant white stone, strong as fortresses, have some of them vines against them, even in the back streets, with stems of prodigious thickness. Images of the Madonna abound more than in any other part of France: many niches, however, are empty; and it is said, that formerly nearly every house was adorned in the same manner. These are in general pieces of graceful sculpture, but accompanied, *of course*, by bits of tinsel-paper, tawdry ribbons, and faded flowers. In several of the very narrowest streets may be seen large mansions, indicating former wealth, enriched by bosses, brackets, and sculptured garlands, in the style of the period of Louis XV.

The Hotel de Ville has been recently burned down, which I was told had in it carved armorial bearings of the consuls who ruled Avignon during its continuance as a republican city; but I saw the lofty bell-tower standing, with two wooden figures near its top, to strike the hours. Many Spanish names are found among the inhabitants; and the circumstance of the popular speech being the Provençal, or langue d'Oc, which the troubadours used, adds another peculiarity to this strange old city.

Avignon is richer than any other city of the south of France in ecclesiastical edifices, some of the best of which are, since the revolution, changed to other purposes, or encumbered by excrescences. One convent is now a barrack; another is an hotel, and has gilt mouldings hidden under heaps of cattle fodder. Several are become stores for teasles for carding. Some churches are disused; but though not demolished, are left to the effects of time. Of one which I inquired about, I was informed that it is opened twice a year for the public examinations of the primary schools; and the Papal palace is now the principal barrack.

Some of the churches, however, still subsist as the boast of the city. St. Peter's has a façade of richest gothic, done in the 16th century, for 1800 golden crowns, with sculptures in the purest taste; and St. Didier's church has an ancient picture of the crucifixion in one of its chapels, where the costumes are all of king René's time. The windows of St. Martial's church are regarded as good specimens of the best gothic.

This city was of old so exclusively an ecclesiastical colony, that it was calculated that one-third of its population was at all times employed in devotional exercises; and there was, consequently, so much of bell-ringing, that Rabelais called it the *ville sonnante*. It contained thirty-five convents for both sexes, ten hospitals, sixty churches, and a university; and it possessed a commandership in the Order of Malta.

There is a tale current of an Englishman having at some time discovered in the Church of the Cordeliers, the antique tomb of Petrarch's Laura, beneath an accumulation of thorns and nettles. The pieces being carefully numbered, he had them conveyed to England; but to relieve his conscience, he left a sum of money for erecting a new one to her memory: it is certain that a modern and meagre monument is there at the present day.

A solitary relic remains of imperial Roman building, consisting of a square tower of gigantic masonry, with an archway extending half way up from the ground, but long ago closed, and now obstructed by the most offensive objects, notwithstanding the constant resort of the people to a pump beside it.

But one edifice above all others in Avignon commands the general attention; indeed, when viewed from across the river, it appears to crush the city by its breadth and loftiness, besides the advantage of being built on the highest ground—a rock in the centre of Avignon. This is the Papal Palace, where nine popes reigned in succession between A.D. 1308 and 1376; the first being Clement V., and the latest Gregory XI., followed by the later series of papal legates. In this building, during the fourteenth century, Rienzi, the Roman tribune, was incarcerated until released at the intercession of his friend Petrarch; and John XXII burned alive several partisans of his rival Nicolas V., besides a bishop of Cahors, on a charge of witchcraft and poisoning; and in the next century a whole assembly at a banquet were treacherously blown up with gunpowder. In this edifice, too, was held the office of the Holy Inquisition, which, it will be remembered, had its original institution in the south of France. After contributing to the horrors of 1791, when eighty victims were massacred in the tower of the inquisition, the palace is now a barrack, occupied by 1,600 troops.

Entering the great porch beneath a gallery from which the papal benedictions were formerly given, and looking up to the clock tower, whose bell used to announce the election of each new pope, my admiration was greatly excited by the very simple design of the towers and courts, the huge masonry, the cement harder than the very rock, and corridors cut in the substance of the walls.

But the various apartments have been so mutilated to suit the exigencies of present utility, that the great hall has been divided by two floorings into three stories for military rooms; besides a chapel and an armoury, which are treated in the same manner. Thus, not only are the light and wide-spanned windows cut across, but the fine old frescos in their embrasures, portions of which are still uncovered by whitewash, belong partly to one story and partly to another.

The inquisition chapel had a large fresco of the "Day of Judgment," by Giotto, the borders and pendants of which are still visible around the whitewash. Another chapel had a representation of the Redeemer on his throne, surrounded by prophets and apostles, each holding a scroll with a verse of scripture. And other frescos or scriptural subjects, by Giottino

and Simon of Sienna, are now lost. The small chapel of the condemned had a painting of a victim being led to execution by the soldiers of the holy office. The tribunal chamber still has one of its walls painted with *Fleurs de lys*, from among which the successive papal coats of arms have been carefully erased. Against this the inquisitor's throne was placed, and the wall in front of him is inscribed with Latin lines in black letter, now so much decayed, that I could only read the words *Dextra gladium teneo*, without some apparatus for climbing, and more time than I could spare.

Close by one entrance to this chamber are the wretched little cells, without access of light or air, where the sufferers were confined in painful postures: some of which cells still exhibit scratched names and verses from scripture in Latin, of too melancholy an interest to permit the criticism of an occasional mis-spelling. While a door opening from the judge's right hand, conducts to a lofty chamber of such unique construction, as to leave no doubt of its purpose. The form is that of a sugar-loaf, being that best adapted to the stifling of groans and shrieks: no sounds reverberate there; the upper part is still black with smoke, although the extreme top has fallen in; iron rings remain fixed in the wall; a small grate is inserted in one side near the ground; and on another side a small door opens to a tower without chambers; it is simply and entirely a square well-pit, where the eye is soon made giddy in looking downwards. I observed that the conical chamber, with its apparatus for torture, had no scriptural illustrations, and no inscribed texts from the Gospels. It affords, however, a peculiar piece of architecture for ecclesiastical purposes.

Leaving this tremendous palace-fortress amid the din of drum-practice and the ribaldry of French soldiery, the escape was most refreshing into the free air beneath a clear blue sky: but nearly abutting upon the open square of the palace precincts, I remarked a few streets together, each named *Juiverie* (or Jewry), and the reflection arose, what must have been the condition of any class of people, when already hated, not only huddled into such unwholesome dwellings, but brought by force into immediate contigoity with the Inquisitional tribunal!

On one side, adjoining the papal palace, is that of the archbishop, built in 1318; but of this I can give no information. Near the other side, on a spot commanding the finest view of the surrounding landscape, and formed in old times into a terraced garden, stands the ancient and metropolitan church of Notre Dame des Doms, which well repays observation. It is now in a sadly dilapidated condition, but they are repairing it bit by bit. In the vast porch, and over the door, is a noble fresco, said to be by Giotto, and certainly of his period, representing the Saviour in his glory, surrounded by the celestial host; this is much defaced or decayed; and near the ground, on one side of the door, is a brass plate, with an inscription in puzzling contracted Latin. The ancient oaken gates are partly covered by *laminæ* of iron overlapping each other.

The interior of the church contains likewise some very ancient fresco paintings of simple scriptural subjects; but the edifice itself is a store of gilding and variegated Italian marbles, now, alas! chipped and begrimed with dirt till they are scarcely distinguishable as such. The old font retains some traces of colouring, and some windows are patched up in such a way, that bits of rich old glass have been inserted as drapery to modern faces of saints. The small central tower is itself a beautiful effort of art, with arcades of coloured marbles rising in succession, each portrayed with quaint and simple old frescos.

There are also some exquisite pictures of the best Italian and Spanish schools; mingled, however, like every thing really Roman Catholic, with much that is tawdry and paltry in point of taste. The marble tombs of John XXII., Benedict XII., and the renowned Crillon, are very fine. The marble throne, too, on which the Popes were crowned, and the legates afterwards held their state, is truly magnificent. The wooden pulpit is richly carved, having the Saviour represented in the centre, and two of the evangelists on each hand.

Being Sexagesima week, we heard a solemn service in the antique Gregorian chant.

Across the river (traversed by a very elegant suspension bridge) is the supplementary town of Villeneuve, which is said to abound in remnants of ecclesiastical antiquity, but almost entirely in ruin. This I did not visit. The hospital, however, contains the sepulchral monument of Innocent VI., of the 14th century, the prints of which represent it as of most exquisite work, almost a fillagree in stone. Likewise a painting popularly ascribed to the royal hands of king René, but this idea is not sanctioned by the more learned critics.

The ruined half of an ancient bridge still stretches above the river, with a small chapel upon one of the piers to the memory of its founder, a shepherd named Benezet, who obtained its erection in the 12th century, in consequence of a divine vision. The bridge was destroyed in the 17th century. It forms a picturesque object above the rapid Rhone, between the ancient cities, with the huge mountain, Mont-ventoux, extended like a blue curtain at its back.

AWARDS OF OFFICIAL REFEREES.

DISTRICT SURVEYORS' FEES.

Mr. Robert Johnston, and Mr. John Davies, district surveyor, recently submitted the following requisition.

"Whereas a difference of opinion has arisen between the said Robert Johnston and John Davies on the following matters, viz.:—

In pursuance of a notice from the said Robert Johnston, the said John Davies did inspect and report (under section 24 of the Metropolitan Buildings Act, 7 & 8 Vict., cap. 84) on a certain 'party fence wall,' dividing his 'stable, coach-house, and ground,' in the rear of No. 31, Gloucester-street, Commercial-road, in the hamlet of Mile End, in the county of Middlesex, from the ground or premises No. 30, Gloucester-street, Commercial-road, and has since surveyed the rebuilding of the said wall, in respect of which services the said John Davies makes the following demand, viz.:—

For surveying the party fence wall, and reporting to the official referees	2	2	0
To serving notice on building owner	0	5	0
Ditto on adjoining owner	0	5	0
Ditto on building owner's agent	0	5	0
For surveying the rebuilding of party fence walls	0	10	0
For alteration fourth-rate second class (two stories)	0	10	0
	£3	17	0

To this the said Robert Johnston demurs, and contends—

First—That the said Act has not made any greater fees than 10s. 6d., payable to the surveyor for condemning party fence walls.

Secondly—If any part of the said wall, inasmuch as it parts a building from the adjoining owner's ground, is to be deemed to be a party-wall, that then the surveyor may not claim a greater sum than 2*l.* 2s., including the due service of the requisite notices to the parties concerned;

And, thirdly—That the said Act has not provided any fee, as payable to the surveyor for surveying the rebuilding of party fence walls.

Now I, the said John Davies, being of opinion that the wall is in part a party-wall, and that I am entitled to the whole amount claimed, and, moreover, that such claim is justified by the said Act, do hereby concur with the said Robert Johnston, in referring the matter to the said official referees for their determination and direction thereon."

The award was, "that no fee is provided in the Metropolitan Buildings Act, for inspecting and reporting to the official referees upon party fence walls, under the provisions of section 24, of the said Act, but the fee for any such service is to be such fee as the official referees, shall by writing under their hands, order and appoint with the consent of the Commissioners of Works and Buildings.

And as to the second point in the said requisition, that the wall in question is to be deemed to be a party fence wall, both as it respects the adjoining owner and the proceedings under the said section 24; and that in any case the fees appointed in schedule L, of the the said Act, for inspecting and reporting to the official referees upon party walls, include the service of the notices required by section 24 of the said Act, to be served by the district surveyor.

And as to the third point of the said requisition, That no fee is provided for the rebuilding of party fence walls; but inasmuch as the said wall is a party wall, as it respects a certain building of the fourth rate having not more than two stories, the rebuilding of such wall is to be deemed to be an alteration of such fourth-rate building, and the fee of ten shillings is, or will be due to the surveyor of the district for the supervision thereof, such fee being payable by the building owner.

And inasmuch as the said John Davies has inspected and reported to the official referees upon the party fence wall in question,—We do hereby order and appoint, subject to the consent of the Commissioners of Works and Buildings, that the fee of one pound and one shilling, be paid by the said Robert Johnston to the said John Davies in respect thereof."

The expenses of the award to be paid by the district surveyor.

THE PUBLIC BUILDING CLASS.

Mr. Child having commenced an erection near the new pier at East Greenwich, intended to be used as waiting rooms for passengers, the district surveyor called for its construction as a building belonging to the third or public building class. The referees awarded to the contrary; costs to be paid by the two parties in equal moieties, case being one of reasonable doubt.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

At a meeting of this association on Wednesday, the 17th inst., a great variety of specimens of the early British weapons or instruments, in flint and in stone, called *celts*, were exhibited from the collections of Messrs. Croker and C. Roach Smith, accompanied by observations by these gentlemen. Also some flint arrow heads, one of which, mounted in silver, had been worn as an amulet, being suspended from the centre of a rosary instead of a crucifix. These are frequently found in Ireland, and are supposed by the Irish peasantry to be natural representations of our Saviour upon the cross, and are worn as amulets; they are called "Elfin darts," &c. Mr. Croker remarked, as a curious circumstance, that few, if any, were ever found in the south of Ireland, although they are so abundant in the north. Mr. Worsaae, an antiquary from Copenhagen, took part in the discussion, comparing them with those of his own country; he observed, the specimens in bronze were more valuable to them from the circumstance of their having no copper or tin in Denmark; these were frequently found in Cromlechs, along with ornaments of bone and amber. Great quantities of stone celts had been found on the coast, and by the side of rivers, while, comparatively, few were discovered in the interior.

Mr. Chaffers, jun., forwarded for exhibition seventy silver coins in good preservation, found a few days since in making an excavation for sewerage in Jewin-street, Cripplegate, a few yards from the Roman wall outside the ancient city.

Mr. Davis communicated drawings and descriptions of some stones, inscribed with early Italian characters of the fourteenth century, discovered at Windsor Castle, near the Norman gate, and which were taken from the walls of what was formerly called the "Devil's Tower," afterwards fitted up for the maids of honour. On one was the complaint of a prisoner of war, who had been (as he said) unjustly imprisoned—probably a captain of some Italian vessel, taken by the English in the wars of Edward the Third.

The Rev. T. T. Lewes sent an account, accompanied by a sketch, of a semi-circular tympanum of a door, from Fownhope Church, Hereford, which resembles the sculpture of Kilpeck Church, of the twelfth century. It represents the Virgin and Child; on one side the winged lion of St. Mark, and on the other the eagle for St. John.

The chairman informed the meeting, that the threatened destruction of the Roman station at Caistor Castle had, by the intercession of Captain Beaufort, one of the council, been averted.

THE CHURCHES OF FLORENCE.*

We have already referred to the churches of Florence, as edifices especially interesting to the student of architectural history. In one, we discern the decline of the Romanesque, and the approach of the Gothic style; in another, the dissolution of Gothic architecture, under the influence of Brunelleschi. We are able to study the rise of that important feature of architecture, the cupola, in the dome of Sta. Maria del Fiore: in the gates of the baptistry we find the finest specimens of metal work that were ever fabricated, and which Michael Angelo said were "worthy to be the gates of Paradise." Indeed, the churches of Florence present so many objects of interest, that it is difficult to find room for the most important particulars within present limits. Including those which are attached to monasteries, they are also numerous. Richa, who wrote upon them in 1754, has devoted no less than ten quarto volumes to their history and description. We subjoin a list of the most interesting, with the names of the architects, and the dates of the principal parts, arranged in regular order:—

Date.	Buildings, &c.	Architect.
1013	San. Miniato; without the walls of the city	
Of early date	Santi Apostoli.	
Vestiges of Romanesque	Santa Felice.	
1250	Santa Trinita	Nicolo Pisano.
1262, (original church)	Church of the Annunziata.	
1270—1350	—— Little cloister, or atrium.	
	Sta. Maria Novella	Fra Sisto, and Fra Ristoro; Fra Giovanni de' Campi.
1284	—— Campanile, chapter-house, and sacristy	Fra Giacopo da Nipuzzano.
1288—1293, the original building faced with marble: (dome closed in 1150)	Or' San. Michele (the original granary)	Arnolfo de Lapo.
1294	Battisterio di San Giovanni	Arnolfo.
1298 1472	Santa Croce	Arnolfo.
	Santa Maria del Fiore	Arnolfo; Giotto; Taddeo Gaddi; Orgagna; Lorenzo Filippi; Brunelleschi.
—— — 1450	Bronze gate, at the south; Battisterio di San Giovanni	Andrea Pisano.
1347 -1350	Or' San. Michele, the church	Taddeo Gaddi; Orgagna.
1341 — ——	The Carthusian Monastery near Florence, on the road to Sienna	Orgagna.
1348—1357	Tabernacle in the church Or' San. Michele.	Orgagna.
1400—1424	Two bronze gates, at the north and east; Battisterio di San. Giovanni	Ghiberti.
Probably about 1407	Oratorio degli Angeli	Brunelleschi.
1410 — ——	Sta. Maria Maddelena de' Pazzi.	
1420 1444	Cupola of Sta. Maria del Fiore	Brunelleschi; designed by Arnolfo
1420	Chapel of the Pazzi; church of Sta. Croce.	Brunelleschi.
1421—1444	Portico and hospital of the Innocenti (Spedale degli Innocenti)—Piazza della Annunziata.	Brunelleschi.
1425 — ——	San. Lorenzo	Brunelleschi.
A little earlier	—— Sagrestia Vecchia	Brunelleschi.
1448	Chapel of the Annunziata; church of the Annunziata	Michelozzi.
About 1450—(front completed, 1777	San Marco	Michelozzi.
—— — 1467	—— Interior	Giovanni di Bologna.
	Chapel of the Ruccelai family, in atrium of San. Pancrace	Leon Baptista Alberti.
(Original church, 1078:) 1470 —1792	San. Pancrace.	
1470 — ——	Santo Spirito, and general plan of the Augustine Convent	Brunelleschi: finished 26 years after his death.
1472 — ——	Choir of the church of the Annunziata	Alberti designed; Luca Fancelli executed.
1348 -1477	The façade, Sta. Maria Novella	Alberti.
1479 — ——	Cloister in front of Sta. Maria Maddelena de' Pazzi	Brunelleschi; Giuliano da San Gallo.
Probably about 1490	Great cloister of the church of the Annunziata	Simone Pallajuolo, called "Cronaca."
Probably about 1500	Vault of the vestibule of the sacristy, in church of Santo Spirito	Andrea Contucci di Monte Sansovino.
About 1500	Sacristy of Santo Spirito	Simone Pallajuolo, called "Cronaca."
End of 15th century, subsequent to Vasari	Tomb of Carlo Marzuppini, in the church of Sta. Croce	Desiderio da Settignano, sculptor.
Probably about 1520	Portico, opposite to the portico of the hospital; Piazza della Annunziata	Antonio da San Gallo.
About 1534	Sagrestia Nuova: church of San Lorenzo	Michael Angelo.
About 1534	Medicean Chapel; ditto.	Michael Angelo.
Probably about 1560	The Laurentian Library; ditto	Giorgio Vasari.
1564 —	The altars; Sta. Maria Novella	Ammanati.
Probably about 1565	Second Cloister; Santo Spirito	Dosio; parts by Michael Angelo.
1601 1604	Chapel of the Gaddi; Sta. Maria Novella	Gio Caccini.
1604 — ——	Portico of the church of the Annunziata	Matteo Nigetti; Gherardo Silvani
16th century	San. Michele	
Probably about 1640	Church of the Franciscan Convent, near San. Miniato.	
	First Cloister; Santo Spirito	Alfonzo Parigi.
	Church of the Carmine.	
	La Badia.	

It is in their interiors that the churches of Florence are most interesting. Their façades, in many instances, are in a most unfinished state; even that of the cathedral has not been completed. Gothic architecture is found in many examples, but differs greatly from that of other parts of Europe. Churches of this style are massive, like the palaces which surround them, and they are wanting in the pinnacles, and flying buttresses, which lend so great a charm to all on this side the Alps. Those features of the style, which are found in Tuscany, seem to have been introduced from Germany; an opinion which is supported by the statements of Cæsarianus. It was practised in Florence, chiefly by Arnolfo; but it is known, that that architect did not neglect the national style, never extinct in Italy. It is supposed, that the foreign manner was introduced by the Franciscans and Dominicans, who practised it, after it had been abandoned in other instances, and who appear to have understood its value, as expressive of feelings of devotion. The style was called *Tedesco*. Stained glass exists in most of the churches, both in those of Gothic, and of later date.

Of the churches of Florence, few have of late received so much attention as that of San Miniato. It is divided into three aisles by two rows of columns, and consists of nave and choir, the latter being raised a considerable height above the level of the former, and reached by staircases. Beneath the choir is a crypt. The style is Romanesque. The church is in all respects a most interesting example, and has several early mosaics and frescoes. Each window of the apsis is lighted by a single slab of alabaster, similar to the ancient *Lapis specularis*, and the light, shining through, is described as having a very pleasing effect.—The church of *Santi Apostoli* is also a Romanesque building. It is said, that it was the study of this edifice which first led Brunelleschi to adopt his characteristic style.—Santa Trinita was originally a Gothic church, but has received later additions.—Sta. Maria Novella is one of the few churches of which the front is complete. The campanile is in the Romanesque style, but the church is Gothic. The façade, however, being completed by Alberti, though not strictly Gothic, is still designed in some accordance with the spirit of that style, and it is supposed, not without reason, that the Dominicans required that the mediæval style should be observed, though Alberti himself was one of the revivers of the Italian. This façade is composed of different coloured marbles, a mode used also in the cathedral. The architects of the original church and conventual buildings were monks, educated in their profession by the Dominicans. It is worthy of note, that so little did Michael Angelo condemn the forms of Gothic architecture, that he called this church his *inamorata*.

The church of Sta. Maria del Fiore may be described as a cross church, the head and arms being formed by semi-octagonal projections. The space at the intersection is an octagon. The nave is four arches in length. The building was commenced by Arnolfo, who designed the cupola, but did not live to execute it. He left a complete model of the building, which unfortunately has been destroyed. After Arnolfo's death, in 1300, the works were carried on at various periods by Giotto, Orgagna, Taddeo Gaddi, and Lorenzo Filippi. Giotto erected the campanile, which stands beside the front of the building, and which it was his intention to surmount with a spire. In 1420 Brunelleschi was chosen from a number of architects to carry out his celebrated plan for constructing the dome, which he accomplished by an arrangement of centering, now well understood, but which in the first instance subjected him to ridicule.—The baptistry, which adjoins the cathedral, is most celebrated for the gates already mentioned. One of them was by Andrea Pisano, and the two others by Lorenzo Ghiberti. Casts of these are in the School of Design in this metropolis, but they are by no means equal to the originals. 30,798 florins was the price paid to the artist for these works. The building itself, as shewn by a section in the work of Richa, much resembles the Pantheon. Indeed, by many it is supposed to have had a Roman origin, whilst others assert that, though Roman in style, it was built by Theodolina, the Lombard Queen. The interior of the cupola is covered with mosaics. The pavement is curious, and represents the signs of the Zodiac, with the sun in the centre, surrounded by the following strange line, which can be read either way:—

"En giro torte sol ciclos et rotor igne."

The church of Santa Croce, the Westminster Abbey of Florence, is rich in works of art of all kinds, and monuments to illustrious men, amongst whom is Michael Angelo. The style of architecture is gothic, and, as in many of the Florentine churches, the windows are rich in stained glass. The inner cloister was built by Brunelleschi, and contains the chapel of the Pazzi. Amongst the monuments, that to Marzuppini is an interesting example of the early style of the revival. It has the frequent form of the sarcophagus, with a figure on the lid, a type, perhaps derived from those of ancient Etruria, copies of which are in the British Museum.

The church called Or' San' Michele was originally built as a granary, by Arnolfo, but miraculous powers having been ascribed to an image of the Virgin, the building was converted into a church. The windows are said to be extremely beautiful; they are circular headed, with intersecting tracery. The style is in the main gothic, but the building has not often been delineated. It is much enriched with painting and sculpture. The shrine, or tabernacle is an elaborate piece of work. It is said, that Orgagna would not allow of any mortar or cement, but had the pieces clamped with metal, and the workmanship is excellent.—The Carthusian monastery, on the road to Sienna, is an extensive building, remarkable for the perfection of its arrangements for the accommodation of strangers. It is given in the "Architecture Toscane," by MM. Grandjean de Montigny and A. Famin,* which work may also be referred to for the plans of most of the Florentine churches.—The church of Santa Maria Maddelena de' Pazzi, which, like most of those described, is attached to a convent, is curious as preserving the type of the basilica, in the atrium or cloister in front. This cloister has Ionic columns.—The *piazza*

* Notizie Istoriche delle Chiese Fiorentine, divise ne 'suoi Quartieri. Opera di Giuseppe Richa, della Compagnia di Gesù Accademico Fiorentino, e Socio Colombario. 1754-62. 10 vols. 4to. Firenze.

* Reviewed in vol. iii. and ante, pp. 86, 87.

della Annunziata, which gives access to the church of the same name, is full of fine structures. The convent was built at various periods. The church *della Annunziata* also has an atrium in front. The most remarkable feature in the plan is the circular choir, having one main arch of division from the nave, opposite to that a small recess, and large niches surrounding, in the other parts of the circle. The chapel of the *Annunziata* has bronze and metal ornaments introduced into the architecture, but which also answer a constructive purpose.

The church of San Lorenzo, though unfinished externally, is, in its interior, a magnificent building. Its exterior is of the roughest brickwork. An amateur architect had been employed to rebuild the old basilica, but, like most persons who meddle with what they do not understand, he failed. The order of the interior is Corinthian, supporting arches, the square entablature being interposed. The ornaments are all varied from the classical type, and adapted to a Christian purpose; thus, the lamb and the book with the seven seals are introduced. Amongst other objects of interest in this church are the two fine pulpits, carved by Donatello. The *Sagrestia Nuova*, and the *Medicean Chapel* are enriched with fine works of sculpture. The cloister opens into the *Laurentian Library*, a collection celebrated for its unique manuscripts.—The church of San Marco now exhibits little of the original design, and the front was not completed till 1777. The interior is rich, and of fine proportions. But the greatest interest attached to this convent is, that it was the residence of the celebrated Savonarola, who denounced the vices of the papal court, and became a martyr to his zeal; and also of the painter Giovanni da Fiesole, called Fra Beato Angelico, whose works are often referred to at this time, as models for imitation in "Catholic art."

The church of Santo Spirito is a beautiful example by Brunelleschi. All the fronts are complete, except the principal one, and it is certainly the finest of Brunelleschi's designs, though, subsequent to the architect's death, as the works were then unfinished, they were carried on, with some departure from the original design. These alterations, though not affecting the general conception, have justly excited the anger of Vasari against those who fancy themselves better qualified than artists. Oh! that Vasari were alive now. The plan is a Latin cross, with aisles carried round the transepts and the choir. The intersection is surmounted by a dome, ornamented with leaf work, and rising from a low tholobate, pierced with circular openings. The clerestory and aisles have circular-headed windows. The wall being of great thickness, there is sufficient space for large niches, which occupy each intercolumn; and the wall of the lower clerestory, or that to the aisle, is above the inside of the lower wall, and has circular windows similar to those of the tholobate. Thus, there are three distinct levels of roof besides the dome. The interior has Corinthian columns, each supporting an entablature, from which spring semi-circular arches. At the extremities of the choir and transepts, there are four windows, instead of an odd number. The high altar beneath the dome is surmounted by a magnificent canopy. There is an internal dome with a lantern beneath those of the exterior. It is panelled, and perforated by the windows of the tholobate. In this church we remark the most perfect harmony of lines. Character is given to the building by the constant use of circular forms, whilst too great sameness is prevented by the occasional use of horizontals. The sacristy attached to this church, and the second cloister are both fine works.

It is to be regretted, that the work of Richa has not a better description of plates. They are not equal to many, which had been produced previously. However, with the assistance of other works, they serve to give some idea of the state in which the buildings were a hundred years since, and the literary matter may be referred to for notices of all the churches in Florence. The views also give the bridges of Florence, one of which by Ammanati, is celebrated for its beauty, and stability. In those days, bridge building was in the hands of architects; how they succeeded, the Ponte della Trinita may shew. The other bridges are curious and interesting, particularly the Ponte Vecchio, which carries the curious gallery, extending half a mile in length, uniting the Palazzo Vecchio with the Palazzo Pitti.

E. H.

RAILWAY JOTTINGS.

The Hastings and Brighton line of railway is to be opened on the 29th instant.——The bill authorizing the sale of the Gravesend and Rochester line to the south eastern company is to be proceeded with.——The preamble of the bill for the enlargement of the Shoreditch station of the Eastern Counties line, and the erection of an engine-house, a goods station at Stepney, and cattle-pens at Stratford, was proved in committee on Thursday last. The estimate was 100,000*l*.——Four "Smoking Divan" carriages are about to be built for the Eastern Counties line by Messrs. Adams and Co., of Old Ford.—— The stations on the lately opened Eastern Union line may be here briefly noticed. Bentley station is built after no particular style, being Composite, and ornamented with a bull's eye, &c. It consists of a booking office, two waiting-rooms, and a carriage-shed, on one side of the line, and a waiting-room for the down trains on the other, with a platform on both sides. It was built by Mr. Saunders of Dedham. Near it is an octagon porter's lodge, in the Spanish style, and around it are a number of cottages, called "Bentley town houses." The Manningtree station has a rusticated front, like that at Bentley, and is also ornamented with a bull's-eye, and bell-turret, platform, &c. It was built by Mr. F. Mason, of Ipswich. The scenery about Lawford lodge is very bold. Dedham and East Bergolt are seen in passing. The Ardleigh station is in all respects similar to that at Bentley. It was built by Mr. Saunders, of Dedham. The town of Colchester is well seen near "Whittaker's-bridge," the embankment part of which has threatened to be somewhat troublesome, though the difficulties are thought to be now effectually mastered.——The directors of the Eastern Counties line have kindly offered to convey labourers along their line, a distance of five miles, for one penny each, night and morning, so as to enable them to study their health and convenience by living at some distance from their work if desirable.——It is gratifying also to know, that on the London and Birmingham line, somewhat similar or greater advantages are offered to the people employed at Wolverton, who besides having excellent cottages provided for them, get provisions &c. from London carriage free, and are even allowed to travel along the line on Sunday on the like enviable conditions, to visit their friends at a distance. These are the beginnings, we hope, of an extended progress of humanity in the right direction.——The proposed great central station of the London and Birmingham, in Birmingham, will be upwards of 300 yards from east to west, and its average breadth 70 yards. It will occupy five acres. There will be two sets of goods' stations; and the estimated expense is 350,000*l*.——It has been estimated by the *Manchester Guardian*, that at least 200,000 persons travelled by railway to and from Manchester by the cheap trains in the course of Whitsun-week.——The London and York Company will commence operations it is said, by making the loop from Lincoln to Peterborough.—— By the agency of the Midland line coals are now selling in Scarborough at 7s. 6d. a ton.—— Messrs. Blackstock and Mackay are contractors for nearly fifteen miles of the Newcastle and Berwick; extending from Smeafield-burn, the boundary between North Durham and Northumberland, to a point thirty chains south of Stamford. They furnish employment at present to from 1,200 to 1,400 men, including masons. The wages of labourers are from 18s. to 24s. and the masons 26s. a week. The line will be open, so as to permit engines to go between end and end, in August.——On the 18th inst., at a meeting of directors and others interested in Irish railways, the Duke of Leinster in the chair, it was determined to apply to Government for loans of 30 per cent. on the security of works on lines at present in progress, and on which 20 per cent. of the capital has been already expended, while 30 per cent. has been raised by the shareholders and further expended on the works. Of course the expressed purpose is the immediate employment of as many of the labouring classes of the Irish as possible by the acceleration of the railway works.——An invention for the increase of locomotive power by a combination of heated air with steam has recently been patented by Mr. D. Wilkinson. An air pump is attached to the working power of the engine, which forces at every stroke a certain measure of air into an air chamber, composed of tubes so placed as to receive the heat after it has passed the fire-place; the air takes up, in its passage through these tubes to the boiler, about 300 degrees of heat into the steam. The power thus obtained is said to be equal to an increase of at least 40 or 50 per cent. on fuel, and of course a saving so far in its consumption.——Mr. Pettit's patented improvements in the locomotive engine itself consists in allowing every wheel to revolve on a separate axle, and by providing an elevated central wooden rail for the driving wheel to afford sufficient adhesion to enable the engine to ascend an incline, whilst iron rails are used for the carrying wheels in order to reduce the friction of the load to the lowest possible amount; thus adapting the rails to the distinct purposes for which they are required. The axles of the carrying wheels are fitted so as to swerve enough to keep the wheels true to the rails in passing round a curve. They are guided by levers with guide wheels running on each side of the centre rail on which the driving wheel runs, and acting precisely like the shafts of a common four-wheeled carriage, leading the engine in the direction of the central rail, and rendering it impossible for the wheels to run off the rails. In carrying out this system, the boilers (though not necessarily) are provided with upright tubes, permitting a large area of fire-grate, whereby a moderate draft suffices, while the boiler, if supplied with small tubes in a collective area of double the usual dimensions, need not be materially higher than the steam dome of the existing locomotive.——It is said that the Electric Telegraph Company, who have just got their bill passed, have purchased the interest of Prof. Wheatstone, for 30,000*l*.——The telegraphic mode of communication becomes more and more practically useful every day, and in a short time will no doubt establish over the surface of the country a unity of connection comparable to nothing so closely as to the community of action hitherto peculiar to organized and vital surfaces. It is already almost tedious to repeat each new application as it arises. One of the most recent, is the *application* of a railway official to a lady and gentleman, while still seated in a railway carriage, on their way from Tinmouth to Exeter, for half-a-crown, unpaid at the previous station, whence intimation, with a description of their persons, had been forwarded by telegraph during their approach.

A PLAN TO INCREASE THE RESPECTABILITY OF ARCHITECTS.

Sir,—Would you allow me through the medium of your valuable journal, to briefly suggest a plan which would render "competition" more *honest* than it is at present?

Might not each architect employ a "traveller," and furnish him with a portfolio, containing designs for every description of public buildings, each design having an "elastic estimate?"

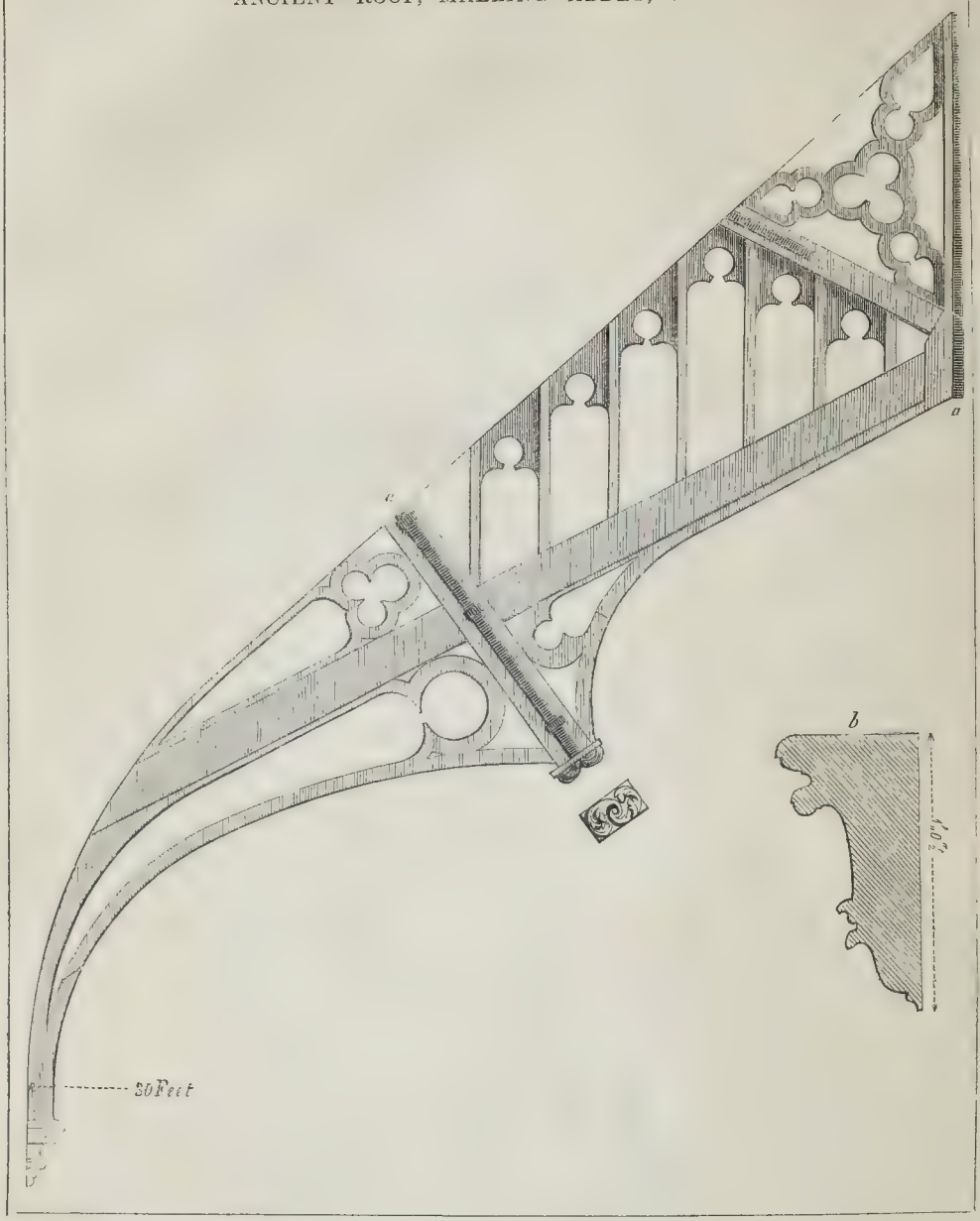
Then in the case of a competition: the architect having sent in his design, previous to the decision, let the portfolio man call upon each member of the committee, and openly crave his vote and interest on the approaching "board day."

This plan has many advantages; it gives to competition the honest character and absorbing interest of an election, it enables the architect to meet any objection as to cost, inasmuch as the portfolio contains other designs which could be subsequently adopted, and a good pushing "traveller" might often prevent any competition taking place, and thus spare the enormous waste there is usually of money, talent, and energy.

This plan has suggested itself to me in consequence of the practice of some architects; who follow up the sending in of their designs by canvassing the committee, thereby causing the decision to depend more upon the merit of the man than the design.

Birkenhead. An Architect

ANCIENT ROOF, MALLING ABBEY, KENT.



PORTION OF THE ROOF OF THE ANCIENT HALL AT MALLING ABBEY, KENT.

Malling Abbey is situated about six miles from Maidstone; it was lately the residence of Mr. Losack, but has for some time remained unoccupied. Access to the building can now easily be procured. Very few ancient structures possess more interesting remains than this building, or would better repay the architect for an attentive examination of them. The print represents half of one of the three trusses in the ancient hall; the room is small, about 30 feet by 20; it contains its ancient windows of very early decorated character, and, with the exception of modern additions, remains quite perfect.

Some doubts may be expressed as to this very singular roof being of the same date as the building to which it belongs. It may be remarked, that very little is known of the character of these early wooden roofs, from the great scarcity of examples remaining, and that no specimen of so early a date, or one at all similar to this roof at Malling, has yet been published.

The stone corbells, from which the roof springs, are circular, and there is a great deal of early English character about the form of their mouldings; the date of the wooden roof cannot be later than the year 1340.

Of the merit of the composition, the print affords the best means of forming an opinion; the effect of the three trusses in the room itself is singularly fine. The building being unoccupied, afforded no accommodation for taking measurements of the upper part of the roof; this, therefore, is sketched only. The size of the lower beam is 3½ in. by 8 in. The narrow band attached to it is 3½ in. by 2½ in.; only one joint could be perceived in each of its compartments.

This ornamental work, together with that in the upper part of the roof, has the appearance of merely being cut out of 2½ in. plank. Neither the principal rafter nor purlins are seen: these, with the common rafters, are probably framed together.

Tredgold, in his "Elementary Principles of Carpentry," makes some strong objections to this form of roof; his observations respecting

it will be found in article 174, pages 92 and 93: the note attached to the article more particularly applies to it. The diagram, plate 9, fig. 62, given by him in illustration, has none of the elegant corbelling below the under beam, which, in the ancient example at Malling, tends to throw the weight of the upper part of the roof a considerable way down the walls.

Whatever may be the defects of this form of roof, it is quite certain that this ancient example, probably 500 years old, shews not the slightest change of figure from flexure; no settlement has taken place from the number of joints, or the magnitude of the strains; the roof is as perfect as if just out of hand. The walls of the building, of good thickness, are upright, and in good condition.

The architecture of the most ancient portion of Malling Abbey is in the richest Norman style, probably that of the reigns of King Stephen or Henry II., and, excepting in its general outline, has very little of the transition or semi-Norman character about it. The ancient cloister, a large portion of which is standing, is of very fine early English character, richly decorated.

The great hall, from which this example of a roof is taken, appears from its windows to be very little later in date than the cloisters. The only stone work of late decorated character about the place is in the porter's lodge, or gate house; this has a small chapel attached to it, having a good three-light window, and a curious doorway, with a holy-water niche at the side; these are of late date. The lodge is now in the occupation of an old carpenter, and the chapel is his workshop.

The building attached to the abbey, and which was lately the residence of Mr. Losack, is of the reign of Elizabeth; it underwent extensive alterations in the reigns either of George II. or III., and while it exhibits a rich assemblage of Batty Langley rooms, proves that its possessor, at the time, fully appreciated the ancient character of the place and was desirous of adhering to it, but was not so fortunate as to find an architect who understood the style. The rooms are small: the only fine one in the building, the great hall, has been turned with the most wretched taste into a kitchen. Several of the windows are filled with painted glass, which being of the same date as the Batty Langley architecture, is very curious.

The more ancient portions of the building fully deserve to be further illustrated.

a a a Iron straps.
b Section through (half circular) stone corbel.

C. J. R.

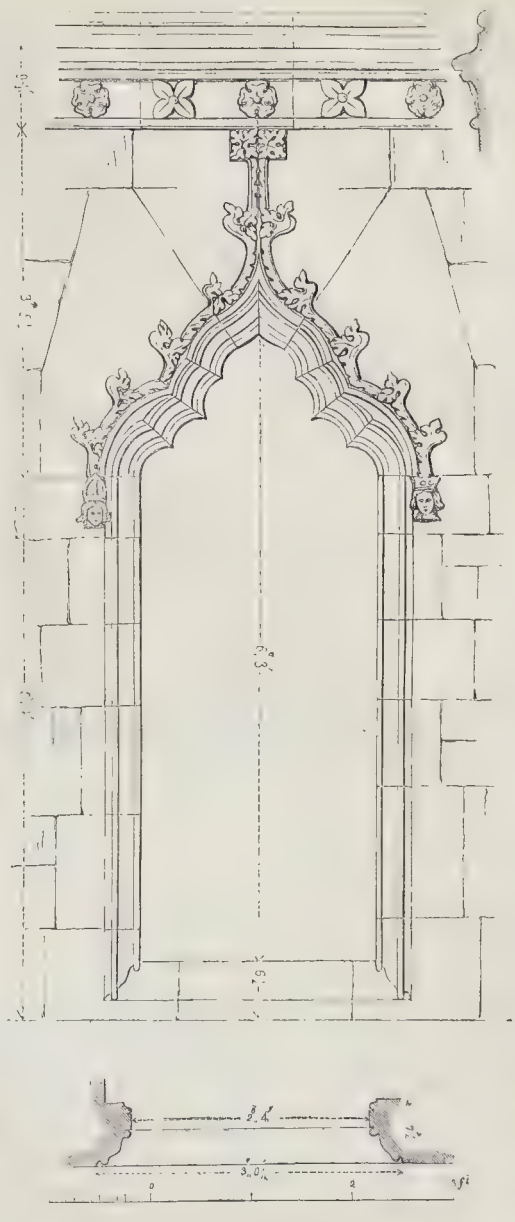
CHURCH BUILDING SOCIETY.

On Monday last, a meeting of this society was held at their chambers, in St. Martin's-place, the Lord Bishop of Winchester in the chair. Grants were made in aid of the erection of churches in eight of the district parishes recently constituted and endowed by the ecclesiastical commissioners; and several sums of money were voted for enlarging or extending by other means the accommodation now provided in existing churches. The aggregate of these grants amounts to the sum of 3,435*l.*, and they will secure additional church-room for 6,308 persons, including nearly 5,000 free seats, in parishes where the amount of population is 261,000 souls, with church accommodation for less than one-eighth of that amount, and where the free seats are only in the proportion of one seat for 23 persons.

The eight newly-formed district parishes are Two-mile-hill, in the parish of St. George, near Bristol; Lynesoch, a township in the parish of Hamsterley, Durham; Heeley, a district in the parish of Sheffield; the new district of St. Thomas, in the parish of St. John the Baptist, Coventry; Morton Banks, near Bradford, Yorkshire; Lane Bridge, in the parish of Wholly; Upper Thong, near Huddersfield; and the new district parish of St. Paul, Bermondsey.

The churches in aid of the enlargement or alteration of which grants were made, are the parish churches of Chalgrove, near Leighton Buzzard; Llandewin-a-Cwm, near Builth; Beighton, near Ack; St. Mary, Nottingham; Burgh Castle, near Great Yarmouth; Llanegryn, near Dolgelly; and the old church of Iver, near Uxbridge.

PRIEST'S DOOR, LADYE CHAPEL, WELLS CATHEDRAL.



(*Plan.*)

PRIESTS' DOOR, LADYE CHAPEL, WELLS CATHEDRAL.

The accompanying engraving, from a drawing by Mr. Dollman, is a representation of the very elegant priests' door in the Ladye Chapel, at Wells Cathedral. We have in preparation engravings of several details from the same interesting structure, now in course of restoration, and reserve our remarks until they come before our readers.

ROYAL INSTITUTE OF ARCHITECTS.

CONSTRUCTION OF COLUMNS—LUNATIC ASYLUMS—INIGO JONES.

The closing meeting was held on the 22nd inst., Mr. Tite, vice-president, in the chair. Mr. Donaldson offered some remarks on the construction of large columns by the ancients and moderns. On the occasion of the presentation by Mr. Hamilton of a circular wooden dowel, taken from the frusta of one of the columns of the Parthenon, observations were made which had led him to look into the subject, and he laid before the meeting diagrams

of the mode pursued in forming the columns of the temple of Jupiter Olympius, at Agrigentum, the basilica at Pompeii, the London terminus of the Birmingham railway, and the Nelson column in Trafalgar-square. The columns of the first named are 13 feet 2 inches in diameter; they are attached, and project from the face of the wall 1 foot 7 inches more than the semi-diameter. The stones of every alternate course bond into the wall; the whole is solid, and the greatest care was taken to break the line of the upright joints. The columns of the Birmingham terminus are 8 feet 5 inches in diameter. Each course, 6 feet 2 inches in height, consists of four blocks of Bramley Fall stone, which form the outside face around a rough core, with a bollow in the centre. The four blocks are bound together by an iron tie, in the shape of a St. George's cross; and each stone has two dowels in it to keep the superincumbent course in its place. The Nelson column is constructed of Dartmoor granite. Each frustum consists of seven blocks, and each block has slate dowels in it. The whole column is solid throughout; whether judiciously so or not he thought a question.

A question being raised as to the wood of which the dowels in the Parthenon columns were formed, Mr. Penrose said they were of the olive, and that all he saw were square.

Mr. C. H. Smith remarked on the great smoothness of the horizontal joints in these columns, and suggested that the dowel might have been used as a centre, by which to grind one stone upon the other, so as to make them fit closely.

The Chairman said, that on the continent they had not the advantage of such large stones as could be had in England; all would remember the way in which the columns of the *Madeleine*, in Paris, for example, are built up with small stones, which produce, when seen closely, a mean appearance. The columns of the great church of St. Petersburgh were an example of a directly opposite course, being, if he remembered rightly, 45 feet high, and of one block. As to the Nelson column, he certainly would not have made it solid. Money being wanted, too, in this particular instance, it was a great pity to waste the costly granite by burying it in the centre, as was done there; he could not understand why this course had been pursued, and thought it exceedingly injudicious. He was bound to say that the architect was not responsible for it, the blame rested elsewhere.

Mr. Charles Fowler read a paper on the arrangement of lunatic asylums, with especial reference to the Devon county lunatic asylum, recently completed at a cost, in round numbers, of 60,000*l.* As this communication contained much important information, we shall probably place it before the public *in extenso*.

The Report of the Council on the drawings for a water-gate, submitted in competition by students, was read; the letter which accompanied the selected design being opened, the author was found to be Mr. George Judge, jun., to whom accordingly the chairman, with some remarks on the necessity of attending to construction when designing, presented Inigo Jones's Designs, as published by Kent. Wilkins's Vitruvius was presented to Mr. Nicoll, for the best set of illustrated notes of the papers read during the sessions.

Relative to Inigo Jones's works, Mr. Donaldson reminded the meeting, that the preceding day was the anniversary of his death, and remarked, that he had recently met with a tombstone inscribed to an individual "by his friend, Inigo Jones."

Mr. Godwin said, that the mention of a tomb raised by Inigo Jones to another, forced him to remark on what he had always considered a matter of reproach, namely, the want of a fitting and permanent memorial of Jones himself. He was buried, as many would remember, in the church of St. Benet, Paul's Wharf, but there was not even a tablet to record the fact, and he thought it was incumbent on the architects of England, if not on others, to supply the deficiency.

The suggestion appeared to be well received by all present, and will probably not be lost sight of. We will gladly do all in our power to assist in carrying it out.

The chairman afterwards ably reviewed the proceedings of the session, commented on some of the principal papers read, and adjourned the meeting 'till November next.

THE ROYAL MEDAL IN AID OF ARCHITECTURE.

Several correspondents having asked for information on the subject of the royal medal offered by the council of the Institute of Architects, we think it desirable to give the following particulars furnished by the council:—

Her Majesty the Queen, having been graciously pleased to grant to the institute an annual medal for the promotion of architecture, it has been resolved, that it shall be applied to the encouragement of the junior members of the profession by a competition in designs, composed in a style calculated to promote the study of Grecian, Roman, and Italian architecture, and further that the designs shall be judged of, not only with reference to their merits as works of art, but likewise as to the knowledge of construction they may exhibit.

In order to secure, as far as possible, uniformity in the conditions under which the designs are submitted in competition for the royal medal, it has been determined that the age of the competitor shall be *limited to twenty-five years*,* and that with this limitation the competition shall be open to the profession in general.

The successful competitor will be further intitled to draw upon the treasurer of the institute for the sum of 50*l.* after his arrival in Rome in the pursuit of his professional studies, at any period within five years from the time of the medal having been awarded to him, upon sending to the institute a satisfactory study of some existing building, either ancient or modern.

The royal gold medal for the year 1846, will be awarded to the best design for a building suitable to the purposes of the Royal Institute of British Architects; comprising a room for general meetings and lectures, with seats for 350 persons, arranged with a view to the reading of papers, the exhibition of drawings and diagrams explanatory thereof, and for facility of discussion; a council room, for twenty-five members; a library for 10,000 volumes, with suitable depositories for drawings, prints, medals, &c.; a gallery for models, casts, fragments, &c.; an exhibition room for architectural subjects, and suitable residences for a secretary and a curator. The cost of the building not to exceed 20,000*l.* The design to comprise not less than one plan of each story,—two elevations, two sections, and a perspective view.

The scale of the drawings to be one-eighth of an inch to the foot, and to be tinted with Indian ink or Sepia only. To be sent in by December 31st, 1846.

NOTES IN THE PROVINCES.

The baths at Birmingham are still progressing towards realization. The sites have been purchased, and regulations for the management resolved upon.——The Hull baths are now opened for the use of the working classes on the Sunday mornings. The state of the drainage of Hull still occupies the attention of the inhabitants; indictments are threatened against the Paving Commissioners if they fail to remove the nuisance of open drains and cesspools, still infecting various parts of the town. On the 19th instant the first stone of St. Paul's Church was about to be laid.——The inhabitants of Peterborough have been induced by the exorbitant charge made on them for gas to take steps for procuring it at a more reasonable rate.——The proposed improvements at Doncaster will cost, it is thought, about 17,000*l.*, but, strange to say, there seems to be ground for fear that the plans are to be "developed," not by any architect, whether of taste, talent, and experience, or otherwise, far less by any sort of competition, but by "the corporation steward!" a circumstance which, as a correspondent of the *Doncaster Gazette* naturally observes, "is rather startling." It is to be hoped, however, that the inhabitants will take care how so large a sum of money is to be expended, and how *improvements* so extensive are to be carried out. A letter on this subject will be found on another page.——A plan is under consideration for supplying the town of Liverpool with water from the famous spring at Holywell. The quantity of water which it discharges into St. Winifred's well is 30,240 tons in twenty-four hours, or 7,620,480 gallons. This would supply nearly twenty gallons a head for a population of 400,000. The water, from the height at which the spring is situated, might be made to flow into the highest house in Everton without any forcing. It would be carried in pipes under the Mersey and the Dee.——The first stone of a new church at Westleigh, between the Bolton and Leigh Railway, was to be laid on the 22nd inst. It is to be in the decorated style, and dedicated to St. Paul; cost, 2,300*l.* and upwards.——The parish church of the Holy Trinity, Ashton le Willows, was reopened on the 14th inst., with extensive restorations and repairs, under the superintendence of Mr. John Hay, the architect. The chancel has been entirely renewed, with sedilia and reredos in white stone, and other ornaments; and a stone pulpit has been erected in the nave. The eastern window has been supplied with stained glass, and a new organ provided.——An instructive corollary on our quotation from the *Times* in last impression, respecting the wooden erections surrounding Westminster Hall, has occurred at Bristol, where the extensive military barracks, now approaching towards completion, ran an imminent risk of immediate destruction by the conflagration of a collection of wooden buildings which surrounded them.——On Thursday, last week, the foundation-stone of the church about to be erected for the new district of St. Simon, at Bristol, was laid by the mayor. Messrs. Hicks and Gabriel are the architects, and Mr. William Robertson the builder. Some alterations are to be made in St. James's Church, Bristol, which is said much to require them.——The chancel of the parish church of Frome is in process of restoration.——The new church at Cholderton, Wilts, is nearly completed.——A subscription of 3,000*l.* is being raised for the restoration of the church of Oundle, Northamptonshire.——The old church of Motcombe, Gillingham, Dorset, is about to be taken down and rebuilt.——A new window of stained glass, representing Faith, Hope, and Charity, has been erected in Malvern Church: Sir Alexander Hood has contributed 50*l.* to the Wells Cathedral Fund, and 5*l.* for opening the new church at Bridgewater.——The Queen Dowager has contributed 20*l.* on behalf of the Church of St. Stephen the Martyr, about to be erected in Portland-town.——A commission of the Board of Ordnance is shortly to determine at Portsmouth where the new laboratory is to be built. The present one, adjoining the new steam basin in the dock-yard, is to be given up to the Admiralty.——A people's college, on the plan of the institution at Sheffield, in which 1,000 pupils are now instructed, has been commenced at Nottingham. It will cost about 2,000*l.*——In Scotland, nearly 100,000*l.* have been subscribed for Mr. Guthrie's "manse scheme" for the Free Church, besides large sums for the establishment of schools.——Among the public works in Ireland about to be commenced, in order to provide labour to the poor, preparations, it appears, are making for the erection of the new college in Galway, on the site selected and approved by the Board of Works. The style is to be that of Henry the Eighth's time, well adapted to the accidental resources of the locality, which is said to abound in limestone.

ART IN ITALY.

The most important late art acquisitions are the Gregorian Museum, and that of the Lateran at Rome. The private collections, however, of ministers of State, St. Angelo at Naples, and Cavaliere Campana at Rome, are also of paramount importance for the study of art. That works of sculpture and pictures are exhibited in the *same* rooms at Florence is much to be regretted, as they require different light for being properly viewed. The beautiful wall-pictures of Herculaneum and Pompeii are yet piled up, as in a store, one above the other, at Naples, while it would be desirable that a selection was made, and the master-pieces exhibited like other pictures. *Restoration* is still one of the most mischievous enemies of art; and at Florence, especially, some splendid works have been impaired thereby. In the Brera at Milan, in the Vatican, and most other collections, you have to *stand* the inspection of a whole gallery; in which respect, also, the Grand Duke of Tuscany makes an honourable exception. The Gallery Pitti is furnished nearly like a private

* We dissent from the decision of the council in this respect, and think it much to be rerretted.

drawing-room; and there, as well as in that of the *Uffizii*, you may study and copy as you like. In the Imperial Academy at Venice, in the Brera at Milan, and most other museums, the attendants keep the doors closed, and a remuneration (in the palace of Sciarra at Rome *fixed* at three paoli) is demanded, or expected by them. The Vatican is not open but once a week for a few hours; and as there are so many holidays (even one being kept if the Pope drives to Tivoli), a stranger may remain a month in Rome without seeing the Vatican. In the Museo Gregoriano, you must not write or sketch a single line, which is also the case in the Gallery Borgia. Who wants to make sketches in the Villa d'Este, at Tivoli, must have *one* permit; but if he require to bring a box of colours with him, *another* will be needed. Thus enjoyment is thwarted now, and study impeded; even the very existence made annoying; and the present Rome may ever repent, that it has even changed the hospitable habits of a few years back, which facilitated so much the endeavours of the art-student.

The famous column which had been erected to Antoninus Pius by his sons, had been broken by a former transport from the Gardens of the Mission to the spot where Clement XI. wished to place it. Made of one single block of red Egyptian granite, it measured sixty feet by a diameter of seven. Its marble pedestal, however, yet preserved, is one of the most instructive ancient art-remains, on account of its inscriptions and sculptures, representing the apotheosis of Emperor Antoninus and his wife Faustina, and most important representations of circus and sepulchral festivities and games. Pius VI. had it removed to the gardens of the Vatican, where it was little observed. Neglected, therefore, for nearly half a century, it has been lately placed in the gardens della Pigna, close to the colossal bronze Pinia fruit from the mausoleum of Emperor Adrian. Previous to its being placed there, Cavaliere Fabris had by the late pope been ordered to completely restore it in the antique style. J. L——v.

THE LATE MR. B. R. HAYDON,

HISTORICAL PAINTER.

On Monday last this unfortunate gentleman committed suicide in a state of unsound mind, partly produced by the pressure of pecuniary difficulties. He first shot himself, then inflicted a dreadful wound in his throat, and was found literally steeped in blood, in front of a colossal picture, "Alfred the Great and the first British Jury," on which it appears he was engaged to the last moment. His story is a melancholy one, full of instruction, and at a more fitting moment we may venture to grapple with it.

The following extracts from a diary, always kept by the deceased, were read at the inquest, held on Wednesday morning, and must impress all who read them with sorrowful feelings:—

The first entry selected ran as follows:—

"March 27.—I had my little misgivings to-day, on my way to the Egyptian-hall. The horse attached to the cab in which I rode fell. Would any man believe this annoyed me? Yet the same accident occurred before the cartoon contest."

"March 31.—April fool day to-morrow. In putting my letters of invitation to a private view into the post, I let 300 of them fall to the ground. Now for the truth of omens."

"April 4.—The first day of my exhibition being opened. It rained all day, and no one came,—Jerrold, Bowring, Fox Maule, and Hobhouse excepted. How different would it have been 26 years ago: the rain would not have kept them away then.

Receipts, 1st day,
'Christ entering Jerusalem,' 1820.
£19. 16s.

Receipts, 1st day,
'Banishment of Aristides.'
£1. 1s. 6d.

In God I trust.—Amen.

"April 13.—Receipts, 1*l.* 3s. 6d. An advertisement of a finer description could not have been written to catch the public, but not a shilling more was added to the receipts. They rush by thousands to see Tom Thumb. They push—they fight—they scream—they faint—they cry 'Help,' and 'Murder!' They see my bills and caravans, but do not read them; their eyes are on them, but their sense is gone. It is an insanity—a *rabies furor*—a dream—of which I would not have believed Englishmen could be guilty. My situation is now one of extreme peril, more so than when I began 'Solomon,' 33 years ago. Involved in debt—mortified by the little sympathy which the public displayed towards my best pictures—with several private engagements yet to fulfil, I awoke, as usual, at four o'clock this morning. My mind was immediately filled with the next picture of my series. I felt immediately, 'Is it the whispering of an evil or good spirit?' but believing it to be for good, I called on my Creator, who has led me through the wilderness during 40 years, not to desert me at the eleventh hour."

"May 4.—I have just received a lawyer's letter, the first for a long time. I have called on the writer, who is an amiable man, and has promised to give me time. I came home under mingled feelings of sorrow, delight, anxiety, and anticipation, and sat down to my palette under an irritable influence. My brain became confused, as I foresaw ruin, misery, and a prison before me. I went on with my picture, and rejoiced inwardly at its effects, but my brain harassed and confused, fell into a deep slumber, from which I did not awake for an hour; I awoke cold—the fire out—and went again to my picture."

The coroner observed, in reference to this entry, which was made in May, that no doubt deceased, in making the remark "the fire out" intended to convey that his animal spirits and mental energies were gone.

"May 14.—This day 42 years I left my native Plymouth for London. I have closed my exhibition with a loss of 111*l.* No one can accuse me of shewing less talent or energy than twenty years ago."

Throughout the diary were found frequent complaints of the loss of time the deceased suffered from continual interruptions owing to his embarrassments. Appended to one of these complaints was the following remark:—"I am more and more convinced by experience, that the loss of a day to an artist is a great injury to any work on which he may be engaged."

"May 21.—Worked hard at my picture, and advanced immensely. Felt uneasy because I could not give my dear son money to go and see his college friends.

June 3.—Called on my dear friend Kemp, who advanced me some cash to get over my difficulties. By the time my pictures are finished they will be all mortgaged; but never mind, so that I get them done.

June 13.—Picture much advanced; but my necessities are dreadful, owing to the failure of my exhibition at the Hall. In God I trust. It is hard—this struggle of 42 years' duration; but Thy will and not mine be done.

June 14.—O God! let it not be presumption in me to call for Thy blessing on my six works. Let no difficulty on earth stay their progress. Grant this week Thy divine aid. From sources invisible raise me up friends to save me from the embarrassments which want of money must bring upon me, and grant that this day week I may be able to thank Thee for my extrication.

June 15.—Passed in great anxiety, after harassing about for several hours in the heat of the sun.

June 16.—Sat from 2 to 5 o'clock staring at my picture like an idiot; my brain pressed down by anxiety and the anxious looks of my family, whom I have been compelled to inform of my condition. We have raised money on all our silver to keep us from want in case of accident. I have written to Sir Robert Peel, to ——, and to ——, stating that I have a heavy sum to pay. I have offered 'The Duke's Study' to ——. Who answered first? Tormented by Disraeli; harassed by public business; up came the following letter:—

'Whitehall, June 16.

Sir,—I am sorry to hear of your continued embarrassments. From a limited fund which I have at my disposal, I send, as a contribution for your relief from these embarrassments, the sum of 50*l.*

I remain, Sir, your obedient servant,
Robert Peel.

Be so good as to sign and return the accompanying receipt.'

That's Peel. Will ——, ——, or —— answer?

June 17.—My dearest wife wishes me to stop the whole thing and close payment, but I will not! I will finish my six pictures, by the blessing of God!

June 18.—This morning, fearing I should be involved, I returned to a young bookseller some books for which I had not paid him. No reply from —— or ——! And this Peel is the man who has no heart!

June 21.—Slept horribly, prayed in sorrow, and got up in agitation."

The next was the last entry made, evidently, immediately before the world closed upon the unhappy man; it ran thus:—

"June 22.—God forgive me. Amen.
Finis. B. R. Haydon.
'Stretch me no longer on this rough world.'—*Lear.*
The end of the 26th volume."

PROPOSED TOWN-HALL IN DONCASTER.

Sir,—I am surprised when I hear of an intelligent individual who is ignorant of the duties and province of the architect;—but how much more so when I hear of the ignorance of a respectable town at large. You will see, from the inclosed copy of a letter from the Doncaster paper of June 19th, that although there is a highly respectable architect in Doncaster, who has given sufficient proof of his ability in the manner in which he has conducted numerous buildings of no pseudo character in the neighbourhood, yet, in despite of there being such a gentleman, it appears that a Mr. Butterfield, the corporation steward, is going to prepare drawings, and most probably superintend the construction, of the proposed new town-hall, &c. Bad as competition is, Sir, it is not so bad as this. Low as *it* generally estimates the merit and character of the architect, still respectable buildings have been got by it,—buildings in good character; but what can be expected in this case? Perhaps a copy of some mausoleum.—I am, Sir, &c.,

J. A. Blenkarn.

Ollerton, Notts, June 22nd, 1846.

TO THE EDITOR OF THE DONCASTER GAZETTE.

"Sir,—Fully sensible of the necessity that exists for a new town-hall, and far better accommodation being afforded to the attendants of our markets, I will, with your permission, thus publicly join in the high encomiums paid by many of the inhabitants of this town upon the diligent attention paid to these subjects by the corporation, and, at the same time, make a few remarks that I hope will not be considered irrelevant. It is stated that the proposed alterations will cost about 17,000*l.*, a large sum of money, the expenditure of which no one will regret if it is but judiciously applied. There is one point, however, which is rather startling, and that is, that Mr. Butterfield, the corporation steward, is not only entrusted with the selection of the sites, but is also required to give plans and elevations for the several buildings. I do not wish to disparage the talents of Mr. Butterfield (who, in the erection of the covered cow-markets, sufficiently proved his ability), but I cannot resist the impression that in the *present case* an architect ought to be consulted in the development of the plans. It is the opinion of many parties in the town, that the plans, &c., should be open to competition, but to this there is one great drawback, viz., the appointment of *judges* of the designs sent in. Several members of the corporate body may certainly have tolerable ideas of what is required in the internal arrangements of the buildings; but how many of them (excepting our chief magistrate and perhaps one other) knows a Doric column from a Corinthian, or an Elizabethan moulding from a Grecian cornice? In such a dilemma what can be done? Why, let the corporation agree, if they can, to select an architect to assist Mr. Butterfield in giving both good accommodation and an elegant and chaste design; for almost every day's experience shews, that for the same money an ornament might have been erected where exists nothing but an eye-sore. Build what we may, *architects* will always be able to find fault; but let us at least have edifices at which every amateur will not turn up his nose in contempt. Trusting these few remarks will be received in the same good spirit in which they are written, I beg to subscribe myself your obedient servant A Townsman.

Doncaster, June 17, 1846.

Public Baths and Washhouses Bill.—In the Commons Sir G. Grey has brought in a Bill for promoting the voluntary establishment, in boroughs and parishes, in England and Wales, of public baths and washhouses. Its object is to enable parishes to obtain the first cost of the building out of the poor rate, to be paid off in a certain number of years.

ORNAMENTAL WOODS FOR BUILDING PURPOSES.

SIR,—In consequence of the repeal of the duties on every description of wood used in cabinet making, some of a very valuable quality to the builder are now, from the reduction in price, placed within his reach, and will, I have no doubt, when they are better known, entirely supersede others of inferior quality, hitherto in use. For example, that most beautiful of all woods, *mahogany*, is now lower in price than *wainscot*.

If it will suit the design of your publication, I shall be happy to send you a few lines occasionally on the subject of the woods best adapted for the purposes of building, but which, from the previous high price, have been excluded.

To begin with *pencil cedar:* this wood is the growth of America, and comes over in logs of ten to twenty feet long, and eight to twenty inches square. As its name denotes, it has been principally used in this country for making pencils, but it is an extremely useful wood for many purposes. Owing to its strong scent, it has the property of keeping off all kinds of insects and vermin, and is, therefore, well adapted for skirting boards to bed-rooms, the linings of cupboards, seats of water-closets, floors of barns and warehouses used for storing grain. All shops where fur, blankets, or woollen goods are kept should be entirely fitted up with it, especially tailors' shops. For outdoor purposes it is also very useful; nearly all the railway sleepers in America are made of this wood, as it never rots, and it hardens by exposure to wet. It is now being introduced into some of the railways in the north of England for the same purpose; it is also extensively used in America for ship building, having the property, when used with other wood, of preventing its rotting.

There is no limit to the quantity that can be obtained of this wood if required. Its present selling price averages about 5d. the superficial foot.—I am, Sir, &c., J. E.

Railway-place.

CONSTRUCTION OF SEWERS.

DONALDSON AND OTHERS *v.* BIRD AND ANOTHER.

The Attorney-general, Mr. Butt, and Mr. Peacock appeared for the plaintiffs; and the Solicitor-general and Mr. Bovill for the defendants. In the Queen's Bench, before Mr. Justice Williams.

This was an action brought by the Commissioners of Sewers for Westminster and Middlesex, against the defendant, under his guarantee for the due performance of a contract entered into by his son. It was stated that in 1839, in answer to an advertisement, Mr. Bird was accepted as the builder of "the Ranelagh main sewer, Gloucester-road, Paddington," and a section of the arch required was given to him by Mr. Dowley, the surveyor. Upon Mr. Bird signing the contract, the defendant became the surety for its due fulfilment. The work was finished in February, 1840, and in 1844 it was discovered that the arch had opened in many places, and that the side walls bulged considerably. Mr. Bird was required to reconstruct the work at his own expense, but refused to do so; he afterwards offered to do it at cost price, subject to a reference as to his liability. This offer was declined, and on a report being made by Mr. Tite and Mr. Rennie that the works were defective, this action was commenced.

The Solicitor-general, for the defence, said that whatever defect had occurred had been occasioned wholly and solely by the gross mismanagement of the commissioners or their officers, who, having expended a large amount of public money, were ashamed of what they had done, and now sought to shift the blame on to the shoulders of Mr. Bird, the contractor. They had chosen to have this sewer built with a segmental arch, which was well known to be the very worst kind of arch known; it was to be done with the utmost expedition, between September and February. The rain poured so that all operations were more than once necessarily suspended for days together, and the earth was new and loose. After the sewer was finished, vaults were dug on each side to within a few feet of the side walls, and the earth all thrown on to the crown of the arch before the work was in any degree settled. Private drains were also made, cutting through the side walls, and so tending to weaken them. The whole of the work was executed under the inspection of surveyors, who certified the bills, and to the satisfaction of the commissioners, for they went and examined it when finished, having it illuminated for the purpose. Since the completion of this work no other had been built with a similar arch, and yet six years afterwards the commissioners asked Mr. Bird to pay the great and unnecessary expense incurred by them in repairing this sewer so injured, namely a special clerk of the works, in addition to the surveyors and the first architect in England to superintend. He confidently submitted that the contract had been properly carried out and that the defendant was entitled to the verdict.

The jury retired for some time, and then returned into court, but were not agreed in their verdict, and wanted to know if they could say that the work was done to the satisfaction of the commissioners then acting.

They were told that the learned Judge had left, and that they must find the issue for the plaintiffs or the defendant.

A long discussion then took place between the jury, and they retired again.

The jury, at last, came in, and said, "We find a verdict for the plaintiffs, but we are unanimously of opinion that the work was done to the satisfaction of the commissioners then acting."

Damages, 231*l.* 10s. 4d.

DONALDSON *v.* SMITH.

Tried before Lord Denman.

This was a case similar to the above, and the evidence produced was nearly the same.

The jury retired for three hours, and then found a verdict for the *Defendant*, or directly the reverse of that given the day before.

FLOATING CHURCH.

BETWEEN twelve and one o'clock on Wednesday, the floating Free church, built by Messrs. John Reid & Co., in their yard at the Glen, Port-Glasgow, was launched into the river. The vessel is built of iron, perfectly flat underneath, the one end formed after the fashion of a bow, and the other, or stern part, quite square. The extreme length is 78 feet, breadth 23, and depth of iron 4½ feet. From the one extremity of the vessel to the 'wooden wall,' or back end of the church, there is a space allowed to the extent of 6 feet, and from the other end to the front of the house 4½ feet. The middle-door entrance leads down to the area of the church, which has a fine, roomy, and most comfortable appearance. Far in the centre, at the other end, are the pulpit and precentor's desk, both neat and plain, corresponding with the rest of the interior. The height from the floor, which is level with the base of the boat, to the top of the church is 17 feet; and in the middle of the roof there are three cupola windows which light the whole house, and these have their centre-pieces moveable, to act as ventilators. On each side of the middle door is the entrance to the galleries, which are supported by eight chaste strong-looking pillars, and an equal number sustain the roof of the building. There are as yet no seats formed in either area or galleries, and it is doubtful if any will be placed till the church arrives at its destination. The joiners were busy bringing their work to completion, the painters having to come after. The pulpit is to be covered with velvet, and the whole is expected to be finished within eight or ten days. We should add, that immediately behind the pulpit there is space reserved sufficient to form a vestry; it is twenty feet by eight, and it is laid off to answer that purpose. The destination of this floating church is not, we understand, yet definitely fixed; and though it be a pity that such a structure should be required, it promises to serve well its object and design. It is intended to accommodate about 700 persons.—*Edinburgh Register.*

LARGE PLATE OF GLASS.—A glazier at Rotherham has a sheet of rough cast plate-glass 8 feet 9 inches long, by 7 feet 3 inches wide, intended for the roof of a greenhouse.

Correspondence.

PAROCHIAL CEMETERIES.

SIR,—I will crave your insertion, this week, of a brief calculation, omitted in my first communication, which may interest, as inviting correction or amendment. I have purposely stated each item very high, except the second, which is the most optional.

Purchase of thirty acres, near London, or any large place, at 200*l.*	£6,000
Erecting chapels, with spacious vaults	6,000
Walling, and internal fences	5,000
Laying out and ornamenting ground..	1,000
	£18,000

Neither the writer, nor perhaps any one living, can predict how long this would procure decent sepulture, without premature disturbance—*i.e.* much under twenty years. But supposing it were *three centuries*, surely, omitting nobler feelings, it would be "cheap," and "money well laid out."

As to every, or any, plan,—"*detur digniori*;" and a suggestion will be *good* if it cause a *better*.

I am happy to be able now to add, under his own hand, to those who approved the article in page 261, *Mr. Mackinnon, M.P.*, proposer of more than one measure of improvement on these subjects in Parliament.

I am, Sir, &c., J. D. PARRY.

London, June, 1846.

COLLEGE OF CHEMISTRY.

SIR,—Permit me to correct a trifling error in a late number of your journal, about the foundation-stone of the "Royal College of Chemistry." There were no *coins* deposited, when his Royal Highness honoured the members of the Institution by his presence to lay the foundation-stone; and let me add, that the Earl of Clarendon did not so much refer to the inferiority of English chemists, as to the want of an institution in England where analytical chemistry might be publicly taught, without the necessity of seeking one abroad. The noble Earl's opening address at the Conversazione held not long since, did ample justice to our great English chemists; and it is to be hoped, that the public will liberally patronize an establishment, productive of such valuable and enduring benefits as a scientific knowledge of chemistry is capable of bestowing on the different classes of the community.

I am, Sir, &c., VERAX.

*** We observed a jar in the hands of the Prince, and concluded it contained coins. As to the speech of Lord Clarendon, we will not pretend to say what his lordship *intended* to state, but are satisfied that the impression conveyed by what he did say, was precisely that which we expressed and objected to.

Miscellanea.

ARTESIAN WELLS.—The Artesian well commenced on the Southampton Common in 1838, with the intention of obtaining from it a bountiful supply of water for the town, and which has been carried to the depth of upwards of 1,300 feet, at an expense to the town of 12,886*l.*, and to the contractors of 11,163*l.* above that sum, was yesterday transferred to the Commissioners of Waterworks in its unfinished state, the contractors having refused to go on with the work, unless guaranteed their expenses and fair profits by the commissioners. The work was commenced in 1838. The first 78 feet of soil was found to be alluvium, the succeeding 304 feet London clay, the following 97 feet plastic clay, and the succeeding chalk, in which the boring has been carried down the great depth of about 821 feet, being a total of near 1,300 feet, and giving no indication by which a judgment can be found as to the depth to which the chalk may yet extend; and experience has shewn that the chalk will not yield the water required, and that the great stream sought for must be obtained from under the chalk basin. The well, in its present state, will yield by pumping from 7,500 to 10,000 cubic feet of water per day, but that is but a fourth of the quantity it is calculated will be required for the rapidly increasing demands of the town.—*Hants Advertiser.*

SMOKE PROHIBITION.—The Smoke Prohibition Bill of the present session was printed on Thursday week, bearing the names of Mr. Mackinnon, Lord Francis Egerton, and Mr. W. Beckett. Its object, as declared by the title, is "to prohibit the nuisance of smoke from furnaces and manufactories;" and by the preamble it is laid down to be expedient to prevent the injury to the health and comfort of the people, which is occasioned by smoke issuing from certain furnaces and chimneys. There are seventeen provisions, and a schedule containing a form of conviction. The present bill is like all former ones. Justices are (according to its terms) to appoint inspectors of smoke nuisances from and after the 1st of January next, from which day opaque smoke is not to issue from any chimney of a furnace for any longer period of time than is *bona fide*, necessary for the kindling of the fire of such furnace. There are penalties for offences, and means provided for recovering the same. This bill does not seem to have been framed on the report made to the government by the two scientific individuals who have made a report on the subject, quoted by us some time since, and who pointed out therein the difficulties of effectually legislating thereon.

TENURE OF LAND.—A landlord who will neither grant leases nor protection covenants obstructs improvements in cultivation, and in so doing he takes away, or rather withholds, the only means now remaining to meet the difficulties of the times: he leaves the tenants utterly helpless to take their chance, while he comforts them perhaps with the expression of his great reliance on "the energy of the English character," which they feel to be a thoughtless if not an unfeeling mockery. For, where is the advantage of a man's possessing that energy in such a case, except only as it enables him to resolve at once *to quit his country for a foreign soil*, where he may apply those powers with which Providence has gifted him in a way to benefit himself and those who are dependent on him, although in so doing he will swell the multitude of those who shall be underselling his brethren in Old England.—*Hints to Landowners, by Burrgh Almack.*

BRICKMAKING. — It seems by a Parliamentary paper, printed on Wednesday, that in England and Wales in the year ended the 5th of January, 1839, the number of bricks made was 1,427,472,282, on which the duty paid was 419,103*l.* 13s. 2d., whilst in Scotland in the same year the number was 27,411,493, and the duty 8,112*l.* 2s. 3d. In the year ended on the 5th of January last, the number made in England and Wales was 1,820,415,017, and the duty paid 558,323*l.* 2s. 4d., and in Scotland 57,321,716, and the duty 17,775*l.* 2s. 7d.

REFUGES FOR DISCHARGED PRISONERS.—In common with some of our contemporaries, we have received a letter on this subject from Mr. Sheriff Laurie, to whose strenuous efforts in this respect we lately referred. From this it would appear, that nearly 50,000 persons are annually ejected from the prisons, friendless and shunned. The proposal to step in between them and a recurrence to evil courses, has received gratifying encouragement, and it seems likely that Government will aid the endeavour.

NOTICES OF CONTRACTS.

[We are compelled, by the interference of the Stamp Office, to omit the names of the parties to whom tenders, &c. are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent Garden.]

For a supply of bolt staves, squares, flats, short broads, plate and angle iron, nail rods, boiler plates, &c., for her Majesty's several dockyards.

For 500 tons of hard Guernsey granite, for the Union Workhouse at Isleworth.

For the erection of a town-hall at Luton.

For the erection of six dwelling-houses to adjoin the new town-hall at Luton.

For the erection of a new rectory, with stables and offices, at Houghton, Hants.

For sundry alterations of the parish church of Maddington.

For repewing the parish church of Maddington.

For paving certain streets in the parish of St. George-in-the-East.

For a supply of paint, &c. for the East-India Company.

For building a sewer in George-street, &c., Hampstead-road, for a length of 1,550 feet: Holborn and Finsbury Division.

For building a sewer in Ball's Pond-road, Islington, for a length of 650 feet: Holborn and Finsbury Division.

For building sewers in Temple-lane.

For building sewers in Pleydell-street, in the city of London.

For building sewers in Gilt-spur-street, and other places within the city of London.

For a supply of the best Eland Edge, Yorkshire, and other foot paving, for the Committee for Paving, Cleansing, and Lighting the parishes of St. Giles-in-the-Fields and St. George Bloomsbury.

For a supply of timber of various kinds, larch sleepers, railway keys, oak keys and pins, &c., for the Newcastle and Carlisle Railway Company.

For a supply of malleable iron, cast-iron wheels, nails, &c., for the Newcastle and Carlisle Railway Company.

For a supply of metal castings, brass castings, brass and copper, for the Newcastle and Carlisle Railway Company.

For a supply of tubes for engines, steel, tin, &c., for the Newcastle and Carlisle Railway Company.

For a supply of oils, turpentine, and other articles, for the Newcastle and Carlisle Railway Company (all promptly).

For the excavations and masonry of the Greenock East Harbour.

For the working of an extensive freestone quarry in the vicinity of the Greenock East Harbour.

For furnishing and putting up a gasometer, 24 by 10, at the Bathgate Gas Works.

For constructing sewers in various streets and lanes in the city of Glasgow (promptly).

For fitting up the water-works of Brampton with 400 or 500 yards of metal pipe, reservoirs, pumps, tanks, cocks, &c.

For the preparing and putting up of the wood work of a suspension-bridge over the river Lyne, at Rowcltown, in the parish of Stapleton.

For the execution of the Clevedon branch of the Bristol and Exeter Railway, with all the usual works of excavation, embankment, &c.

For the execution of the Tiverton branch of the Bristol and Exeter Railway, with all the usual works of excavation, embankment, &c.

For a supply of water-pipes for the North Shields Water-works.

For building and completing two new bridges over the river Thame and the mill-stream, in the parish of Cuddington (promptly).

For the erection of a farmhouse at Maesynnen, in the parish of Glasbury, county of Radnor.

For the excavation and construction of two gasholder tanks, for the Canterbury Commercial Gas Light and Coke Company.

For the sale of a piece of land, containing a bed of excellent clay.

For the erection of a pier at Portsmouth.

For the inclosing of the new portion of the churchyard of Swaffham.

For the surmounting of the new wall at Swaffham Churchyard with palisades of cast or wrought-iron.

For the construction of the ferry-boat landing, Staith, at Hull.

For driving culverts in red sand-stone rock at Birkenhead.

For the works to be done in the erection of a gentleman's house near Worcester.

For the erection of kennels for the Worcestershire foxhounds, at Worcester.

For the excavation of the new reservoir in Old Park, Belfast.

For conveying to the Breast embankment at Belfast, the clay and materials required for the formation of the water-works reservoir.

For the completion of the gallery of Mornington-chapel, Drogheda, Ireland.

For the erection of a new manse in the parish of Crieff, Scotland.

For the erection and putting into full operation of a gas-work in Kincardine, Scotland (promptly).

For the erection of a fever hospital at the Fermoy Union Workhouse, Ireland.

For works to be executed at the Church of Dunderrow, County of Cork, Ireland.

For works to be executed at the church of Mallow, County of Cork, Ireland.

For sinking a pump on the workhouse ground of the Skibbereen Poor Law Union, Ireland.

For the erection of a new bridge over the river Severn, at Felindre, near Llandiloes.

For the erection of the Weeg bridge, County of Montgomery.

For the execution of all the works necessary for the building of the high level bridge over the river Tyne, and on the Newcastle and Berwick Railway.

For the execution of the viaduct through Gateshead on the line of the Newcastle and Berwick Railway.

For the execution of the viaduct through Newcastle on the line of the Newcastle and Berwick Railway.

COMPETITION.

A premium of 1,000*l.* is offered to artists for the best oil-painting of the Baptism of our Lord in the Jordan.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At Halsted: a large quantity of oak, ash, and elm timber.

At Great Ilford, Essex: a large quantity of oak and ash plank and elm boards, &c.

At Finningley Wood: about 150 tons of oak timber, also a quantity of cord wood.

At Whiteparish, Wilts: several hundred oak, ash, and beech trees, ash poles, elm pollards, &c.

At Dinton Park, Wilts: a quantity of ash, oak, and alder poles, oak flittens, cord wood, &c.

At Bowling-street, and Little Peter-street, Westminster: the usual materials of nine houses.

At Camberwell: the building materials and fixtures of a large dwelling-house and premises.

At Surbiton, near the Kingston Station, Surrey: the remaining stock of a furnishing ironmonger.

At Sandon, C. Stafford: nearly 3,000 larch and Scots fir poles, &c.

At the British Gas Works, Shelton, Staffordshire Potteries: a large assortment of new gas fittings, burners, shades, tubes, meters, pipes, retorts, and general stock in trade.

At Harwich: a large quantity of paints, oils, &c.

At or near Alnwick: a collection of ash and other timber.

At Coppergate, York: about 500 tons of oak timber of large size.

TO CORRESPONDENTS.

"*N. Bruce.*" The Menai suspension-bridge was opened January 1826. Brighton chain-pier in November, 1823.

"*L. E. W.*" Thanks.

"*Constant Reader.*" FL is the diameter.

"*E. F. K.*" We much regret an apparent neglect.

"*W. B. G.*" There is no "Builders' Assurance Company." One was projected a short time since.

"*S. M. S.*" We cannot give him the information asked for.

"*X. O. N.*" (Oven.) Ditto.

"*T. S.*" Sir R. Inglis would be a proper person to apply to.

"*Joiner.*" We cannot answer his question positively; we advise him to appeal to the directors.

"*F. W.*" A.'s tender should be accepted.

"*Books.*" We have not time to answer questions as to price, &c., of books.

"*G. R.*" The expressions $1-x^2$ and $(1-x)^2$ are not the same. The first, or $1-x^2$, means the difference of the squares of 1^2 and x^2; but the second, or $(1-x)^2$, means the square of the difference of 1 and x: that is, $1-2x+x^2$: so that $1-x^2$ and $1-2x\times x^2$ are not the same. The first may be expressed $(1-x)\times(1+x)$, and the other, $(1-x)\times(1-x)$, expressions palpably different. The fractions, when reduced to a common denominator, stand thus:—

$$\frac{2^2x\,(1-x)^2}{(1-x^2)\,(1-x^2)^2} \text{ and } \frac{x^2\,(1-x^2)}{(1-x^2)\,(1-x^2)^2}$$

Received.—"A Subscriber," (Zero), "G. Waterfield," "M. A. G.," "W. D.," "F. E. H."

Books received.—"Illustrations of Skelton Church, Yorkshire. By Ewan Christian, architect." (Bell, Fleet-street). "Appendix A. to Tottie's Sepulchral Monuments." (Weale, Holborn).

ADVERTISEMENTS.

OHIO MELODISTS.—ROYAL ADELAIDE GALLERY.—Every evening at half-past Eight o'clock.—These inimitable artists continue to delight crowded houses by the drollery of their personation of negro life. The Concert conducted by Mr. A. Sedgwick. Vocalists—Miss Stuart and Mr. Binge. Also the juvenile dancers, Miss Palser and Master Waite. A large model of a new method, invented by Mr. Austin, for obviating the difficulties of the Break of Gauge on Railways. Nickel's Compressed Air Railway, Lecture on Chemistry, Microscope, Dissolving Views, and Chromatrope daily. On Tuesday, Thursday, and Saturday, at Three o'clock, Major Beniowski's Lecture on Artificial Memory, and on Tuesday and Friday, a Lecture on Phonography. Admission, 1s.

ROYAL POLYTECHNIC INSTITUTION.—A new and interesting Lecture by Dr. RYAN, on the Phenomena and Effects of Heat and Cold, at half-past three daily, and on the Evenings of Mondays, Wednesdays, and Fridays, at nine o'clock. Prof. Bachhoffner's Lectures on Natural Philosophy, with brilliant experiments, daily. Macintoshe's Revolving Engine, Coleman's Patent Locomotive Engine for ascending and descending inclined planes, Farrell's Archimedean Railway, the Atmospheric Railway, all in action. Portraits of distinguished Men in the Government and Army of Lahore, magnified by the Opaque Microscope. The Oxy-hydrogen Microscope, exhibiting a fine Collection of Living Objects. A beautiful Picture of the Chapel in the Convent of St. Catherine, near Jerusalem, by Mr. Charles Smith, is one of the series of Dissolving Views just introduced.—Admission, 1s.; Schools, Half-price.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 20s. per gallon.

STEPHENS'S LIQUID OAK, MAHOGANY, ROSE, and SATIN WOOD STAINS, for Staining various sorts of Inferior Woods, so as to give them the appearance and character of the more costly and ornamental kinds; also for reviving the natural colour of Wood Carvings and Panellings, and other ornamental Wood Work, when such has become faded from age or other causes.

IN THE BUILDING AND DECORATING NEW CHURCHES, where it is desirable to give to the cheaper kind of Woods the appearance of Antique Oak, or to make Deal assume the character of Oak Panelling, whereby the effect of the more costly may be produced by the use of a cheaper material, these Stains will be found more effective than any means hitherto employed.

IN OLD MANSIONS AND HALLS, where the Wood Carvings and Panellings have faded, the applications of these Stains will be found to revive and bring back the rich natural colour, and which colour may be varied from the lighter to the deeper shades of the most Antique Oak.

The BIRCH WOOD, which has a fine natural grain, with little colour, is particularly suited to the application of these Stains; and the appearance which it assumes after Staining is so near that of the natural wood, that is is only when the grain and colour of the latter is particularly fine that it is preferred. Beech, Birch, Elm, Ash, and other Woods, English and Foreign, receive the Stains and produce various imitations.

For the exposed Timbers of the inside of the ROOFS of CHURCHES, for which north country Timbers and Deals are generally used, by brushing them over with the Stain, which operation is very rapidly, and of course economically, effected, the appearance of an Oaken Roof will be produced. For colouring the backs of the Seats, Pews, the fronts of Galleries, the Pulpit, &c., it is equally advantageous.

Prepared by HENRY STEPHENS, and may be obtained at 51, Stamford-street; at the Office of "The Builder," 2, York-street, Covent-garden, and in Manchester, at CRAKE'S MARBLE WORKS, Garratt-bridge, Davidstreet, at which places specimens of their application may be seen.

CAEN STONE.

LUARD and BEEDHAM have a quantity of the above stone, of the best quality, direct from their Quarries at Allemange, which may be inspected at the Norway Sufferance Wharf, Greenwich.—Further particulars at Mrs. G. GATES', 18, SOUTHWARK-SQUARE, SOUTHWARK.

KENTISH RAG.

ANY Quantity of the above Stone, of the best quality, and of any description, at lowest terms, can be had on application to Mr. YATES, 41, Holywell-street, Millbank, Westminster.—N.B. The above stone, in its rough state, is admirably adapted for foundations, walls, areas, &c., and at one-third the price of brick.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

SAMUEL CUNDY begs to inform Architects, &c., that every description of Stone, Marble, and Granite work is executed at the cheapest possible rate.

Estimates given for Mason's Work in all its branches, Gothic Work, Tombs, Monuments, &c.

MARBLE WORK for Halls, Dairies, Tables, Columns, Vases, at most reasonable prices.

A large collection of Designs for Mural and other Monuments.

CHIMNEY PIECES from Twelve Shillings upwards.

Depôt for CAEN STONE, &c.

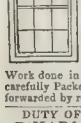
CLIFF AND HUSLER, STONE AND TILE MERCHANTS, Victoria Stone-wharf, Isle of Dogs.

JOHN TRICKETT, Agent, respectfully calls the attention of masons, stone-merchants, contractors, and builders, to his large stock of STONE and TILES on the above Wharf. Portland stone of large dimensions selected at the Quarries, and arrivals every week of Yorkshire stone in billy-buoys, which can discharge their cargoes above or below bridges, in lots from 30 tons at wholesale prices in the river. Special orders to dimensions for Landings, Bramley Fall, Harehills, and other stone, fulfilled in two or three weeks, shipped direct to any wharf, or to order for barges. Tooled and self-faced paving always alongside or in stock on the Wharf. A very fine stock (some of very large dimensions) of York Landings on hand. Pan, plain, and paving tiles, fire-bricks, and clay, at wholesale prices; vein marble in slab, and sawn Robin Hood, Greenmoor, and Harehill slab and head-stones; sawn Portland Landings, &c.

CHEAP PAN FOR WATER CLOSETS, With Trap, in one Piece.

DOULTON and WATTS, Lambeth Pottery, London, Manufacturers of the above in superior glazed STONE WARE, price 7s. 6d. each. They are of the most durable ware, and are recommended in preference to iron on account of their cleanliness and cheapness. If preferred, they can be had in two parts, the pan at 4s. 6d., and the Trap at 3s. 6d. N.B. Manufacturers of RAIN WATER PIPING for houses.

SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.



JOHNSON & PASK,
1, ANWELL STREET, Clerkenwell,

Beg to inform the Trade, and the Building Public in general, that they continue to manufacture Sashes and Frames, Shop Fronts, Doors, and all other kinds of joiner's work, on the lowest possible scale of prices. All kinds of Wainscott and Mahogany Work done in the very best manner; French Polished, and carefully Packed for the Country.— A full list of prices forwarded by return of post to any part of the country.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

TO BUILDERS, MARKET GARDENERS, AND OTHERS.—1½ INCH OVOLO SASHES

MADE and GLAZED with CROWN GLASS at 9½d. per foot superficial; ditto, with Frames and Pulleys to hang double, and Sunk Oak Sills, at 1s. 2d. per foot superficial; Lap Lights for hot-houses, conservatories, &c., made and glazed at 8½d. per foot superficial.—Address, W. PATTEN and Co. 20, Old Fish-street, Doctors' Commons, London; sole manufacturers of Anti-Corrosive and Mineral Paint.

WINDOW GLASS, LEAD, VARNISH, and COLOUR MANUFACTORY.—Crown Window Glass, in squares under two feet, 4½d. per foot; glazing, 5d. per foot; sheet glass, 4d. per foot; best white lead, 26s.; seconds, 24s.; thirds, 22s. per cwt.; linseed oil, 2s. 2d.; boiled oil, 2s. 5d.; turpentine, 3s. 9d.; fine oak varnish, 10s.; carriage, 12s.; copal, 14s.; body copal, 20s.; gold size, 10s.; paper varnish, 10s.; linseed oil putty, 7s. 6d. per cwt. per firkin; patent dryers, 42s.; black paint, 28s.; lead colour, 24s.; Oxford ochre, 42s. per cwt.; best pan water-closet, 34s. complete; ½-brass cocks, 2s. 8d. each. Milled sheet lead, patent pipe, beer-machines, tapping-cocks, and brushes and colour of every description. Thomas Mullington being the manufacturer, can supply a much better article than most other houses. Address, THOMAS MILLINGTON, 87, Bishopsgate-street Without, London.—Established upwards of 90 years.

SASHES primed, glazed, and sent to any part of London at 6d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.

FOREIGN SHEET 5d. per foot.
BRITISH CROWN 5d. per foot.

Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Show-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.

Dry and Good Colours of the best quality; Brushes Dryers, and every article used in the Trade Warranted.

VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.

For complete lists priced,—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

BRITISH and FOREIGN SHEET GLASS for Horticultural purposes, &c., may be had at JAMES BROMLEY'S, 315, Oxford-street, London, at the following reduced prices:—

In crates, containing about 260 feet, of course 13 oz., at 4½d. per foot, or fourth quality, 5d. per foot; ditto, 16 oz. coarse, 5½d.; ditto, fourth quality, 6d.; or cut to any size not exceeding 40 inches long by 10 inches wide at ½d. per foot extra. Also Microscopical Glass, French Shades, Plate and Crown Window Glass.—A discount to the trade.

TO THE PLATE GLASS TRADE.

THE BIRMINGHAM PLATE AND CROWN GLASS COMPANY, "Registered," beg to inform the Trade and Public, that the extension of their Works at Smethwick, near Birmingham, being now completed, their Warehouse, 141, Fleet-street, is now open for the Sale of their Crystal Plate Glass, which will be found to stand unrivalled by that of any other manufactory. They are also in a position to supply Rough Plate of any substance for Skylights or Floorings on the shortest notice.—Orders addressed to B. MOSS, 141, Fleet-street, will be promptly attended to.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

REDUCTION IN THE PRICE OF BUNNETT AND CORPE'S PATENT REVOLVING IRON SHUTTERS.

THE validity of this Patent being completely established, the Patentees have much pleasure in stating that the very extensive demand, and the employment of improved machinery in the manufacture, have given them an opportunity (of which they gratefully avail themselves) of making a considerable reduction in the price of this well-known and tried invention, thereby rendering them the cheapest as well as the best iron shutters in use. Every improvement suggested by practical skill and most extensive application has been adopted, and no effective REVOLVING IRON SHUTTER can be constructed without infringing B. and C.'s patent. The worm and wheel, as patented by them, being the only safe, durable, and efficient mode of raising and lowering such shutters, these shutters can be applied horizontally, either above or below the window, or vertically, as introduced by BUNNETT and CORPE, in some of the largest establishments: they are made with bent or corrugated laths, if required.

BUNNETT and CORPE also manufacture

REVOLVING WOOD SHUTTERS,

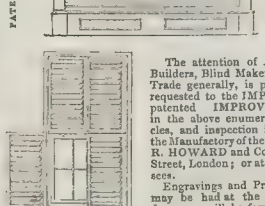
with their patent raising machinery, or with counterbalance weights, and with proper metallic hinges, without which no shutters can be safe or durable.

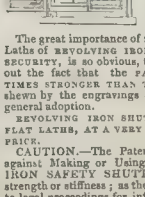
BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop Fronts fitted in a superior manner with Iron Shutters, Patent Brass or Zinc Sashes, Moulded Engraved Stall Board Plates, best Plate Glass, and inferior Brass Fittings of all kinds, on the most advantageous terms. Estimates given and contracts taken in Town or Country.—All kinds of metal works executed to any design. Metal Drawing, Rolling, and Stamping for the Trade. OFFICE, 26, LOMBARD-STREET, LONDON. WORKS, at DEPTFORD, KENT.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.

PATENT SAFETY IRON SLIDING SHUTTERS.





The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 115, Old Street, London; or at the Licensees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using FLAT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licences Granted.

NOTICE TO INVENTORS.

OFFICE for PATENTS of INVENTIONS and REGISTRATIONS of DESIGNS, 14, LINCOLN'S-INN-FIELDS.—The printed Instructions gratis, and every information upon the subject of PROTECTION for INVENTIONS, either by Letters Patent or the Designs Act, may be had by applying personally, or by letter (prepaid) to Mr. Alexander Prince, at the office, 14, Lincoln's-inn-fields. Where may be had, price 12s., or, through any bookseller in the United Kingdom, of Wm. BENNING and Co., law booksellers, 43, Fleet-street, the LAW of PATENTS and REGISTRATIONS, with all Forms and Cases up to the present time, by SIDNEY BILLING, Esq., barrister-at-law, and ALEXANDER PRINCE, of the Office for Patents, 14, Lincoln's-inn-fields.



WILSONS PATENT
VENTILATING
SPIRAL CHIMNEY POT,

For the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success.

This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance.

The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory,

Southwark-bridge Iron Roofing Works.

DAY'S PATENT WINDGUARD, for ventilating

Churches,	Shops,	Kitchens,
Hospitals,	Bed-rooms,	Offices,
Factories,	Smoking-rooms,	Ships,
Theatres,	School-rooms,	Mines,
Breweries,	Nurseries,	Vaults,
Malt-houses,	Stables,	Tunnels,
Club-houses,	Larders,	&c. &c.

Also for preventing down draft; and is guaranteed to cure all smoky chimneys caused by wind; and entirely supersedes the use of revolving cowls, or any thing moveable or unsightly on the tops of chimneys or ventilators.

The object of this invention is to create a draft where otherwise it would not exist, by the spontaneous action of the external air. The Windguard forms a pleasing octagonal pillar, and by its peculiar construction to carry out the principle on which it is based, which consists of the wind giving a disposition for a vacuum within, thereby causing a continual upward current about equal to the velocity of the wind at the time acting upon it, which averages about six feet per second thirty days out of thirty-one; therefore, will nearly at all times ensure a continual change of air, being no impediment to spontaneous ventilation, even on a perfectly calm day. One five feet square will ventilate a building containing upwards of 1,000 persons. The Windguard applied to ships and steam vessels, in the form of a sky-light, prevents rain or the sea entering within, however boisterous the weather may be, thereby affording excellent ventilation as well as light. The Windguard is simply applied for effectually ventilating bed-rooms, nurseries, smoking-rooms, offices, &c., causing the air of the apartment to be at all times as pleasant as can be desired. It is fixed at the top of the chimney, in action by which a cast-iron frame and valve (about one foot area), made to open or shut at pleasure, is let into the flue, near the ceiling of the room, to allow the constant ascending vitiated air being immediately carried off. The opening is guarded by a neat venetian blind or grating; and so powerful is the effect on a windy day that if a handkerchief be thrown up to the grating, it will remain there—i. e. if the valve be open. In winter the valve would be only partially open, to allow the smoke from the fire to ascend, but if the room be found too cold, can be entirely closed. The Windguard applied to the tops of chimneys prevents all annoyance from smoke (caused by wind); indeed, where it does not, nothing else applied at top will (of the same size); care, therefore should be taken to have the proper size applied. It is simple in its application, reasonable in price, ornamental in appearance; no machinery or anything moveable in it, therefore, cannot get out of order; free from noise or any unpleasantness whatever; not liable to choke up with soot; no obstacle to the machines used for sweeping chimneys. May be had of all respectable ironmongers in town and country; and may be seen daily in operation, where its powers and usefulness are exhibited by the severest tests, at THE PATENT VENTILATING WORKS, COMMERCIAL-ROAD, PIMLICO, LONDON; where also may be seen Mr. G. T. Day's plans (illustrating the different applications of his Patent Archimedian Ventilator and his Portable Water Apparatus) for effectually Ventilating, Warming, and Cooling the Air of Buildings, Ships, Mines, &c. &c. By the use of these inventions many thousand cubic feet, or any quantity of pure warm or cold air, can be guaranteed to be continually exchanged per minute, day and night, winter and summer; thereby insuring, at all times, free ventilation to the rooms and passages of buildings, &c. from the basement to the roof, at the same time in such a manner as shall not be inconveniently perceptible. The size of the apparatus depends on the nature and use of the building and its occupants. The Patentee has been honoured by his inventions being applied at the following places:—

Windsor Castle,	Trinity House,
Buckingham Palace,	Ordnance,
Saint James's Palace,	Greenwich Hospital,
Claremont Palace,	Christ's Hospital,
Walmer Castle	Westminster Hospital,
The Houses of Parliament,	Bethlehem Hospital,
New Conservative Club,	Surrey Lunatic Asylum,
White's Club,	New Royal Exchange,
Travellers' Club,	Mansion House,
Oxford and Cambridge,	Goldsmiths' Hall,
Parthenon,	Fishmongers' Hall,
Wyndham,	Haberdashers' Hall,
Army and Navy,	Dyers' Hall,
Senior United Service,	Grocers' Hall,
Junior United Service,	Armourers' Hall,
Admiralty,	Weigh-house Meeting-house
British Museum,	Hanover Square Rooms,
Somerset House,	Theatre of the Westminster Literary and Scientific Institution,
Custom House,	
Mint,	Grand Cigar Divan, Strand,
Hon. Artillery Company,	City Club,
H. M. S. Salamander,	

And many other Public Buildings in Town and Country, as well as to the Mansions of many Noblemen and Gentlemen. Licenses granted for Manufacturing the above.

Drawings and Plans made for Ventilating and Warming Buildings of every description.

The Builder.

No. CLXXVIII.

SATURDAY, JULY 4, 1846.

SOME letters received at different times from architectural students, on the eve of completing their term of apprenticeship, relative to the next step they should take, suggest to us two or three observations, which seem called for, and may apply in part to more than this one class of our readers.

In these letters two things are particularly remarkable, namely, exclusive attention to pointed architecture, and great *self-conceit*. Some of the writers propose to travel, and inquire if we do not consider (as they do) that it is waste of time to go to Greece and Rome, and that their proper course is to confine themselves to the study of mediæval art in France, Belgium, and Germany?

To this we strenuously say No; and urge all our young friends to whom the advantage is possible, to visit the classic lands, and study the wonderful works remaining there. We will sing with Thomson,

"O Greece! thou sapient nurse of finer arts!
Which to bright science blooming fancy bore,
Be this thy praise, that thou, and thou alone,
In these hast led the way, in these excelled,
Crown'd with the laurel of assenting Time."

Go to the farthest first; if not to Athens, at all events to Rome, and go at once. Belgium, France, and Germany, are so close at home, that you may at any time make an opportunity to visit them, and examine the beautiful examples of middle-age architecture which they possess; but if you neglect the more distant journey in the outset of your career, you will find, connection and consequent ties increasing, that every succeeding twelve months will make the task more difficult, and that ultimately it will be impossible.

We have the sincerest admiration for mediæval architecture; and seek earnestly to render known, within our sphere, the best examples of it. It is peculiarly well fitted for ecclesiastical purposes; all our associations are in favour of it so applied: the contempt heaped upon it by the lovers of classic art, until within the last fifty or sixty years, is seen to have proceeded from prejudice and ignorance: our knowledge of the principles which regulated it is increasing, and our ability to reproduce and combine its parts. Still this should not tempt us, as it seems likely in some cases to do, to consider it the only sort of architecture worthy of study, and lead us in a spirit of retribution, to affect to despise the works of the antique world, where

"First unadorned,
And nobly plain, the manly Dorie rose;
Th' Ionic then, with decent matron grace,
Her airy pillar heav'd; luxuriant last,
The rich Corinthian spread her wanton wreath.
The whole so measur'd true, so lessen'd off
By fine proportion, that the marble pile,
Form'd to repel the still or stormy waste
Of rolling ages, light as fabrics look'd
That from the magic wand aerial rise."

Many of our student friends look scornfully on the "orders," and turn up their noses at Sir Christopher Wren: they feel quite satisfied that they are much wiser than their forefathers, because they know what a hagioscope is (perhaps they don't after all), and have a little clearer notion of the principles of pointed architecture, through the investigations of others and not of themselves, than the practical, hard-working, old-school man had, with whom they studied.

Conceit (we do not mean self-confidence) is a sure sign of small knowledge. When we first get an insight to a science, the points are so striking and so new, we see so clearly the extent of our acquirement, that we form an exaggerated opinion of our progress, we feel how *much* we know, and begin to fancy we are "not as other men are." As we advance, and see into the depths of it, this feeling quickly disappears: we find how *little* we really do know, and how circumscribed is our power of attainment. The more extensive a man's knowledge becomes, the less hastily will he pronounce on the inferiority of those with whom he may meet. He will find that every man knows something which he does not,—is in one respect or another better than he is,—and will learn to regard all with a certain consideration. He will avoid scoffing at the ignorance of a comate in one particular, on the ground if on no higher, that he must himself be open to similar rebuke in another.

We would apply the remark to our own subject. Knowledge of a few striking dogmas, and even tolerable proficiency in the use of the pencil, do not constitute an architect. There is much more to be acquired by a student before he can enter the arena with any chance of success, and we advise those young gentlemen who have gravely complained to us of the want of a particular knowledge on the part of those to whom they are bound, to respect them for the knowledge which they *have* in other departments, and to strive to benefit by it. To find fault is more easy than becoming.

RESTORATION IN OXFORD.

A VISIT to this charming old city serves to take one back into the past, and makes history more real. We often steal an hour or two, when near it in the course of everyday duties (and thanks to railways you are now always near every place), and wander about the colleges, the churches, and the gardens, with advantage in more respects than one. It distresses us on these occasions to observe the rapidity with which many of the buildings externally are hastening to ruin. In a few years, unless something be done, two or three will be shapeless.

There is much bad Gothic in Oxford; still there is nothing that we can afford to lose. Moreover, there is no reason why it should be lost, there is no lack of funds, and these should be applied at once, and applied *wisely* in restoration of the venerable fabrics left by our forefathers. One especial point to be attended to is, (the assistance of a well qualified architect, being always the first), that an enduring stone be used, and that no sacrifice of perfectness be made for the sake of some present saving.

The entrance front of Queen's College, a comparatively modern structure, is in progress of restoration: the whole face of it having decayed, is being replaced. The material used, some of our readers will grieve as much as we did on hearing it, is perishable Bath stone, in the face of experience, and in spite of warning. Decay will have commenced before all the scaffolding is removed. For once we were glad to learn that no architect is employed.

One word, financial, to such of our friends as may be led by this brief reminder, or other circumstances, to pay Oxford a visit, and would know a reasonable inn. It isn't the ANGEL, just opposite the aforesaid Queen's, notwithstanding the lowliness and goodness the sign incarnates, and those who, like ourselves, have to distil their gold through a quill, or pick it out of the pockets of employers with the point of a black-lead pencil, may thank us for the hint, and go further without faring worse.

WATER—HOUSE-SUPPLY—DRAINAGE.

To the architect, the considerations relating to the supply of water must ever be of high importance; for it must often rest mainly with him whether or not it will be sufficient, and of suitable quality, points on which hinges much of the comfort of all classes. In towns, these considerations are often beyond his cognizance, but in the country they are clearly within his sphere, and imperatively demand his best attention; here he must be his own engineer, his own chemist, and without he possess a good practical acquaintance with the subject, the risk is, he will fail to carry out a system to either his client's satisfaction or his own.

PURE WATER, properly so called, is only to be found in the laboratory when it has undergone the process of distillation, and is secured against the action of the atmosphere. Water, as it usually reaches us, whether from clouds, springs, wells, rivers, lakes, or ocean, is always more or less in combination with other bodies, either mechanically suspended, or held in solution; such being the case, it becomes a primary consideration how to divest it of these extraneous matters, and the first to suggest itself is the process of filtration. On a small scale, an efficient filtering vessel may be formed of a common garden-pot, well burnt, and with holes in the bottom; the lower part to be filled with round pebbles, then some smaller pebbles, then some coarse sand, and finally a stratum of pounded charcoal 3 or 4 inches thick; the use in large filters of broken shells interposed between the gravel and sand, is a great improvement, inasmuch as the fragments being flat overlap each other, and counteract the tendency of the sand to settle amongst the gravel, thus preserving a free percolation through the lower strata; in some methods, the process of filtration is inverted and operates by high pressure, but experience is in favour of the simple downward process, the upward may, however, be rendered of service in cleansing the filtering media. The antiseptic and conservative properties of charcoal are well known; if this ingredient be omitted in the filter, as it is in those of large water-works, though a perfectly clear and transparent fluid free from sediment and colour be produced, yet the water will not be freed from the more subtle animal and vegetable impurities suspended in it, or from the taint which it may have thereby acquired: but with charcoal, on a properly regulated system, the water, however foul and fetid, will be restored to its original brightness and purity, the mineral part alone retaining its hold, especially chalk, which no filtering process will separate.

Thus we find that water, containing mechanical admixtures, may be cleared by filtration; but that where these are chemical, distillation or other processes are requisite. That quality in water which is popularly termed "hardness," and which, in the waters of London, is a ground of so much complaint and annoyance, is due to the presence of chalk; the separation of which long baffled the best skill that could be brought to bear on the subject. It is this ingredient which is the cause of such an enormous consumption of soda in London; for soda neutralizes the chalk, though at the sacrifice, gradually, of the colours in the articles submitted to it; at the same time it materially lessens the requisite manual labour. But it is not the inconvenience alluded to that is alone caused by the presence of chalk in water; a much more serious ground of alarm exists in reference to its effects in the human frame, respecting which the fact shall speak for itself that, in the museum at Montpelier, there is a large collection of *calculi*, taken from the bladders of patients of the town and surrounding districts, all calcareous, and of various sizes, forms, and shades of colours; and so distinctive, that the attendant there a few years ago could tell, by their similarity to the chalky soil of the respective districts, to what "department" the person belonged from whom any of the concretions had been taken. This fact requires no comment. Although lime is a necessary ingredient in the formation of man's bones, water from a chalky soil cannot fail to deposit a great amount of its particles in the intestines.

HARD WATER is known by its curdling or decomposing soap, which may be employed in it; this is an unfailing test: the contact of

stone, clay, and even sand, hardens water. For mere drinking, pure pump water is confessedly the best; not because it is at all more wholesome, but because, by being impregnated with mineral substances, it is more grateful to the palate: what we above adduced, however, is suggestive of caution in its indiscriminate use. The term *mineral water* is applied to those that contain such an excess of mineral and other foreign substances, that they cannot be used for domestic purposes; the minerals are generally held in solution by carbonic, sulphuric, or muriatic acid; *chalybeate springs* are those containing carbonate of iron. Sulphur enters into the composition of the *Harrowgate water* and others, to which it gives a smell resembling that of rotten eggs; all springs yet discovered contain some muriate of soda, otherwise common salt.

It remained for Dr. Thomas Clark, of Marischal College, Aberdeen, to achieve, a few years back, what had hitherto defied the skill of his most eminent compeers in chemistry. His process, which we believe was patented, we shall briefly explain:—chalk, which is the ingredient to be separated, is also the chief material for effecting the separation. Although in itself it is insoluble, it is all but rendered soluble by two methods which are very opposite to each other:—one consists in burning it in a kiln, by which it loses seven ounces out of the sixteen—the lost seven consisting of carbonic acid gas, and the remaining nine being caustic lime, which is soluble in forty gallons of water,—this solution is called *lime water*, and is perfectly clear and colourless. In the other method, instead of seven ounces of carbonic acid being abstracted from the pound of chalk, the latter is made to combine with seven ounces more, when it assumes the state in which chalk exists invisibly in the waters of London: this being dissolved in 500 gallons of water, changes to a *solution of bi-carbonate of lime*, which is as clear and colourless as the lime-water. Now, if two lime-waters be mixed together, or two solutions of bi-carbonate of lime, no change will take place; but when the forty gallons of the former and 500 gallons of the latter are commixed, a haziness very soon appears, increases to a whiteness, becomes like whitewash, then subsides, and in process of time leaves 540 gallons of pure water above, with the two pounds of chalk, and that which was held in solution by the water before the process took place, at the bottom;—the first pound having resumed its original state by uniting with the seven extra ounces of carbonic acid conveyed by the second. The amount of chalk thus separated being ascertained, the previous hardness of the water, or the existing hardness of that continuing to issue from the source whence it was obtained, may be determined in *degrees*, which Dr. Clark expresses as follows, namely: 1° equivalent to one grain of chalk per gallon, or the hardness of water generally in degrees which are *equal in effect* to so many grains of chalk per gallon. According to this scale, the doctor (who attaches the utmost importance to the softness of water) has stated the hardness for various towns as follows:—

Aberdeen	1°
Glasgow (about)	4½
Edinburgh	5
Newcastle-upon-Tyne	5
Pipe-water of London	11 to 16
Ditto Manchester	12
Paris harder than any of the above	
Wells in London	40 to 80

He considers that a water ceases to be agreeable for washing when it is above 4 or 5°, and that 16° is the utmost point that can be conveniently used, to get a proper lather.

It is worth knowing, when the method by which this radical cure is effected is not conveniently available, that the sun's rays, and the action of the atmosphere, exercise a very beneficial influence in softening water; and boiling will bring hard water nearly to the state of soft. Also, when filtering is out of our power, that impure water, by sprinkling alum in it, which causes a precipitation, may be brought in the course of a few hours, to possess nearly all the freshness and clearness of the purest spring water; a table-spoonful to a bogshead, or a teaspoon to a pailfull, and the water stirred while it is put in, being sufficient to produce the effect; its hardness will be somewhat increased by the mixture, but that may be corrected by the means we have referred to.

River Water, which is generally polluted with extraneous bodies, it has been ascertained, may be purified, so as to lose all unpleasant odour, flavour, and colour, by being suffered to remain completely undisturbed for a period of some weeks; during this time, in consequence of the presence of animal and vegetable matter, it undergoes fermentation, ultimately resuming its transparent purity, and precipitating a small portion of insoluble sediment. Water-companies, who only practice the method of subsidence in reservoirs, would thus be fully justified, if they could allow the water sufficient time to clear itself; but that is quite beyond their power; and without the lapse of time alluded to, the slightest agitation suffices to diffuse again the depositing particles, and, instead of purity, putridity is what may be expected.

An analysis of Thames water, from near the following points, viz.—

	Brentford.	Hammersmith.	Chelsea.
Gave, in grains, carbonate of lime	16·	16.9	16·5
Sulphate of lime and common salt	3·4	1·7	2·9

Also a very minute portion of oxide of iron, silica, magnesia, and carbonaceous matter.

Rain-water, from its containing ammonia, possesses eminently the property of "softness;" this, granting that spring-water may be preferable as an article of food, entitles it to the highest estimation for general purposes, and we have therefore long looked upon its wholesale discharge into common sewers, whether on the small scale, as affecting merely private interests, or on the broad principle, as regards towns, as a most improvident, inconsiderate practice. The presence of ammonia in rain-water may be proved, by adding to a quantity in a clean porcelain basin, a little sulphuric or muriatic acid, then evaporating it to dryness, when it will remain in the residue, in combination with the acid; and may be detected either by addition of a little chloride of platinum, or a little powdered lime, which will separate it, and render sensible its peculiar pungent odour.

Marsh-water is found by simple distillation to manifest an acid quality; it abounds with decayed vegetable matter, the most unwholesome of all substances, and when brought into contact with water and submitted to the action of the sun's heat, the most offensive.*

James Wylson.

PROGRESS OF THE HOUSES OF PARLIAMENT.

The following is the third report issued by the House of Lords' committee nominated to inquire into the progress of the building of the Houses of Parliament; and to whom leave was given to report from time to time to the House:—

"Ordered to report, that the committee have met, and further considered the subject matter referred to them, and have examined two witnesses in relation thereto, and the committee are of opinion that the only impediment to the preparation of the new House of Lords, for the commencement of the session of 1847, arises from a delay in the arrangement for warming and ventilating the apartment according to the views of Dr. Reid.

That the architect has expressed his willingness to undertake the warming and ventilation of the new House, upon a plan of his own, and on his own responsibility.

That the committee are convinced, that if this proposal of the architect be not accepted, the occupation of their new House by the Peers will be postponed to an indefinite period.

And the committee have directed the further evidence of Mr. Barry, taken before them, to be laid before your Lordships."

Since the publication of this report, Dr. Reid has presented a petition praying that the task of ventilating the new Houses of Parliament might not be transferred into other hands until he had been heard upon the subject.

The following are portions of Mr. Barry's evidence referred to:—

"The committee had an impression, from evidence given by you on a former occasion, that you would be willing to undertake to warm and ventilate the new House of Lords upon a system of your own?—I believe I so stated.

If you were to adopt a system of your own, would it render it impossible hereafter to revert to such a system as Dr. Reid has in a general way recommended or suggested?—Is it meant that that question should apply to the House of Lords exclusively, or to that and any other portions of the building?

To the House of Lords exclusively?—As the subject is altogether new to me, I could not at the present moment answer satisfactorily; but if your lordships would give me four-and-twenty hours to consider that point, I will then be prepared to give you a definite answer to the question.

Do you think that you could prepare the apartment for the Peers by the commencement of the session of 1847, if it were ventilated and warmed according to your own system, and without any interference with your system from any other quarter?—Until I have determined what that system shall be, it would be rather difficult for me to answer that question. With respect to the fixing of the joiners' work, as unfortunately a very large portion of the year, and the portion best adapted for fixing work of that description, has been suffered to elapse, I should be sorry to pledge myself that I would completely finish the House of Lords by the time mentioned, viz. the commencement of the next session; but all I can say is, that I will do every thing in my power to accomplish the object, and I trust that I should at least be able to bring the House into such a state as, if not completely finished, it might be occupied by your lordships.

The "session" is rather an indefinite word; do you mean by the 1st of February?—I understand the commencement of the session to mean the 1st of February.

You think you could get the House ready by the 1st of February?—I should not wish to pledge myself to have the House completely finished in all respects by that time; but I think I could finish it so completely that it might be occupied by your lordships.

You mean that every convenience for the sitting of the House might be supplied, although the more ornamental parts might not be finished?—Exactly.

Has any further advance been made in the arrangements of Dr. Reid since you were last examined before this committee?—Not that I am aware of.

Have you the slightest hope, from what has already transpired, and from what you are able to collect, that the work would be at all advanced by this time next year, unless some new arrangements were made with regard to the ventilation?—I must say that I have no hope whatever.

All the fittings are prepared?—They are, with the exception of portions of the throne, and they would be prepared during the time that the rest of the fittings were being fixed.

In making any arrangement for the ventilation, you do not conceive it will be necessary to destroy any part of that which has already been prepared in connection with the arrangements suggested by Dr. Reid?—I do not think it would be necessary to destroy any part; it would be necessary, probably, to modify some of the arrangements, in order to make them available to my own system, if I may so call it.

In the arrangement that you would contemplate for warming, you would not have to alter the ceiling, or any thing that has been done there?—Not at all.

Is the putting up of the ceiling a very expensive work?—The putting up of the fittings is a very expensive and rather tedious work; the work is of an unusual description, and will require the greatest possible care in fixing.

Are you in such a state that you could proceed immediately towards the completion of the House if you received the necessary authority?—Yes; I am quite prepared to do so.

Will you describe the state of forwardness of the building adjoining the House, including the lobbies?—The Victoria Hall, which is the apartment immediately adjoining the throne end of the House, is covered in, and the ceiling is nearly fixed. I think it possible to make that room available as well as the House, although the fittings which are to be placed in it might not be completed. The public lobby is also roofed in, and the ceiling is completed, and if it were necessary, that portion of the building also might, I think, be got ready for use. The finishings of the corridors adjoining the House on each side are entirely prepared, and I think, if the time is sufficient for fixing

* To be continued.

the work, which is very minute and elaborate, there is no reason why the corridors should not also be made available for occupation with the House.

What is the state of the royal gallery?—The roof of the royal gallery is on, and a commencement is made with the fixing of the ceiling.

What is the state of the Queen's robing room?—The roof is over the Queen's robing room, and the brick arches forming the ceiling are turned, but none of the fittings are commenced.

In what state is the staircase from the royal entrance?—That is in a very forward state. All the stonework is completed, or nearly so, with the exception of the steps.

Have you sufficiently digested your plan for the ventilation to be able to state in what manner you propose to introduce the air into the House and the lobbies?—No, I have not, because my attention has not been directed to that part of the subject.

But you have stated that you would be prepared to undertake the ventilation and warming of the new Houses, and to complete the arrangements before the meeting of next session?—Yes.

Without tying you down to a day, you can have no objection to the committee reporting that you propose to ventilate and warm the apartments upon your own responsibility?—None whatever.

And that that is not the portion of the work from which you contemplate any delay in preparing the House for next session?—Not at all.

If Dr. Reid's plan was abandoned, as it respects the House of Lords, will the central tower still be necessary?—If Dr. Reid's system, or any part of it, is adhered to in other parts of the building, it will certainly be necessary, according to the arrangements made, to have the central tower.

But not otherwise?—Not absolutely necessary, except for Dr. Reid's purposes.

With respect to the central tower being abandoned for the purposes of ventilation, might not that tower be made available for other public purposes?—I think it might.

Do not you think that even in the event of abandoning Dr. Reid's scheme it would be a great loss to the design if the central tower were given up?—I think it would be very desirable to retain the central tower; but I do not mean by that to say that it would be desirable to retain the same height or form of tower as would be required by Dr. Reid for his ventilating purposes. I think the central tower would be a great ornament to the building; but I am not of opinion that it is necessary to carry it to the height that Dr. Reid requires in order to obtain the effect that I should desire.

The central tower, such as contemplated by Dr. Reid, would be of a lower height than the Victoria tower?—I am hardly prepared to answer that question, because I am not aware that Dr. Reid has yet made up his mind as to the height of it. When I have spoken to him on the subject, he has said, "I should like to have it as high as possible; the higher the better; higher than Saint Paul's," and so forth.

What is the proposed height of the Victoria tower?—About 342 feet.

IMPROPER FIXING OF BALCONIES.

Our attention has been directed to an accident which happened at No. 52, Manchester-street, a short time ago, when a lady and gentleman were precipitated into the street by the failure of a balcony in the front of the house. It was wholly of iron, of light construction, and was put up, as too many of them are, in the most careless and reprehensible manner.

It is to be hoped that the district surveyors will enforce proper precautions in this respect. We could point to a range of houses at this moment, provided with iron balconets to the first-floor windows, every one of which are insecure. The ends of the top bar and of the bottom bar are simply driven into the brickwork two or three inches, with plugs of wood, and if no accident happen, it will be through God's mercy and not the builder's care.

FOREIGN ARCHITECTURAL AND COLLATERAL INTELLIGENCE.

Cornelius's Cartoons for the Mausoleum of the Kings of Prussia. Rome, May.—German periodicals say, that the metropolis of art has been taken by surprise; and the name of the above artist, and that of German endeavours placed in their highest *relief*. It is not only the grandeur of composition, which strikes the beholder at the exhibition of these huge art works—but even the mechanical (pictorial) elaboration has reached here a degree, which to surpass, our age may vainly hope for. Not only the fine *lineaments* of the master seize us with astonishment, but every part of the detail partakes of the same completeness and sterlingness of production.

The subject of these cartoons is derived from the forcible picture of the Apocalypsis, representing those four *mighty ones*, who have to come at the destruction of the world. On horses, which have grown together with them centaur-like, they pierce the expanse of the air. Before them, a savage chief, who like the Apollo of Homer, sends forth the arrows of plague and disease. Next to him is distress and hunger personified—then war in the shape of a youth of surprising beauty, who with both hands uplifted, wields the sword of destruction—in fine, drear death, which with portentous scythe, mows down all, the others have left unscathed. A choir of departed (beings), follow the portentous *four* with an utterance of anguish, which we think to perceive from out of the *un-mute* canvas. This most artistically combined group has been much admired, and has reminded every one of the gigantic Buonaroti—although it cannot be said, that one stroke is exactly or properly copied from him. It is merely *eleven* figures, amongst them three children, who have sufficed for Cornelius to depict *mankind perishing*. Still there *is* enough to strike fancy and move the mind. And yet the artist has, in some instances, imitated the example of Timanthes, who in his picturing of the sacrifice of Iphigenia, represented Agamemnon "with face covered." But how expressive, after all, is the figure, the posture of a youth, who amidst the agonies of death, *covers* his face with his convulsed hands! Who could name or express the anguish of those females, who imploring mercy, prostrate themselves on their knees before the pitiless *four*. Beyond all, however, anguish is pictured in the two little children, superfused with celestial beauty—studies of the deepest knowledge of man's mind-life. The young bride shares the fate of the others—but such tender ones do *not* know of despair; which, however, breaks forth with all its enormity in the countenance of the man, felled to the ground with his arms crossed under his breast. It is he who forms the middle part of that scene of celestial horrors. [Our readers must remember, we are giving the opinion of others, not our own.]

Munich. Picture of "Home" Scenery.—Mr. Rottmann, who had, for several years past, occupied himself with painting Greek scenery, has produced of late a picture of home (German) scenery, which shews, that while southern nature has its charms, a character of high feeling may be imparted to those of our northern climes. The picture exhibited by the Art-Union—the property of H.M. the King—represents a mountain foreground, wrapt in evedarkness, inclosing a sombre lonesome lake, and a high peak, illumined by a ray of parting sun. It oppertains to the kind of (if we may say so) *high* pictures, as there are high songs, whose attraction increases on close and closer examination, and whence, constantly, flows high satisfaction for the feeling mind. Another picture (also belonging to the King) is by *L. Galloit*, the Belgian master, known by his historical piece, "The Abdication of Charles V." This time, however, he has not taken such high flight, but merely represented a cabinet picture—"A Carmelite friar assuaging the necessities of some poor." Thus benevolence and charity are thought in the very domain of art.—The sculptor Lassow, from Bremen, has received orders from the town council of his native city to construct a monument for the late deserving shipwright, Mr. Lange, at Vegesack.—The last, but not least, we have to mention, is an act of generosity of some Munich artists towards one of their art-companions, the painter Genelli. They have entered into a subscription, for enabling that talented man to sketch out and engrave some of his series of illustrations of Dante's "Divina Comedia."

New Method of Finishing Bronze Statues.—The bronze statue of Huskisson, just completed in the royal brass foundry of the Bavarian capital, deserves an especial notice, on account of a new method of chasing which has been resorted to in this case. It is known that newly-cut brass possesses a strong lustre, which destroys the mellow aspect of the work; on which account artists have resorted to the expedient of producing a sort of artificial *patina* by the use of mineral acids. For the sake of imparting to the above work an uniform mellow appearance without using acids, Inspector Müller has resorted to the method of dead chasing. This has been perfectly successful; and the uniform tone which has been obtained in the whole work, bids fair that the *patina*, as it will appear in due course of time, will be also uniform. By the use of different sorts of files, a really different *grain* of the metal has been cut out, which the artist was able to produce in accordance with the nature of the part thus treated. This method is said to be a real advance in the mechanism of the bronze founding process.

The Vienna Architects, Messrs. Ernst and Escher, have undertaken to publish a work on Austrian mediæval buildings, in parts containing lithographic plates and text. The front and portal of the cathedral of St. Stephen will be the first published. These will soon appear in their original state, as the cleansing of their dusty sculptures and ornaments—moreover covered with layers of whitewash, and all sorts of varnish—will be soon completed. During this process, an ancient painting of the whole portal has come to light, which discovery may lead to others interesting for the polychromy of the middle ages. The statues, also, as well as capitals and canopies over the figures of the saints, in the interior of the dome, shew traces of former painting and gilding—so that we may properly say, that we have hardly an idea how splendid and gay these massive piles must have looked in the days of our ancestors!

Iron Strata near Civitavecchia.—As the Papal states have hitherto imported most of their iron from Elba, the above discovery is an important one, and will contribute towards the establishment of railroads, &c. The strata are found in the mountains of Tolfa, and are very rich. The analysis which has been made of the ore at Lyons is most satisfactory. In the same tier are the famous alum quarries, as well as the finest marble—fit for the largest statuary works.

Galvanoplastic Institution at Berlin.—This establishment, under the care of Baron Hackewitz, and which hitherto has accomplished much in the departments of trades-mechanism, has begun of late to extend its activity to the higher arts. After making a suitable beginning with relievos and the like, it has attempted now even colossal sculpture works. Amongst them is a cast (rather a *precipitate*) of the head of the Ludovisi Juno, with the bust added after Rauch. It has been accomplished with astonishing exactness, without any after-chasing at all. This has been done by order of the king, who patronizes the establishment of Mr. Hackewitz to a great extent, and by H. M.'s orders also, the colossal statue of Christ, made by Thorwaldsen, has just been modelled for the sake of being galvanoplasted. The king has also ordered, that the huge brass doors for the Wittenberg church, and which have to contain all the ninety-five Luther theses, be executed in this establishment. The surface of the metal, of which these huge galvano-plastic art-works are to be made, consists of a composition of bronze, which, according to its mixture, acquires by the successive action of the air, a beautiful mellow darkening hue, which, there is every reason to believe, will resist well the inroads of the external atmosphere. Thus it may be taken for nearly certain, that galvano-plastic will soon compete with bronze cast works.

Gigantic Statue of "Bavaria."—On the 15th May, the well-known bronze foundry inspector Müller, at Munich, undertook the casting of one of the lower portions of the statue, whose size surpassed that previously cast (the bust) by one-third. The heat in the atelier was excessive, and the flood of the great

mass of metal excited some apprehension; still the casting has been perfectly successful, and thus the half of that—the largest of modern statues—is completed, this piece alone weighing 500 cwt.

H. M. Emperor Ferdinand of Austria—has, in filial piety, undertaken to erect a statue to his late parent. It has been cast by Cavaliere Marchesi, at Milan, and thence transported to Vienna, not without great difficulty, as its weight amounts (with the packing) to 250 cwt. J. L——v.

RAILWAY JOTTINGS.

The recent stoppage of the atmospheric traction on the Croydon line, it appears, has not been merely owing to the melting of the sealing composition by the heat of the sun. The substitution of thin steel plates on this line, in place of the upper strips of leather along the valve, as on the Dalkey section of the Dublin and Kingstown line, instead of being an improvement, has been found to constitute "one of the greatest possible hinderances to the proper development of the system; inasmuch as nearly the whole of the thin steel plates have been snapped asunder, so that the sharp edges came in contact with the leather each time the valve rose, in many instances cutting it completely through; and hence the vast increase of leakage, and consequent decrease of power." A return is being made to the double leather system, and a new sealing composition has been invented, which, it is said, will withstand the usual effects of a wide range of temperature. The line was to recommence working during the present week. ——The Brighton, Lewes, and Hastings line is to be opened to-day from Lewes (to which place it was opened on the 8th ult.) to St. Leonards. From Lewes to Hastings the line is at present a single one. The chief engineer is Mr. Rastrick. From St. Leonards to Westham Mr. Kirby has had the superintendence; from Westham to Glynde, Mr. Harrison; and from Glynde to Brighton, Mr. Meredith. The contractor, Mr. Wythes, commenced operations in 1844, but the greater portion of the land could not be obtained till about twelve months ago. Mr. Fabian, of Brighton, is the contractor for the permanent station at Lewes, and the temporary sheds along the whole line, all which are in a forward state.——The double line of the Taff Vale railway has been opened and at work since Whit Monday. It is a curious and important fact, stated by the *Cambrian*, that "while the traffic upon the Taff Vale railway taxes the utmost capabilities of the line to accomplish, that upon the Glamorganshire canal, which runs almost parallel to it, also increases. The Act of Parliament governing the latter undertaking," continues the *Cambrian*, "limits the dividend to eight per cent. per annum; and it is said, that the company can afford to carry goods for six months out of twelve gratis, and yet realise a sufficient income to pay the whole of the expenses of the concern, as well as the maximum dividend allowed by the Act."—— The works on the Oxford, Worcester, and Wolverhampton line are begun. A shaft has been sunk for a tunnel of about 260 yards near the site of the Worcester station.——The Ipswich and Bury line, it is said, will be ready for opening in October. In consequence of the heat, the works have of late been in progress by night instead of by day.——From thirty to forty acres of ling or heath were burnt on Saturday before last on the Norwich side of the Thetford station on the Norfolk line, in consequence of some fire falling from an engine furnace; the heath was chiefly the property of the poor of Bridgeham. —— The Lincoln and Nottingham line is to be opened on the 4th of August.——It is said that 2,000*l.* worth of gunpowder has been spent in the blasting of one cutting on the Leeds and Bradford line, near Kirstall.——The Filey railway, a branch of the York and Scarborough, is in rapid progress, and will also be opened in August. It is ushering in other extensive improvements. Several acres on the Spa cliff have been appropriated as a promenade, and the avenues to the Spa well have been greatly improved. A new hotel on a great scale, with baths, promenade, assembly-room, &c., is nearly finished.——The Bridlington branch of the Hull and Selby line is also in rapid progress in the vicinity of Driffield. Messrs. Brown and Hall, builders, Leeds, are busy with the stations, &c., between Beverley and Driffield; and the Driffield station, it is thought, will much improve the main street of the town.——Middlesborough, the line between which and Redcar was lately opened, presents a striking proof of what enterprise can effect. Some few years ago it was a mere nothing; now it has its well-built houses, its large iron foundry, the property of Messrs. Bolckow and Vaughan, who employ about 500 people, its potteries, and other manufactories, and not least of all (at all events in size) its docks. The number of its inhabitants is estimated at about 9,000, a great part of whom have left other towns on the Yorkshire coast, and enjoy there a better subsistence than they could obtain elsewhere.—— The precedent established by the case of *Walstab* v. *Spottiswoode* has been confirmed by Mr. Justice Erle and a special jury at the Court of Common Pleas in the case of *Wontner* v. *Shairp*, and is increasing the business of the lawyers, since scripholders have in consequence begun to manifest great anxiety to have accounts investigated, and deposits repaid; and have even refused, in a number of instances, to receive the sums proposed to be repaid, on the "winding-up" of defunct schemes. Much injustice seems involved in the decisions.

CANVASSING ARCHITECTS.

Sir,—I cannot exactly see the joke of your Birkenhead correspondent, relative to the degree of respectability that would be conferred on the architect by his "traveller," nor can I perceive how he would secure the execution of his work, more than the carpenter, the bricklayer, or even the pot-house keeper, who dare usurp the title, as all would depend on the address of the *commis voyageur*.

Some years ago, I remember a case of competition, where five architects were invited to send in designs for a public building. Three were regularly educated, the fourth had been a scene painter, and the fifth was a bag-man, travelling with his folio of highly-coloured drawings, and some even framed and glazed. The drawings were to be all in plain Indian ink.

The bag-man was accompanied by a *cad* or folio-bearer, and to obtain a second chance, he made a second design. Now, as he was building another edifice in the same place, which, during the consideration of the designs, the committee had found out would cost at least thrice the amount of his estimate, they paused, and two (the most shallow-pated), who advocated his design, finding their protegé would have no chance, proposed that the votes of the subscribers to the building should decide. Canvassing began, but the wondrous *elasticity* of his estimate threw him out, and another would have been appointed, but the folio-bearer was made to volunteer the sixth design. I should have observed, that the three regular professional men declined the canvassing; the battle was between the bag-man and the scene painter; but the bag-man proved, through the folio-bearer, the victor, and the committee have a monument which covers their irregular ground, shews its deformity, and by the utter lack of composition throughout the work, proves their incompetency to judge. Moreover, by some of their recent decisions, they shew that they have not advanced one step during a space of nearly twenty years.

The only honest plan is to submit the designs (all to one scale, and tinted in the same manner) to two or three professional men of character; compensate them for their time, and act upon their decision. Then may we expect to have *substantial* as well as ornamental works executed; and the architect will take his place, which has been too long occupied by *veneer* and *compo* in the shape of ignorant pretenders.—I am, Sir, &c. X.

Increase of Docks at Liverpool.—In the year 1815 they had 52 acres of docks and basins at Liverpool; the tonnage was 709,849 tons. In 1825, there were 71 acres of docks and basins, and the tonnage was 1,233,820. In 1835, there were 99 acres of docks and basins, and the tonnage had increased to 1,768,426. In 1845, the docks and basins had increased to 120 acres, and the tonnage to 3,016,531.

METROPOLITAN IMPROVEMENTS, &c.

On Saturday last, an influential meeting, attended by the Duke of Cambridge (as chairman), the Archbishop of Canterbury, the Bishop of London, Lord Ashley, &c., was held in the new hall at King's College, for the purpose of providing a larger hospital for poor patients than that now in use in connection with the college, and to exonerate the medical officers, and relieve them from the responsibilities voluntarily incurred in the purchase of a site for the new building, which is to be erected in the immediate vicinity of the college, at a cost of between 3,000*l.* and 4,000*l.* By removal of the great number of old houses which stand upon this ground, a large space will be cleared, and facilities afforded for obtaining that direct communication between the Strand and Lincoln's-Inn-fields, which has been so long desired. The sum of 2,500*l.* has been already subscribed; Miss Burdett Coutts (now known, by the way, as the munificent and sole founder of the two colonial bishoprics, lately spoken of) contributed the princely sum of 500*l.* towards this praiseworthy object. In course of the proceedings it was stated by Lord Ashley, and corroborated by the Duke of Cambridge, that, in proportion to the population, Paris, St. Petersburgh, and Vienna surpass London in the amount of such accommodation.—— On Saturday before last a great many gentlemen connected with private schools or academies in town and country, met at the Freemason's Tavern to elect a council for the foundation of a college for schoolmasters. —— On the preceding Thursday, the foundation-stone of the Camden District Schools was laid by Mr. H. Kemble, M.P., for East Surrey. The design is by Mr. F. J. Francis. Messrs. Rand and C. Curtis, of Stratford, are the builders.——The following inscription is now being cut in the north-west corner recess of the colonnade of the Royal Exchange:—

On this site
Sir Thomas Gresham
Erected the first building for the meetings of
The merchants of Great Britain,
Which was named by
Queen Elizabeth
The Royal Exchange,
January XXIII., MDLXXI.
It was destroyed
In the Great Fire of London,
September IV., MDCLXVI.,
In the reign of King Charles the Second.
It was rebuilt,
And opened September XXVIII., MDCLXIX.
On January X., MDCCCXXVIII.,
The Exchange was again destroyed by fire,
And on January XVII., MDCCCXLIII.,
The first stone of this building was laid by
Her Majesty's Consort,
His Royal Highness Prince Albert.
The present edifice
Was also opened by
The Queen of England,
Victoria,
On October XXVIII., MDCCCXLIV.,
Who proclaimed it
The Royal Exchange.
William Tite, F.R.S., Architect.

Objections have been taken to the meaning of the latter part of this inscription, where it is stated that "The present edifice was 'also' opened by the Queen of England, Victoria." The intention is, evidently, to shew that this building, as well as the first, was opened by a Queen of England.

In the south-west corner recess are engraved the names of the members of the Joint Gresham Committee at the opening of the Exchange.—— The establishment of a Joint Stock Company, with a capital of 2,000,000*l.*, is talked of, for the supply of the metropolis with pure soft water by means of Artesian wells.——The reference for the purchase of the houses projecting into the street at Field-lane, Holborn-bridge, made on the 26th June last to the London Bridge Approaches Committee, appears now to constitute the only hope of the removal of the obstructive nuisance at Holborn-hill and its dangerous acclivity. Till lately it was hoped that the evil would be remedied by the introduction of railways into Farringdon-street—the Direct Manchester Company in fact had actually scheduled the projected improvement, but the project has failed. The London Bridge Improvement Committee have been instructed to report forthwith upon this subject. —— The railway companies having

their termini at London-bridge are said to be considering the propriety of running early trains for the accommodation of parties residing or desiring to reside from ten to fifteen miles from town. House property near the lines would of course be benefited within the proposed limits, and the health of the metropolis so far at least promoted.——Crockford's Club House has been sold by the executors for 2,900*l.* It is held on lease, of which thirty-two years are unexpired, subject to a yearly rent of 1,400*l.* It is said that the decorations alone cost 94,000*l.*——On Monday last a meeting was held at Greenwich for the purpose of providing for the erection of a new church in that district. The crown and the trustees of Morden College have both offered sites. The expense is estimated at 6,000*l.*, of which nearly 2,000*l.* have been already raised.

SKELTON CHURCH, YORKSHIRE.*

Skelton Church, small as it is, is a charming example of early English work, and affords an admirable subject for illustration. In the book just now published by Mr. Christian, the structure and all its parts are set forth in the fullest manner, and apparently with great care; it deserves to be purchased by all who are interested in ecclesiastical architecture. There are seventeen plates, each accompanied by a page of letter-press, and preceded by a brief account of the edifice, from which we extract the following:—

The village of Skelton, in which the church stands, lies about four miles from York, a little to the right of the old Great North Road. It contained, in 1841, three hundred and sixty-seven inhabitants.

The church was formerly connected with York, as will be seen from the following extract from "Lawton's Collections relative to Churches and Chapels within the Diocese of York" (vol. ii., page 456):—"The church of Skelton is an ancient rectory, formerly belonging to the patronage of the treasurer of the Cathedral Church of York, and on the dissolution of the treasury it came to the Crown, and in Archbishop Sharp's time the presentation was in the hands of Sir James Brooke." It is prettily situated upon rising ground at the northern extremity of the village, and is freely exposed to view on every side. It is dedicated to "All Saints," though it is sometimes called Little St. Peter's; "perhaps," as the writer in the account of the churches of Yorkshire observes, "from a tradition still prevalent in the parish, that it was built with the stones that remained after the south transept of the metropolitan church of St. Peter at York was finished, and by the same workmen." The south transept of York Minster was commenced A.D. 1227, during the archiepiscopate of Walter Grey; and although no mention is made of its erection in any of the documents belonging to the See of York, there can be little doubt, from the close similarity which many of the details of its architecture bear to similar parts in the transepts of the Minster, that some of the same hands that were employed upon that magnificent building, were also concerned in the erection of this more humble, but not less beautiful, little church; and consequently the tradition may not be wholly without foundation.

Gent, in his "History of Ripon," gives currency to the same tradition; and an extract from his work may not be without interest, on this, as well as on other accounts.

'It was on the 7th of April, 1731, that I mounted my courser to seek the adventures I proposed; and was resolved to begin with viewing the little church at Skelton, about two miles north from York, because it is affirmed 'twas built with the stones that remained after the south cross of the Minster had been finished by the archbishop, Walter Grey. And indeed the south door seems to resemble that of the cathedral; alike adorned once with curious marble pillars, though now almost demolished. Three crosses are placed, one over the door, the second at the east, and the third at the west end of the church. On the top of it are two stately arches, designed perhaps for ornament; or if to contain the bells, they are not so used; those being in a little covered steeple. The largest of which has this motto: "Gloria in excelsis, 1677; Richard Maskell, Churchwarden:" the lesser, "Venite exultemus Domino." Around the church are handsome proportional butments, which, as they are strengthening and ornamental without, so no less within it is supported by strong and beautiful pillars. Near the altar are the remains of stone pots for the holy water. On the ground within the rails is an old stone with this inscription: Orate pro animâ magistri, Robert Lovell (I am informed he was Lord of Skelton, whose eldest son being unfortunately slain as he was playing at football, it devolved to others) qui obiit xxiv. die Julij, et Annæ uxoris ejus, quæ obiit xxv. die Martis MCCCCXXI."—*Gent's Ripon*, page 2.

That the church was completed before 1247, appears from an extract from Archbishop Grey's roll, as follows:—

'Confirmation of a donation to the chapel of Skelton.

To all, &c.—The donation which our beloved son in Christ, Master E. Hagitur, treasurer, of York, made to John de l'Edes, clerk of the chapel at Skelton; considering it to be agreeable and satisfactory to us, we confirm the same by our pontifical authority, desiring the said treasurer and his successors to pay annually the sum of 20d. to this same person.

'In witness whereof, &c., &c. Dated at Thorp, on the 6th day of the Ides of December, A.D. 1247, in the subscribed year of our pontificate.'

In the absence of any precise information on the subject, it may perhaps not be unfairly concluded, that the honour of its erection is due to Walter Grey, the archbishop under whose auspices the south transept of the Minster was erected, and who held the see from 1216 to 1255.

The church is built of a light-coloured limestone, and is in very tolerable condition, having been carefully restored from a state, in some respects, almost ruinous, nearly thirty years ago. Considering the want of information which at that period so generally prevailed upon such subjects, great credit is due to the young architect, Mr. Graham, by whom the restoration was conducted: and much honour to the memory of Mrs. Thompson, the excellent lady to whose timely munificence we are indebted for the preservation of this interesting edifice. It is true, that to the more advanced knowledge of correct church restoration which is now becoming generally diffused, a few of Mr. Graham's ideas of propriety may appear somewhat singular; and the modern pews and gallery with which the church is encumbered, are by no means to be commended; but at that time a proposal to restore the low open seats of our ancestors, instead of making so called "comfortable pews," would most probably have been scouted, and even now the idea is often barely tolerated.

Mr. Graham had the advantage of being able to employ men brought up in the school of the restorers of York Minster—men well skilled in the execution of every detail of Gothic art, and accustomed to it from their boyhood. To one of the most intelligent and careful of these, Mr. Taylor, he committed the restoration of the stone-work. I had the satisfaction, when last at York, through the kindness of Mr. Sharp, architect, a personal friend of Mr. Graham, of meeting with Mr. Taylor, now a very old man; and from the conversation I had with him, I feel confident that nothing would have induced him to deviate from his model in the work entrusted to his care; and that the accuracy of his restoration, where it affects the character of the work, may be fully relied on. The repair of the church was begun in 1814, by the celebrated Rev. Dr. Buchanan, who was son-in-law to Mrs. Thompson. He commenced with the roof, and the whole work was completed in 1818, at a cost to that lady of about 1,000*l.* The roof was formerly covered with tiles, but it is now slated with Westmoreland slates, the colour of which harmonizes very well with the building and the surrounding scenery.

* Architectural Illustrations of Skelton Church, Yorkshire. By Ewan Christian, architect. George Bell, Fleet-street: 1846.

Termination of the Strike.—We have elsewhere announced that the strike at Birkenhead was at an end, and we are extremely glad to say that the struggle has also ceased in Liverpool. The master masons have resolved to yield the 27*s.* per week to the men, and half an hour refreshment time each afternoon.—*Liverpool Standard.*

IMPROVEMENTS IN THE ELECTRIC TELEGRAPH.

A Washington correspondent of one of the Philadelphia papers, in a communication dated 6th of June, gives an account of Professor Morse's electric telegraph, from which it appears, that by machinery he has already invented, he can cause to be imprinted, at least 120 characters per minute. "Let us," says the writer, "allow, to the different European systems, for any improvements they may have made within the last year, that they can give double the quantity of intelligence which they claim to send in a minute, and the amount will stand thus:—

Prof. Morse's (American)..	100	per minute.
Bain's (Scotch).....	50	,,
Wheatstone's (English) ..	30	,,
Bregnet's (French)	12	,,

and we have in figures, at a glance, and with all the advantages allowed in favour of the foreign telegraphs, the decided superiority of the American."

"By the way," observes the writer, in conclusion, "it was announced by the papers, a few days ago, as a *recent* discovery, that the professor could communicate, at intermediate places along the line, without interrupting the line of communication. This is no *recent* discovery. The professor, I am told, made an experiment in New York in 1842, by which he shewed that thirty instruments, which he had at hand, could be operated along a line at the same time."

The only telegraph in Europe which *imprints* is said to be that of Mr. Bain, of Edinburgh, which, therefore, has this advantage in common with that of Professor Morse, that, while other telegraphs shew the letter but momentarily, on a little revolving dial plate, so that it is lost if not observed at the instant, those of Morse and Bain record them not only permanently but with greater rapidity, especially that of Morse—by which, even with one wire, and upwards of a year since, sixty signs, it is said, were recorded in a minute.

GAS STATISTICS.

At the last meeting of the Statistical Society a paper was read, giving a statistical account of the provisions for paving, lighting, and cleansing the streets and public places of the metropolis, by Mr. Joseph Fletcher, honorary secretary. From this it appears, that the existing gas companies have eighteen establishments, and employ a capital of 2,800,000*l.* in works, pipes, tanks, gasometers, and apparatus; the number of persons employed in this trade being about 2,500, besides 380 lamplighters, occupied in the care of 30,400 public lamps, which illumine the streets. The supposed advantages of competition in the supply of gas were said to be as fallacious as those of imagined competition in the supply of water. Ample interest for the capital (double, treble, or quadruple what is required for effecting the service) which has been laid down by rival companies in the same streets and districts, is inevitably levied on the public under terms of compromise between the several companies—terms which convert the fancied competition into a monopoly divided into shares, while the condition of the streets is greatly deteriorated by the multiplied occasions to remove the pavements, to get at such an excessive number of pipes for purposes of repair, &c.

PRIZES IN ARCHITECTURE AT UNIVERSITY COLLEGE.

The distribution of prizes at University College for the session 1845-46, took place on Wednesday last, the 1st inst., Mr. Grote presided. The following are the names of the successful candidates in architecture, under Professor Donaldson:—

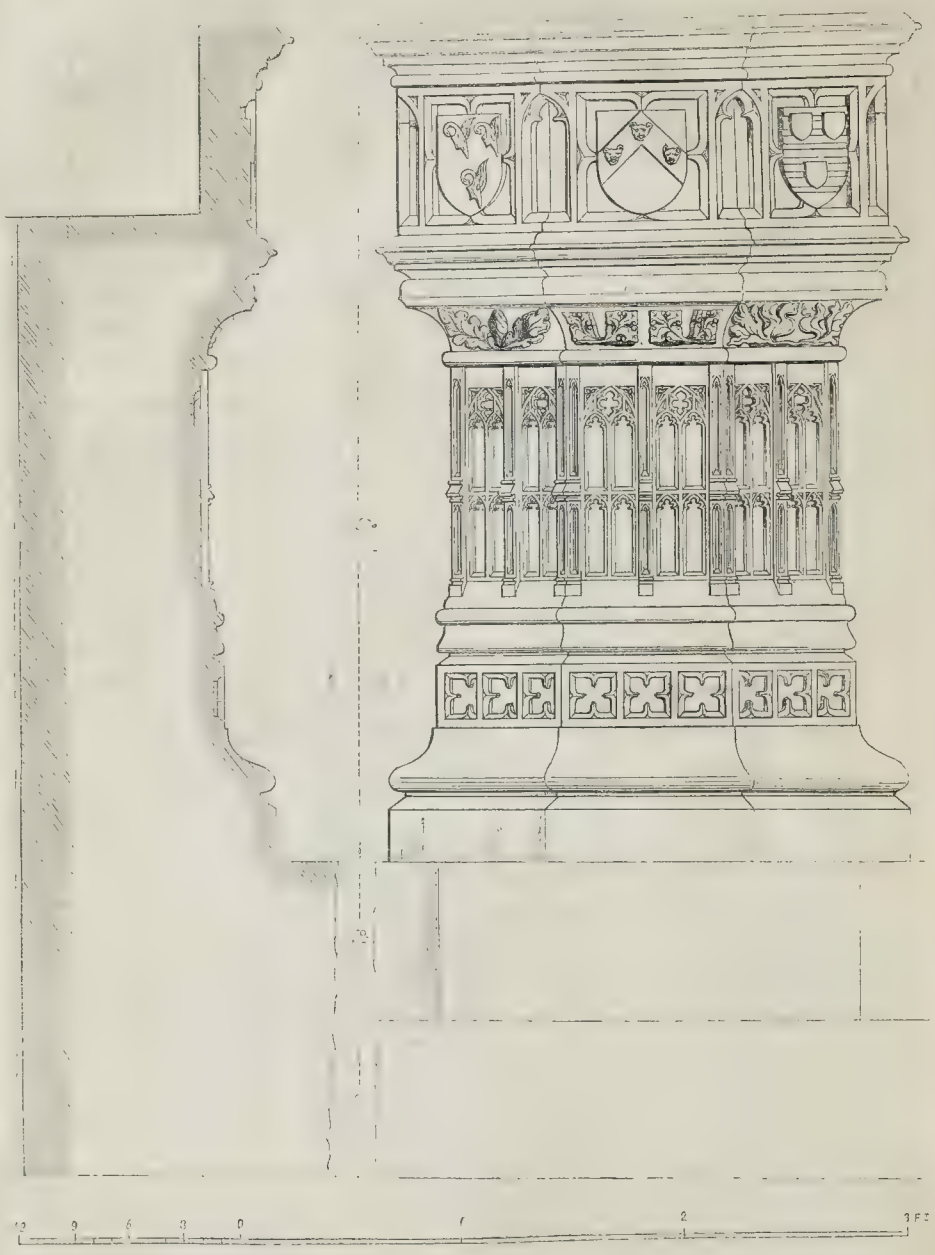
First Year's Course as a Fine Art Prize and First Certificate. — Benj. J. Benwell; second certificate Fredk. Lawrence.

Second Year's Course as a Fine Art Prize and First Certificate.—John Pollard Seddon; second certificate, Wm. Wood Deane.

First Year's Course as a Science Prize and First Certificate.—G. P. Boyce, and Fredk. Lawrence, equal; second certificate, B. J. Benwell.

Second Year's Course as a Science Prize and First Certificate.—T. G. D. Allason; second certificate, Wm. Wood Deane.

FONT, FROM HERNE CHURCH.



FONT FROM HERNE CHURCH, KENT.

This font, although rather late in the style, is a very fine specimen of perpendicular work; it is an octagon on plan, and on each compartment of the bowl is a shield of arms; first, the see of Canterbury; the second obliterated; third, France and England; fourth, three crescents within a bordure; fifth, three pelicans; sixth, three wings; seventh, three heads on a chevron; eighth, three escutcheons.

With the elevation are given a half section, so that the projections and contour of the various mouldings may be more readily understood. The church, situated at a short distance from Herne Bay, is an interesting example of the edifices to be found in our rural parishes, and will afford us materials for some remarks in an early number.

The village and church are well deserving a visit.

ILLUSTRATIONS OF ELIZABETHAN ARCHITECTURE.—(From Crewe Hall.)

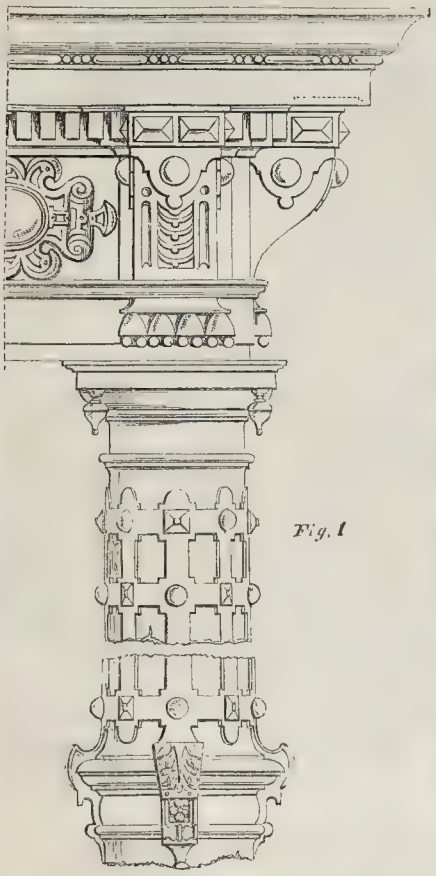


Fig. 1

Fig. 3



Fig. 2

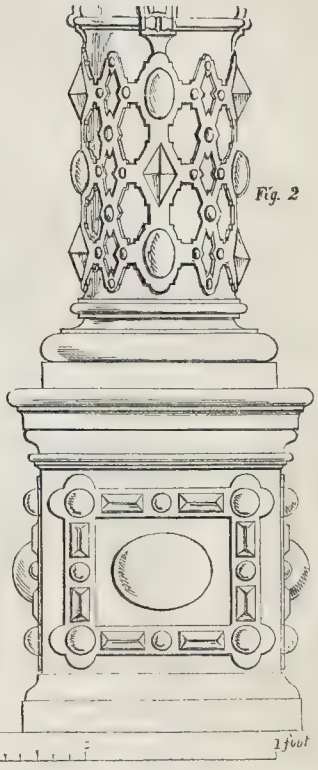


Fig. 4

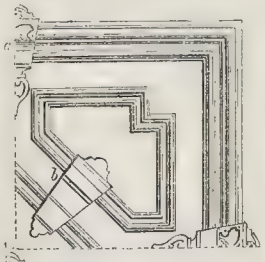


Fig. 7

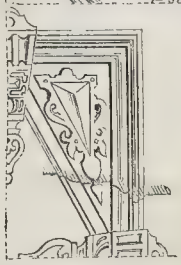


Fig. 5



Fig. 6



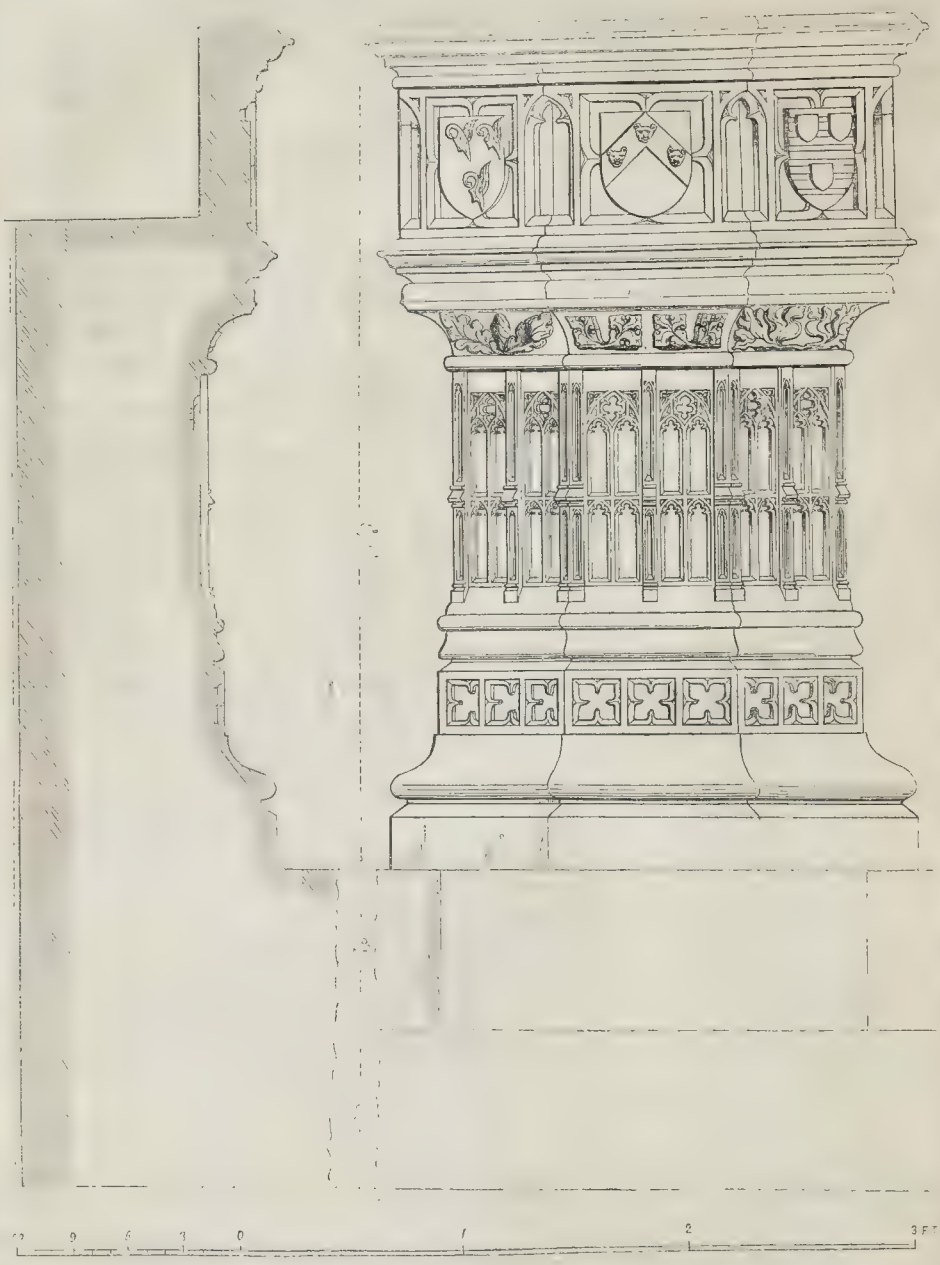
ON ELIZABETHAN ARCHITECTURE.

WITH ILLUSTRATIONS FROM CREWE HALL, CHESHIRE.

There is scarcely any inquiry upon which architects differ so widely as the question "What is the Elizabethan style?" One authority will explain his ideas on the subject by pointing out the buildings raised during the reign of Henry VIII., which another would designate as the latest Tudor style; another goes to Italy or Germany, or even to the north of Europe for the true type, and a third considers it altogether indigenous in England, and merely an odd mixture of the Gothic and Roman styles.

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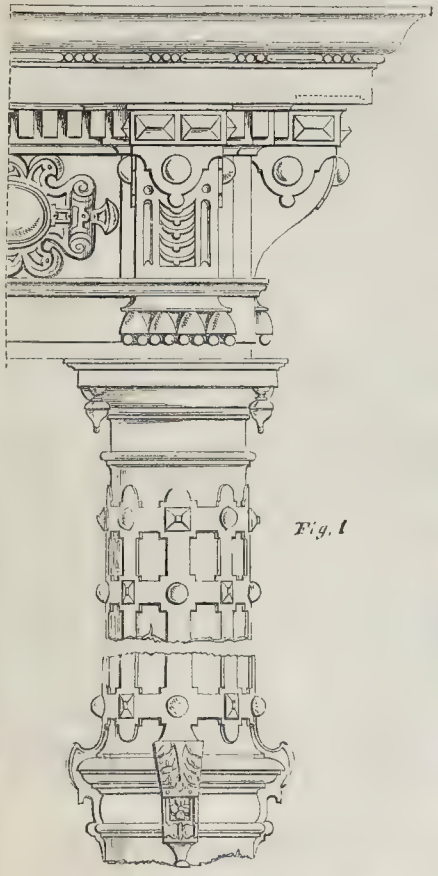


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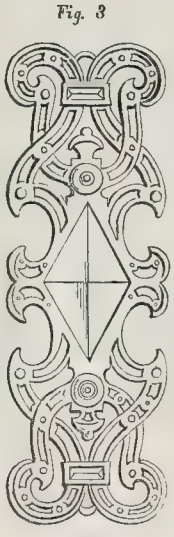


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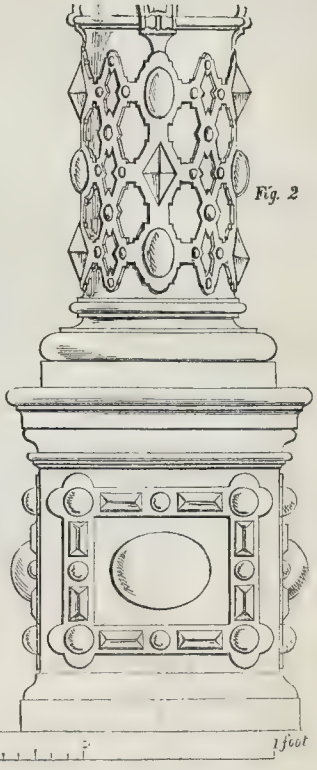


Fig. 2

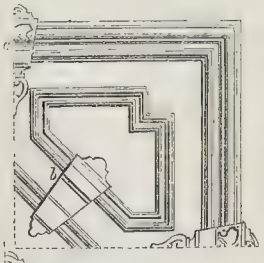


Fig. 4

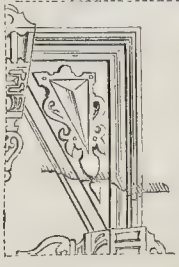


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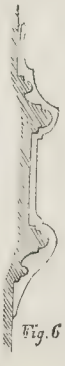


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views have involved the subject. The Elizabethan, we apprehend, is that which immediately succeeded the latest Tudor style, as employed at Hampton Court and Hengrave. It commenced in the reign of Henry VIII., and continued during the whole period of that of James I., and was not lost till the commencement of the reign of James II. The style would be more properly called Jacobian than Elizabethan, as during the reign of James I. it arrived at its best period, and was so universally adopted that it was called in derision King James's Gothic; and by Walpole and others we find this definition given exclusively to buildings now classed under the appellation of Elizabethan.

There can be no doubt that Hans Holbein was the first who introduced, to the attention and admiration of our ancestors, architectural forms, which, although already known on the continent, were to them novel and surprising. It is probable that this new style was first made known by tapestry and pictures, into the background of which Holbein introduced his arabesques and enriched archivolts, before he had been allowed an opportunity of realizing these forms in substantial materials.

The gateway at Whitehall (now no more) was probably among the first architectural efforts of Holbein in England, and, as far as the engraver's representations of this structure enable us to judge, it must have been a heavy looking mass, requiring all the charms of novelty to excite admiration. Admired, however, it undoubtedly was, and from that time the fate of Gothic architecture was sealed.

The small portal of William Horne was a more successful proof of Holbein's skill; but perhaps his proudest effort was the ceiling of the chapel royal St. James's, painted in 1540, a proof of taste in interior decoration, and of skill in architectural forms.

Various circumstances contributed to promote this revolution in the arts; a fundamental change had taken place in the national religion, calculated to awaken a spirit of investigation, by conferring that of freedom; a taste for classical literature became substituted for a passion for military glory; men travelled for pleasure and information; viewed with astonishment and delight the splendid works of Italian art, and, on their return, could ill tolerate the mansions which had hitherto sufficed for their paternal dwellings.

Practical difficulties, however, arose to delay the progress desired in architecture: neither those who designed, nor those who executed, could be expected suddenly and at once to renounce the style which they had studied and acquired from their fathers, and which alone they understood; and, of course, the *amateurs* of those days were compelled to seek the aid of foreign artists, in order to gratify their newly acquired taste. Besides Hans Holbein, of Basle, the name of John of Padua has been handed down to us as a state architect in the reign of Henry VIII., and that of his immediate successor. Thorpe, Holt, and others, succeeded; and in a comparatively short time examples of the Elizabethan style were scattered all over the country.

It is not necessary here to enter into any critical examination or comparison of the works of the various masters of this period. The Paduan architect, as might be expected, exhibits much less impurity than his English followers; for his work, in fact, differed but little from the *cinque cento* style of his native country, as will become apparent to those who compare Longleat with portions of the Doge's palace at Venice.

Another description of artists and workmen were likewise extensively employed in this country; these were the Germans and the Dutch, to whom with greater certainty the impurities in the Italian model, and the enrichments peculiar to the Elizabethan style, may be referred.

A similar transition took place in other countries in Europe, although the states of France and Italy were in advance of us, and the struggle between the old and new manner commenced earlier with them.

In France this transition began under Francis I., and the style which the French antiquaries designate as "*la renaissance*" was the result. This style differs in many respects from *our* renaissance; we have several examples of it in this country, especially in the town and about the neighbourhood of Cambridge.

When classic art and classic literature began to dawn in Europe, their earliest rays were caught by the lineal descendants of ancient Rome, and, as a writer on this subject has remarked,* "the Italians were the first to apply themselves to the renewed study of the style of their forefathers." Like the dawning of a tropical sun, the first rays of light were followed by almost meridian brilliancy. The *cinque cento* appeared full of beauty and grace, and, in its best examples, offering few traces of the forms of Gothic art. Very different was the transition style of Italy from the Elizabethan or transition style of England. With no classic authorities at hand to guide us, with no specimens of Roman magnificence to admire, study, and imitate, we were left to the wanderings of our own imaginations, feebly lighted in our path by the few and disturbed examples of would-be classic art implanted upon our soil. The result was such as might be expected from the imperfectly directed efforts of a genius, nevertheless strong and original, since amongst much that is grotesque and eccentric, we yet perceive a grand and masculine character.

An age and a country that could produce a Bacon and a Shakespeare were not likely to prove contemptible in architecture. With all those minor defects, which we may allow to exist in the immortal works of our great bard, we yet recognize in those works an irresistible strength of spirit, that defies criticism, and strikes dumb the critic; and although England was not fortunate enough to find at this juncture a Shakespeare in architecture, yet can we point to many examples of the art, even at that period, fraught with much of the true Shakespearian spirit, poetic invention, and majestic grandeur.

In our Elizabethan style, the separate works of the Italian, the German, or the English artist, can easily be detected. Their works have each strongly marked characteristics. In the Italian, the details are pure, the proportions correct, and the ornaments better designed and executed. A good specimen will be seen in the screen in the Great Hall of the Charter House. The fire-place in the same room is by a Dutchman, in this style; the ornaments are vulgar, the proportions heavy, and the mouldings few and clumsy. The entrance to the Temple, opposite Chancery-lane, belongs to this class.

The work of the English artist exhibits not quite the elegance of the Italian, nor the rudeness or strongly-developed forms of the German —though it gives evidence that both foreign styles have been diligently studied. The engraving annexed to this article is given as a specimen of this class. It is a mistake in supposing that Elizabethan architecture is a mere medley of Gothic and Roman forms. When the style was fully formed, no Gothic details existed in it. Moreover in its picturesque exterior, with its turrets, gables, &c., it may even be considered superior in this respect to the Italian, which presented a straight outline. Some few forms of the old Gothic house were retained; the oriel or bay window, a peculiar feature in old houses, was too especial a favourite with our ancestors to be discarded; this rendered it necessary that the old mullioned and transomed window should be used. Few specimens of the German window and still fewer of the Italian, are to be found in our old English buildings.

Figs. No. 1 and No. 2, represent the lower order of the screen in the hall at Crewe, the column between the pedestal and frieze is 6 feet in height. Fig. 3, is the ornament in the soffit. Fig. 4 and fig. 7, are portions of two of the panels between the columns, these are well deserving attention. Fig. 5, is a section on a larger scale at *a*, and fig 6, is a similar section at *b*.

In conclusion, this singular method of designing deserves to be examined and well understood by every architect who seeks to be thoroughly informed and accomplished in his art. Its complex forms and elaborate ornaments, its defects and its beauties, to be properly recognized and appreciated, should be studied with a mind unbiased alike by the tendencies of a previous education and the indiscriminating caprices of fashion. But whatever merit the style may appear to possess, it is not desirable that it should become extensively adopted.

For the parsonage-house, the rural and sequestered villa, amidst coppice and garden grounds, the Elizabethan style is not only admissible, but in accordance with the *genius loci*: its quaint gables, fantastic pinnacles and pendants; its intricate parapets and grotesque carvings, connect themselves intimately with surrounding scenery, and form a picture far more readily and agreeably than uniform symmetrical objects. So far let the Elizabethan style be followed; but may no morbid passion for novelty lead to its introduction into civic architecture; still more should we deprecate and deplore its adoption to important public buildings; for the majority of such edifices, there is no style of design so appropriate, so convenient, and so consistent, as the stately and symmetrical Greek, so far modified by the Roman and Palladian styles, as to suit modern views and wants. C. J. R.

* Mr. Sidney Smirke, "Archæologia," vol. 25, p. 227.

PROVINCIAL NEWS.

The bill for the new pier from the Commond Hard into Portsmouth harbour being passed, the directors have advertised for tenders for its erection, and it is hoped it will be ready for use by the close of the year. This pier, which is only designed for passenger traffic, is expected to be of great service to the inhabitants of Portsea and Landport, who have hitherto been obliged to land at the Portsmouth pier or take a boat.——A row of new buildings in continuation of the Blueboar row at Salisbury, is about to be erected in a line extending from the market-place to the further end of Fisherton-street. To make way for this improvement, the property on the north side of Fisherton-street and the intervening houses between it and the market-place are to be purchased by a company about to be formed for the purpose.——The new church at West Fordington, Dorset, will shortly be ready for consecration. —— Another new church, that at Aldborough, is to be consecrated on the 10th proximo. ——A new independent chapel is to be shortly erected at Brentwood.——The new works at Cromer are progressing rapidly. Besides the new jetty, an esplanade and wall are forming from one end of the town to the other.——The building of the new national schools at Willenhall, was formally commenced on Monday last week. ——The new Wesleyan Chapel at Knottingley was opened on the 11th instant. Mr. Simpson, of Leeds, is the architect. It will seat 1,100 persons.——The British School at Evesham, has just been completed and opened. ——Chesterfield has at length begun to participate in the onward impulse of improvement. Many new streets have been formed, and the town, in fact, considerably enlarged. A large iron furnace is in course of erection, and this once dull and stagnant town is likely soon to become one of the busiest in the county of Derby.——The new church of St. Paul, at Morton, in the parish of Gainsborough, will be consecrated on the 3rd proximo by the Lord Bishop of Lincoln. ——The Duchy of Lancaster having liberally provided a site, near the new schools, in the district of Etruria, in the Staffordshire Potteries, a church for the district is to be erected at an expense exceeding 2,000*l.*, of which 1,200*l.* is calculated on from the Diocesan and other societies.——Elworth Church, at Sandbach, was consecrated on Tuesday before last.—— The first stone of St. Paul's Church, Sculcoates, was laid last week, on Friday.——The Liverpool Sanatory Bill passed the Standing Orders Committee of the Lords on that day. ——The erection of the Birkenhead dock warehouses has been commenced. —— The foundations of a new Roman Catholic college and church have been laid within 2¼ miles of the Cathedral of St. Asaph. It is rather remarkable, that the Roman Catholics are thus, as it were, appropriating to themselves the very bishopric which the Government has been seeking to abolish.——The works on the Severn are approaching completion; and the belief of the engineers and contractors is said to be, that the six feet depth from Gloucester to Stourport will be attained by the end of the present summer; and if so, within the three years specified by the Parliamentary evidence as requisite to the completion of the works. The weirs and locks have long been finished, and the dredgers are raising 1,000 tons of soil on an average daily. ——A practice worthy of

general imitation has been adopted by the Glasgow Police Board during the late hot and dry weather, namely, the employment of a portion of the fire brigade in scouring out the dirty courts and alleys of the city with their engines, and in watering the streets; thus effectually cleansing and cooling the whole city, to the greatly increased comfort of the citizens at large.

LIVERPOOL TOWN-HALL DECORATIONS.

The *Liverpool Mail* speaks highly of the decorations now being applied on the staircase of this building. It says:—"By some process, the invention of Mr. Ingram, decorative artist, of Birmingham and London, who is now, with about twenty of his own workmen, carrying on this work, the walls, which are of the usual description, and pillars, are made to represent the finest polished marble, and are susceptible of receiving a polish of great brilliancy. The style of the building being Italian, the whole of the decorations are of course made to correspond. The dome has been very much enlarged, from the peculiar manner of finishing it, in apparent size. The moulding has been etched with gold colours, so as to produce a China-like effect, and to give the idea of height and expanse. The common glass has been removed, and, by the introduction of ground glass, a soft and mellow light is thrown upon the staircase. The walls are enamelled in imitation of Sienna marble, and the columns are finished in Jasper marble. So perfect is the work, that the best judges acknowledge the imitation to be perfect, and, to the untutored eye, the deception, we are sure, would be complete. On the window cases and framing are painted the arabesques from the Vatican—the arabesque style being strictly observed, nothing which has life being introduced. The door cases will be finished in imitation of statuary marble, highly polished, and the Jasper pillars stand out in bold relief from the Sienna and statuary marble. The whole of the ornaments in the door cases and under the dome, the friezes, cornices, &c., are richly etched with gold. This enamelled style differs much from that of scagliola, inasmuch as that great transparency and sparry character, peculiar to marble, can be produced." We must see the work ourselves before we join in the praise.

THE ART-UNION QUESTION.

The consideration of Mr. Wyse's Bill is again postponed, in consequence of the ministerial disarrangement. Wednesday next is named for it.

The current number of *The Topic* combats the objections urged in some few quarters against Art-Unions, with considerable ability and success. The following is the close of the article:—

"We cannot imagine that the legislature will venture to oppose the universal feeling of all classes in their favour; but if they should, there need only be 'an Art-Union League' formed, and they would ultimately grant what they should not now ungraciously withhold. They have three powerful reasons for promoting Art-Unions; the encouragement of the public taste to wean the people from races (supported by Derby lotteries) and other brutalising sports; to gratify the laudable inclinations of the thousands who are subscribers to Art-Unions; and last, not least, to afford to a body of refined and talented men, the artists, the assurance that their pursuit shall have somewhat of the fixity of a profession, and not the precarious and degrading incertitude of a conjurer's calling. Men of letters have long been relieved from a slavish dependence on an ignorant and insolent aristocracy, and surely this body of intellectual labourers have a right to demand that they shall not be denied the opportunity of also being emancipated. We cannot but fear that the opposition to such institutions has a touch of aristocratic self-sufficiency, and that a fear lest mental luxuries should be degraded by being shared with the people, induces many to oppose all that can disseminate the arts. It must still be in the memory of many when the dissemination of piano-fortes and silk gowns amongst the middle classes was resented as an infringement of the rights of gentility.

We have endeavoured thus to examine the pleas raised against Art-Unions, and really cannot, after a careful examination, find any validity in them. We admire art for art's sake; are ready to acknowledge it is a great means of humanizing, and that it may be applied to assist in the elevation of the sentiment, and in the purification of the tastes; and so regarding it, should look with considerable anxiety towards any institution likely to pervert its natural tendency; but in Art-Unions we can only see most important aids—highly beneficial because likely to be permanent, as arising spontaneously out of the circumstances and manners of the nation, and the untutored inclinations of the people. Art-Unions have solved the question, most puzzling to philosophers, 'how to make the people take a genuine interest in Art;' and if for no other reason, they deserve, as they have, the support of the liberal, the tasteful, and the intelligent portion of society."

THE PUBLIC BATH MOVEMENT.

It is gratifying to notice the progress of this improvement in town and country; every week we find it striking root, and spreading out, in some new direction. At a meeting of the Town Council of Chester last week, a site was offered for the erection of baths for the operative classes, and the mayor and other members of the council, pledged themselves to promote their establishment, though being without surplus funds, the council could not make a grant of money.——At Luton, free use of the swimming baths on Saturday has been granted to the humbler classes.——Arrangements are in progress for laying the first stone of the Birmingham baths with great éclat.——The bathing and washing establishments of the north-west district of London, are about to be opened for use. The New River Company have not only granted the site at the base of their reservoir at a nominal rent, but have undertaken to supply water gratuitously for the first six months.——In the Commons on Monday last, Sir G. Grey's bill for the establishment of public baths and wash-houses in large and populous towns, was read a first time.

INSTITUTION OF CIVIL ENGINEERS.

RESISTANCE TO RAILWAY TRAINS—ARCHES.

June 9th, 16th, and 23rd. Sir John Rennie, President, in the chair.—The discussion upon the paper by Mr. Harding, "On the resistance to railway trains at various velocities," was continued throughout the two former of these evenings, and assumed so wide a field, that it would be difficult, in our limits, and without the aid of diagrams, to give an adequate idea of the opinions of the several speakers.

The chief point in discussion was, the statement by one party, that the resistance to a passenger train weighing about 30 tons, at a velocity of 60 miles per hour, would be upwards of 50lbs. per ton; whilst it was contended by another party, that it had been demonstrated to be not more than 18lbs. per ton; this latter assumption was, however, qualified by a statement, that although such a result had been obtained under particular circumstances, and had elsewhere been used as the basis of an argument in the examination into the merits of the broad and narrow gauges, yet it was not meant to contend for its absolute accuracy under all circumstances. The experiments by the committee appointed by the British Association, and those by Mr. Stephenson and Mr. Scott Russell, were adduced, on the other hand, as confirming in a remarkable degree the results obtained by Mr. Harding, and given in the paper. The resistance on railways being analysed, was contended to be composed of the friction of the wheels and axles, which remained constant at all velocities, and the frontage resistance, which increased as the square of the velocity. But there was also shewn to exist a large remainder of resistance, which it was important to consider the constitution of. It appeared that this remainder increased in the direct ratio of the velocity, and not as the squares. The term "concussion" had been used to designate this cause of the expenditure of power, as it was contended that in the passage of a train, a motion resembling that of a wave was communicated to the comparatively inelastic earth. This vibratory action must be caused by an expenditure of power; and it was contended that the striking of the flanges of the wheels against the rails, the flexure of light rails, insecure chains and fastenings, unstable sleepers, the action of the springs, and even the motion of the passengers in the carriages, all absorbed power, causing resistance; and it was argued, that the remainder sought would be found in these circumstances, which had not been generally considered by experimenters. This element of resistance, also, increased directly as the velocity, and not as the square. The effect of the lateral resistance of even a light side wind upon a long train was shewn to be excessive; and it was said it had been given in evidence, that on several occasions seven engines had been required to arrive at a moderate speed with a train of 100 tons in a gale of wind acting laterally. The experiments on the resistance to trains descending inclined planes by their own gravity, as tried for the British Association, were quoted as being still the most conclusive record. It was, however, shewn that the atmospheric system afforded the best opportunity for testing absolutely the resistance, as by observing accurately the vacuum in front of the piston, as shewn by the barometer, and the velocity of the train, its positive weight being known, and the air being presumed to enter behind the piston at the atmospheric pressure, and allowing 100lbs. for the friction of the piston, a most perfect dynamometre existed, and all the attendant circumstances being stated, accurate results might be arrived at; it was therefore suggested that as such great discrepancy of opinion existed on the subject of resistance (varying between 18 lbs. and 72 lbs. per ton), an application should be made by the Institution to the Croydon Railway Company, for permission to try a series of experiments to settle the question on a certain basis; and that this investigation should be restricted simply to the scientific inquiries as to resistance, and not touching at all upon the commercial or the comparative value of the locomotive and atmospheric system of traction, they being foreign to the views of the Institution.

The first paper was a description by Mr. Biddes of his swing-bridge over the Wensum at Norwich. The bridge was described as covering, by two spans of 45 feet each, 85 feet of the river and a portion of the land on the Norwich side. It was so constructed that turning upon a centre-pin fixed upon piles, the two sides opened simultaneously; thus balancing each other, and giving great facility for opening and shutting it for the uses of the navigation and the railway traffic. The whole structure, the details of which were elaborately given with the method of building, was of cast and wrought-iron. It weighed 347 tons, and was manufactured from Mr. Biddes's designs. The paper was illustrated by a model presented by Messrs. Grissell, and by a set of drawings by Mr. Cheffins.

A paper was afterwards read "On the stability of arches, with practical methods for determining the proper forms of their sections," by Mr. G. Snell. This paper consisted of four sections with an appendix. The first section treats of the general conditions of stability in arches. The second discussed the conditions of stability of an arch composed of materials of infinite strength to resist compression. The arch being similar and similarly loaded on either side the crown, and one of the points of rupture being therefore assumed to be at the crown.—The third section shewed how the results of the investigations in the second section might be applied to actual practice, or to the case of an arch of limited strength to resist compression, which was actual the condition of the stronger material, and which greatly affected the results of the problems in the former section, based on the hypothetical conditions of infinite strength of materials. This section shewed how the form of section of an arch might be designed according to the strength of the material of which the arch was to be composed, but in this section, as in the second, the arch was supposed to be similar, and similarly loaded on either side the crown, and one point of rupture was assumed to be at the crown. The fourth section investigated the conditions of stability of an arch, either similarly or not similarly

loaded on either side of the crown of the arch, and the various points of failure were determined without the assumption of one of them. By means of this problem the proper form of action might be designed for an arch to be subjected to any number of pressures acting in any position and direction. Thus the effect of men walking over a vaulted ceiling, or any other pressures in vertical directions, or the effect of the thrust of other arches, or of pressures in oblique directions, might be counteracted by the particular form of section arrived at by the application of the method described in this section. The author followed the principle of Professor Moseley, and applied them to the proof of a tentative process, which was advanced by M. M. Lauri and Chapeyron, and proved by an abstruse method requiring the aid of the intesimal analysis on principles entirely different from those of Professor Moseley. The investigations and problems in this paper did not require the application of algebraic analysis either in their proof or practical application; no more than a knowledge of the first laws of statics, and the leading principles of geometry, was required either to work the problems or to undertake the reasoning on which they were founded. The appendix contained some observations on methods of finding the centre of gravity without algebraic calculation; and the paper was illustrated by a series of diagrams, which rendered the problems clear.

SIR JOHN RENNIE'S THIRD CONVERSAZIONE.

The third conversazione of the season given by Sir J. Rennie to the members of the Institution of Civil Engineers and his friends, was held on Saturday evening, June the 27th, and was numerously attended. Many additions of interest were made to the collection of models. Among them we may mention Fairbairn's very ingenious method of fastening boiler rivets by pressure instead of the old method of hammering. Captain Dowell's plan for avoiding the inconvenience of the difference between the broad and narrow gauge, in the transport of goods on railways, by having cases of such dimensions, that they should accord with the narrow gauge placed end ways and be readily transferred to the broad gauge travelling sideways. These placed upon trucks with rollers in them, would enable a considerable quantity of goods to be readily exchanged from one gauge to another. Some interesting modifications of the electric telegraph, by which any signals could be transmitted from a central station to any of the branch lines or stations without necessarily being sent through either of the main termini. This ingenious arrangement was governed by a small instrument called a deflector, which broke or established the current apparently with undeviating regularity.

Professor Wheatstone's stereoscope, and Perigal's instrument for describing curves and various other figures of the greatest variety, and apparently by the most eccentric, yet most perfectly regulated action, combining the effect of six circular motions. Leake's specimens of pressed leather ornaments were particularly admired, and it was gratifying to find this useful invention being so greatly improved as it has been lately.

RUINS IN ATHENS.*

In those tranquil undisturbed scenes, where the impressions produced by outward picturesqueness of form give place to reflection, the ruin becomes a delicate allusion to the frailty of human existence. This is, at least, the moral side of the subject which should be most prominent in the representation of a ruin in a classical composition, and which, next to its advantages as a beautiful object, constitutes one of its chief sources of interest. In a picture, it is necessary to give up the greater part of those associations which render ruins objects so valuable to the antiquarian; they must cease to point out, in a special and distinct manner, the character and customs of the nation to which they belonged, the period at which it flourished, and its connection with other people. All these circumstances cause the thoughts to wander beyond the limits of the scene, and detract from its unity. At Tiryns and Mycene, near the gulf of Nauplia, there are ruins in Hellenic masonry, the rudeness of which refers them to the remotest periods of Grecian history; whilst their comparison with the finished and elegant monuments at Athens, brings down these last to a time, as it were, little remote from our own. The walls of these two cities are formed of huge blocks of stone, imperfectly shapened to each other, and uncemented: and the subterranean vault near Mycene, considered to have been the treasury of Atreus, and also designated as Agamemnon's tomb, though more perfect in its design and work, presents in its singular character, and the massiveness of its construction, a style equally primitive. In both cases the surrounding prospect is perfectly barren: no bushes deck the harsh nudity of the walls, no shrub casts a doleful shadow on the mausoleum. But in a drawing of monuments of this kind, these circumstances, unpicturesque as they are, could not be omitted; or the spot would lose its peculiar character. The representation of them must, therefore, be confined to the form of a mere diagram, or illustrative sketch, having for its object the style of the ancient monument and the peculiarities of its site. It is an interest, which, to be fully partaken of, should be quite distinct from that which a finished picture affords, and which is derived from a source too different to admit of their being both embodied into one sentiment.

In Greece, more than in any other country, the modern art might be best expected to associate and harmonize with the ancient. The prevailing feeling there, is, that of reviving the nationality of ancient Greece—of establishing a close and patriotic connection between its former splendour, and its present prosperity and political influence. This spirit shews itself in the adoption of the language of the ancient Greeks, of their dramas, coins, &c.; but, fortunately for the arts, it has not been allowed to encroach upon the purity of the ancient monuments. At Athens, no attempt has been made to embody these memorials of the past in the rising city. Their simplicity and chasteness remain undisturbed by the proximity of any modern edifice. These have been kept at a respectful distance; and, in their modest retirement, exhibit no pretensions to imitate the sublime prototypes of architecture, which the nation prides itself in possessing. This forbearance is the more striking, since the same elements which produced the majestic Temple of Jupiter and the Parthenon, are still had recourse to for the ornament of the modern city.

The little apparent connection between modern Athens and the monuments which adorn the neighbouring heights, shews the impossibility of forming any close union, whether architectural or modern, between the two; and of raising the splendour of the modern city upon the venerable remains of her former greatness. How different the allusions to the past, which Nature has, as it were, accidentally brought about! The rocks of Mount Pentelicus, still rough from the strokes of the axe, and its slopes covered with the fragments scattered by the chisel, impress forcibly the time when the columns of the Olympian Temple, or the beautiful friezes of the Parthenon, were cutting out of the quarry, or making their way down the rugged paths of the mountain. You might almost fancy, by turning a projecting corner, or by penetrating into the ravine which forms a natural footway up the ascent, to see the busy slaves and their robed masters; indeed, all the life and bustle which the erection of a stupendous monument of art would spread into the very passes of the mountain. Some large blocks lying prostrate for immediate use, and numberless chips glaring white from their recent removal, draw still closer together the union between the present and the past, which appears so unexpectedly in this retired recess.

The rich yellow tint so conspicuous in the marble monuments about Athens is not one of their least remarkable features; the decomposition of the marble has taken place at the very surface only, and the brilliant colour of this light and superficial envelope makes it appear, that the golden rays which in this beautiful climate have for centuries risen and set upon these ruins with almost unvarying splendour, had at length left a stain upon the marble, bright and pure as the light which plays about them.

Generally speaking, ruins present less variety of colour than the rock whence the material was taken. The roughness of their surface, which allows the water to escape down the furrows and gives speedy effect to the drying action of the wind, prevents the formation of the green tints which are the result of moisture; and which are more abundant on plastered walls or smooth stone, over which the moisture spreads.

Those monuments at Rome, the materials of which are indifferently rough and smooth in various parts of the edifice, present considerable variety of tint. Some indeed, having been patched up at different periods, present a picturesque contrast of the brown and lighter colours; but the numerous brick buildings near the forum in the Campagna do not shew much variety, and few traces of green, excepting where exposed to damp; thick foliage, however, decks their summits and projecting parts.

The brick masonry of the palace of the Cæsars and of other similar ruins, is of a dull warm grey, nearly uniform; but the upper part of the walls has become brown. The exterior of the Colosseum, and such other buildings as are externally sheathed with a covering of stone masonry, have more or less a yellowish tint; but scarcely present a distant resemblance to the gilded appearance of the ruins at Athens.

* From a very interesting work "On the Elements of Picturesque Scenery, considered with reference to Landscape Painting. By Henry Twining, Esq. Printed for private distribution: 1846."

Correspondence.

CEDAR FOR BUILDING PURPOSES.

Sir,—Observing in a letter signed "J. E." in your last number, a proposal to introduce foreign cedar for building purposes, will you allow me to make your valuable publication the medium for inquiring if "J. E.," or any of your correspondents, can furnish any data from which to calculate its relative strength, if used for the purposes to which oak is usually applied in buildings, also the names of the principal importers.

Is the price stated 5d. per superficial foot, an inch thick? if so, I suppose it can be supplied alongside (in the Thames), at something less than 5s. a foot cube. Can any correspondent speak as to its liability to warp or shrink?—I am, Sir, &c., ÆDIFICATOR.

Pimlico, June, 1846.

Miscellanea.

Carpenter's Bill in 1742.—The *Chelmsford Chronicle* says:—A correspondent has sent us the following copy of a carpenter's bill, for work done upwards of a century ago:—

Jvly ye 15, 1742. A bill of carpenter's werk don for Johnadab Bvtcher.

	£.	s.	d.
15 for 48 foot of Sell	01	04	00
for a day of 2 men.....	00	04	00
16 for ½ a day ditto.....	00	02	00
17 for ½ a day ditto.....	00	02	00
for 6 foot of qverter	00	01	9
for 27 foot of paling	00	15	00
23 for a day of a man.....	00	02	00
for 12 6-foot battons.....	00	06	00
for 4 12-foot ditto.....	00	04	00
24 for a day of a man.....	00	02	00
for 2 winddow shass	00	02	9
	03	05	6

Extraordinary destruction of Houses.—Another of those astounding conflagrations, which, in the nineteenth century, appear to be chiefly, though not altogether, confined to the American side of the Atlantic, has just occurred at St. John's, Newfoundland. Two-thirds of the town have been destroyed, comprising two whole streets, each fully a mile in length, besides detached buildings, and extensive stores on the wharfs. Numerous public edifices are amongst the number. Twelve thousand individuals are houseless, and at least a million of money consumed.

The late Mr. Haydon.—A meeting has been held to devise means for providing for the widow and daughter of this unfortunate artist, and a subscription commenced to raise a fund. The Queen has granted a pension of 50*l.* per annum to Mrs. Haydon.

MODEL RAILWAY IN FRANCE.—It seems that Arles, the place where Roman structures 1800 years old exist in such perfect preservation, is now prompting French engineers to similar exertion. The following is a short extract of the projects for the present buildings:—The viaduct of the railway of the Durance river will have a length of 493 metres between the abutments, besides 20 metres of abutment at each side, which will give it an absolute extension of 533 metres. Its height is to be 9·36 metres, computed from low-water mark to the level of the rails; its breadth 8 metres between the parapets. It is to be supported by 20 piers of 3·50 metres thickness, combined together by 21 elliptic arches of 20 metres opening. The elegance of the piers, the gracious opening of the arches, and the imposing mass of the viaduct, will make it one of the finest structures of the whole line. After this immense art-structure, the thing next worthy of admiration is the cutting of the rock of la Roque—an immense mass of stone, which was to be cut through from top to bottom to the extent of 125 metres by 25, which yielded a mass of 42,000 cube metres of debris of rock. Especially also is to be noticed the nicety of the nineteen cottages of the guards of the line, between Arles and the Durance. To each a little garden has been annexed, to employ profitably the leisure of the men and families. Follows then the monumental viaduct of the Rhone, which will connect, by the way of Tarrascon, the Avignon line with that of Bordeaux to Cette. This gigantic structure is already begun. It is only 370 metres from the suspension bridge of Beaucaire; thus two of the finest and hugest modern structures will be erected at a short distance from each other. The activity on the railways in the south of France is now so great, that in the arrondissement of Aix alone 1390 workmen are employed.—*Mining Journal.*

GOTHIC VERSUS CLASSIC.—Immediately on going out, next day, says Dickens, in his "Pictures from Italy," we hurried off to St. Peter's. It looked immense in the distance; but distinctly and decidedly small, by comparison, on a near approach. The beauty of the Piazza in which it stands, with its clusters of exquisite columns, and its gushing fountains,—so fresh, so broad and free and beautiful,—nothing can exaggerate. The first burst of the interior, in all its expansive majesty and glory,—and, most of all, the looking up into the dome,—is a sensation never to be forgotten. But there were preparations for a Festa: the pillars of stately marble were swathed in some impertinent frippery of red and yellow; the altar, and entrance to the subterranean chapel, which is before it, in the centre of the church, were like a goldsmith's shop, or one of the opening scenes in a very lavish pantomime. And though I had as high a sense of the beauty of the building (I hope) as it is possible to entertain, I felt no very strong emotion. I have been infinitely more affected in many English cathedrals when the organ has been playing, and in many English country churches when the congregation have been singing. I had a much greater sense of mystery and wonder in the cathedral of San Mark, at Venice.

SUDDEN BURIAL OF HOUSES.—An extraordinary circumstance took place on Sunday evening last, at Hateley Heath, West Bromwich—the total and immediate disappearance of three houses, in consequence of the thick coal having been got from under them. The houses were inhabited, but fortunately no lives were lost. About two hours before they gave way, a crack was observed in the middle house, but no noise or report was heard. About half past eight o'clock the middle of one suddenly fell in; an alarm was made, and as soon as the people could get out, the whole with a great crash, immediately sank down, the top of the houses being five or six yards below the level of the surface, and covered with soil. The width of the hole is about ten yards, and the length about thirteen. Had this occurred about two hours later, when the people had retired to rest, not one of them, it is thought, could have escaped. Notice to quit had been given three or four months before, but as they did not apprehend any danger, the tenants refused to leave the houses. They were lately purchased for the purpose of being pulled down.

THE EFFECT OF FREE-TRADE IN GLASS.—An example will serve to shew how the supply of an article may indefinitely increase without meeting the demand, and how the profit of the maker and the wages of the artisan may be found compatible with an indefinite reduction of prices. It is a comparison of the plate-glass trade in 1827 and 1846. It must be premised that in 1827 a ton of coals cost at the works 30s.—now only 13s. The difference in the price of pearlashes is almost as great. The chief difference, however, is the great improvement in the methods of manufacture, in the use of larger furnaces, melting pots, steam-engines, grinding and polishing benches. The result is, that whereas large plates were then made with great difficulty, they are now made with perfect facility; the manufacturers then kept a large supply on hand—now they can only supply their customers from hand to hand, and that with difficulty. Wages were then comparatively low; now, though of course not so much per foot, they are high. The prosperity of the trade has been progressive. In 1827, glass sold for about 12s. per foot, to the extent of about 5,000 feet per week. In 1844, for 6s. or 7s, to about 23,000 feet per week. In 1846, for 5s. or 6s., to about 50,000 feet per week, *exclusive of foreign glass.* There can be no doubt, then, in a few years the demand will increase, and the price fall, till every small tradesman has plate glass, not only in his shop, but also in his parlour, or even in his bedroom, with a great increase of his comforts and without much extravagance. Even at the present prices, at 5s. or 6s. per foot, builders are recommending the use of plate glass, by the argument that, in a few years, the want of it will be remarkable.—*Somerset Gazette.*

BABYLONIAN BRICKS.—The Rev. Dr. E. Hincks, in a letter read before the Royal Society of Literature on the 11th inst., says:—"I have ascertained, *beyond all doubt*, the nature of the inscription on the Babylonian bricks. It contains the name, title, &c. of the king in whose reign the bricks were made; not a form of prayer, as Grotefend pretends. Thus the date of the building is given. Now as it appears, from the short extracts given in Grotefend's plate from the great inscription of the East-India Company, that this contains the name and titles of the king who built the greater part of Babylon, and whose name is on the signing (?) of the bricks (the Biblical Nebuchadnezzar), and also the name of *another king of a different country*, and infers that this inscription does not contain a *ritual*, but an account of conquest or treaties,—it is perhaps of the same nature as the Bisitun inscription, and probably of *at least equal* importance. This has greatly increased my anxiety to obtain a copy of this inscription—permanently if possible, and if not, for a time, till I have looked over it. I entertain a confident expectation of being able to read and translate it. I have already the powers of the greater part of the characters on the bricks; and from the proper names of countries which, I presume, occur in the inscription, and from the Semitic analogies of many words, I should soon discover the rest."

NEW DOCKS AT SOUTHAMPTON.—The opening of the New Graving Dock, a structure from which great commercial advantage to the town has been anticipated, was formally completed on Saturday last. It has been built in about fourteen months by Messrs. Cubitt, at a cost of 60,000*l.* The superintending engineer was Mr. Alfred Giles. Its extreme length is 313 feet; width of middle, 78 feet; breadth of gates, 66 feet. At high-tide there is about eighteen feet of water. The dry dock is making rather slow progress towards completion. The tidal dock is now in active use, and its business is in daily increase.

NOTICES OF CONTRACTS.

[We are compelled, by the interference of the Stamp Office, to omit the names of the parties to whom tenders, &c. are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen in application at the office of "The Builder," 2, York-street, Covent Garden.]

For alterations to be done in the reading-room of the London Mechanics' Institution.

For the erection of a church at Portswood, near Southampton.

For the erection of a new workhouse in the parish of Gravesend, for the Gravesend and Milton Poor Law Union.

For the supply of an oval crown gasometer, of sheet iron, 28 feet deep, No. 13 gauge, with stays and chains for counter balance weights, for the Dawlish Gas and Coke Company.

For the occupation for 5, 7, or 10 years of a commodious and excellent brick and tile yard, kiln, mill, &c., near Taunton, with clay in great abundance, and of superior quality.

For cast-iron mains of 3, 2, and 1½ inch, for the Dawlish Gas and Coke Company.

For the erection of four cottages at Beccles.

For the valuation of the parish of Longford, in the Ashbourne Poor Law Union.

For the valuation of the parish of Hungry Bentley, in the Ashbourne Poor Law Union.

For the building and construction of a stone lighthouse on the site of the present Abbey Scar Perch, in the river Lune.

For the erection of a wooden lighthouse on the land between Crook Farm and Cockersand Abbey.

For the erection of a church between Highfield and Portswood, near Southampton.

For the sale of an extensive and useful builder's and carpenter's yard, with workshops, stock in trade and good-will, &c., at Colchester.

For the execution of a station and other works at Stratford, for the Eastern Counties Railway Company.

For lighting the City of Bristol with gas for seven years.

For the whole or any of the works required for the erection of a Catholic church at Chelmsford.

For the erection of a farmhouse at Glasbury, county of Radnor.

For the works of the Portsmouth Harbour Pier.

For the disposal of Wilson's Iron and Brass Foundry, Leicester.

For the repewing of the parish church of Sharnford, county of Leicester.

For taking off part of the roof of the church at Blaby.

For reroofing part of the church at Blaby.

For winning and breaking limestone, for a period of time, to be fixed by the trustees of the turnpike-road from West Auckland to Elishaw, in the county of Durham.

For laying broken limestone on the road from Elishaw to Woodburn Bridge, Durham.

For laying broken limestone on the road from Woodburn Bridge to Tongate, Durham.

For laying broken limestone on the road from Tongate to Brick Kiln, near Woodfords, Durham.

For laying broken limestone on the road from Brick Kiln, near Woodfords, to Stagshaw Bank Bridge, Durham.

For laying broken limestone on the road from Stagshaw Bank Bridge to Tinkler Bank Top, Durham.

For certain restorations and repairs of the church of Enderby.

For screening the battery at Willington.

For lighting fifty-two public street lamps with coal gas, in the town hamlet of Watford, including lanterns, columns, brackets, fittings, painting, &c. (promptly).

For making about 541 perches of a new intended road between Wexford and Carlow, Ireland.

For an extensive addition to the mansion-house of Drummuir, Scotland (extension of time).

For the erection of a large dining pavilion at Inverness, for the Highland Agricultural Society's cattle show (promptly).

For the erection of a district military prison at the barracks, Cork, Ireland.

For the excavation and construction of two gasholder tanks for the Canterbury Commercial Gaslight and Coke Company.

For the disposal of an old-established trade, with the machinery and implements of an engineer, near the East and West India Docks, and the river Thames.

For the erection of additional buildings required at the Salop Lunatic Asylum.

For the erection of a farm-house and outbuildings at Stetchworth Ley, near Newmarket.

For the disposal of an old-established ironmongery business, wholesale and retail, in one of the best towns in Suffolk.

For the erection of convalescent wards in connection with the Fever Hospital of the Union Workhouse of Kilmallock, County of Cork.

For the erection of a kitchen and washhouse for the Kilmallock Union Workhouse, County of Cork.

For works to be done at the Tullagh Church, County of Cork.

For works to be done at the Donoughmore Church, County of Cork.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At Hampshire-terrace, Southsea: a large stock of timber, deals, stone, slates, ironmongery, paints, &c., with glazed sashes, panelled doors, ladders, &c.

At Knotting, Bedfordshire: about 1200 oak timber trees.

At Latchley's Wood, near Finchingfield, Essex: 300 oak trees, &c.

At the Sands, Leith: a cargo of yellow pine and birch, of large scantling, with several thousand deals and battens.

At Baltic-street, Leith: 165 logs Honduras, 140 Cuba, and 80 St. Domingo mahogany, with 49 tons rosewood.

At Inverary: a large quantity of growing and cut timber, chiefly larch and Scots fir, of great age and size, and excellently adapted for railway sleepers, house-building, &c. (postponed sale, now fixed).

At Wapping: the building materials of three houses.

At Westminster: the materials of nine houses.

At Oxford-street: some very fine specimens of stained glass, an altar-piece, formerly in the possession of Tippoo Saib, antique oak, &c.

At the Bull's Head and Anchor Hotel, Loughborough: several lots of building materials.

At the premises of the Workington Iron Company, at Workington, Cumberland: 150 to 200 tons bar iron, in lots: 75 tons ballast pig-iron, and 200 tons No. 4 Scots pig-iron; also various tools, furnace, plates, &c.

At Windsor: a large quantity of scaffolding poles, slates, tiles, fire-bricks, gravel, paving, and other materials, useful to builders, bricklayers, plasterers, road surveyors, and the building trade in general.

At Attercliffe Common: a quantity of building materials.

At Woodhastwick: 2000 ash, alder, and birch poles, 500 larch poles, &c.

At Strathmartine, near Dundee: 750 larch trees, fit for railway sleepers.

At Davis's Mart, 68, Mark-lane, London: the whole of the plant and materials of the Experimental Railway on Wimbledon Common, constructed to shew the working of Prosser's patent guide wheels, and comprising locomotive rails, &c.

TO CORRESPONDENTS.

"*B. & H.*" The parapet, strictly speaking, is distinct from the cornice. Much would depend on the wording of the specification. If the stipulation be "to restore the clerestory walls and parapet," the cornice must be considered as included.

"*J. B.*" (*Royal Medal.*) Apply to the Secretaries, 15, Grosvenor-street, Grosvenor-square.

"*H. Hill.*" Apply to the Secretary, in the Adelphi.

"*Llandilo Church Competition.*" Another subscriber complains of the length of time his drawings have been kept.

"*One of your Subscribers.*" We know nothing of the parties named.

"*Sound.*" We hope before long to direct our attention to the mode of constructing buildings with reference to sound.

"*W. D.*" Next week.

Received.—"C. M.," "W. P. G.," "Rev. J. B.," "W. R. H."

Books received.—"Chart, illustrating the Architecture of Westminster Abbey. By F. Bedford, jun." (Robinson, Fleet-street). "Patent Journal, No. 5." "Dolman's Magazine, July." "People's Journal, July." "Railway Register, July."

ADVERTISEMENTS.

TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorized CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced.

I. FARRELL, Secretary.

Station, near Westminster Bridge, Jan., 1845. Seyssel Asphalte Company,

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

SIR WILLIAM BURNETT'S PATENT for the Preservation of Timber, Canvas, Cordage, Cotton, Woollen, &c., from Decay.

TESTIMONIALS.

From THOMAS GRAHAM, Esq., M.A., F.R.S., L. and E., Professor of Chemistry, University College, London.

"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.

"The wood appears to be fully and deeply penetrated by the metallic salt; I have found it in the centre of a large prepared paving block.

"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the crystallizable salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.

"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Toplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotised principles it contains, by entering into chemical combination with them.

(Signed) "THOMAS GRAHAM."

"University College, 25th October, 1845.

From Professors BRANDE and COOPER.

"London, 4th November, 1845.

"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.

"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, when compared with a piece of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.

"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.

"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.—(Signed) "WILLIAM THOMAS BRANDE,

"JOHN THOMAS COOPER."

"To Sir William Burnett, K.C.H., F.R.S., &c. &c."

Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 53, King William-street, London-bridge.

AT REDUCED PRICES.

PREPARED FLOORING BOARDS.

ALWAYS ON SALE, a LARGE ASSORTMENT of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¼ inch to 1¼ inch thick. Rough Boarding for Flats.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Smith-street, Westminster.

PREPARED FLOORING BOARDS

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, Old-Barge-Wharf, Upper Ground-street, Blackfriars, and and at his Depôt, H. Castle's, Ship-yard, Millbank, Westminster, a very large stock of well-seasoned Floor Boards of every variety.

A. R., in calling the attention of builders and consumers, confidently presumes on his being able to supply them on such advantageous terms, as will ensure and merit their favours and approbation.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Pantiles.

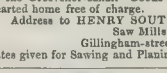
MUIR'S PATENT  PLANING MACHINERY.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM, Saw Mills, Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.



TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.

THE GENERAL WOOD CUTTING COMPANY continue to receive the most satisfactory assurances from all who have tested the capabilities of their improved machinery, by its performances, that there is no method of preparing floor-boards, matched linings, skirtings, &c., by which accuracy, dispatch, and economy of material are so certainly obtained. In shooting, or groving and tongueing a board (although curved), the machine follows the edge, and removing no more than the skin of the wood, and by the use of a peculiar saw for deep cutting, the board comes off with a perfect surface, thus obviating the necessity of reducing its thickness in order to plane out the hollows. The Company being neither builders nor timber merchants, and unconnected with any trade but that of sawing and planing, and depending solely on the public for a moderate interest on their capital, are determined, by an assiduous attention to the interests of their customers, both as regards workmanship and general business arrangements, to merit a continuance of their support.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cements. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.

Manufactured by J. B. WHITE and SONS, of Millbank-street, Westminster; and sold at their warehouses—Earl-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

ROMAN CEMENT, &c.

REMOVAL.

THOMAS JOHN CROGGON

Begs to inform the Trade that he has removed to 8, LAWRENCE POUNTNEY-HILL and THREE CRANES WHARF, 69, Upper Thames-street.

Orders addressed to either place for ROMAN CEMENT of genuine quality will be executed with promptitude and the strictest regard to quality and economy.

KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Millbank-street, Westminster.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

THE PROJECTED RAILWAYS.

BENSON, LOGAN, and CO.'S PATENT METALLIC SAND CEMENT.—Its merits, as stated in letter to the Proprietors, by James Thomas Knowles, Esq., Architect, Raymond's Buildings, Gray's Inn, are:—

1st.—The great tenacity with which it adheres to brick, stone, and iron.

2ndly.—"Its freedom (when properly applied) from those cracks and flaws, by which the cements generally used for external stuccoing are so frequently disfigured.

3dly.—"The total absence of the unsightly tint produced by vegetation.

4thly.—"The increased hardness which it acquires from exposure to atmospheric influences.

5thly.—"The great beauty, accuracy, and durability of the mouldings, capitals of columns, crockets, finials, and other architectural enrichments and decorations formed of it, the smallest and most delicate members of which, as well as the sharpest arises, have withstood uninjured the severities of our climate during many winters, and now present the same perfect and highly finished appearance as would be produced by stone carvings carefully executed.

6thly.—"The excellent and agreeable tone of colour which it assumes naturally, and retains without the aid of any colouring or painting.

"And lastly, its extreme hardness and almost entire incompressibility when used as a mortar in the construction of inverted or relieving arches, foundations under important superstructures, and small bearing piers, which have to sustain great weights. For all these purposes it has been extensively used under my directions, and in some cases has been exposed to very severe trials. The results have, however, without one exception, been most satisfactory; and I do not believe that there are any known substances so well adapted for the execution of works, in which the greatest strength and durability are essential."

Further information will be given, and specimens shewn, on application to Mr. C. K. DYER, 4, New Broad-street, and at the Metallic Cement Wharf, King's-road (opposite Pratt-street), Camden New Town, London.

HOT WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories, and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises. BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

The Builder.

No. CLXXIX.

SATURDAY, JULY 11, 1846.

THE Royal Institute of Architects possesses our best wishes, and has had our strenuous exertions in its favour publicly and privately. It does not, however, follow that we must be satisfied with all the acts of the council, negative and positive, or refrain from commenting on them, even though our comments might strengthen the hands of those opposed to it. The Institute possesses considerable power (it ought to have even more), and may effect much good. It is our duty to see that the council avail themselves to the utmost, of the means at their disposal with a view to that end; and if they do not do so, to point out their errors and urge them to amend.

If we acted otherwise, we should shew ourselves unworthy of the confidence the public are pleased to place in us.

In our notice of the annual general meeting, in May last, it was said there were some points in the report of the council then read, to which we objected, and should allude on another occasion. The matters in question are, the limitation of the age of competitors for the royal medal to twenty-five years, and the proceedings in respect of an inquiry into professional charges and responsibilities. We will speak of the latter first.

"Towards the close of the last session," says the report, "a committee was appointed 'To inquire as to the custom of architects, in respect to professional charges, and other matters connected with the practice of the profession, with such recommendations as they may think fit to ensure a uniformity in such proceedings.' This committee, consisting of some of the most experienced members of the body, had numerous meetings from time to time during the session and vacation; and it appears, from their report, that they found the most perfect unanimity to prevail amongst the members, on all the more important questions connected with the practice of the profession, on the liabilities and responsibilities of architects, and as to the usual and accustomed remuneration for their services under different conditions. The information thus obtained, and embodied in the minutes of the committee, and available for the use of the members in general, will it is presumed be peculiarly valuable on occasions when questions may be submitted to the council for their consideration and advice, as they will now be enabled to deliver opinions with the weight and authority of the profession in general, as represented by the Institute, instead as heretofore merely expressing the opinions of individual members."

In other words, this says, they do not propose to publish, or even to allow the members to become acquainted with, the unanimous opinion of the profession, excepting in reply to specific questions; a resolution, as we think, greatly to be deplored.

Architects labour under a disadvantage in respect of their charges, and it is to the Institute they would naturally look for assistance. It is not so much that they require information themselves, as that it is desirable the *public* should be informed; and we must think, that if the council would publish a well-considered report on the subject, they would greatly serve the profession,—in fact, that it is their duty to do so. Such a publication involves a responsibility they may say. Doubtless; but no more responsibility than they should be prepared to bear and maintain. If architects fear themselves to assert their own position and claims, they must not be surprised to find them questioned by others. The policy which rules at the Institute, is much too timid, if not too narrow. Enough, however, on this head until the members again meet; and let us turn to our other objection which more immediately presses.

A fortnight ago, when we gave the particulars of the competition for the royal medal,* we expressed in the briefest manner our dissent from the limitation of age, and regret that such an arrangement had been determined on. Brief as it was, it has served to elicit proof that the same opinion is entertained by the majority of persons interested in the matter; and we seriously call upon the new council to consider the possibility of immediately rescinding this unwise and injurious determination.

The longer we reflect on it the more unfortunate and extraordinary it appears.

It will scarcely be believed that, only a few weeks before this limitation was decided on, the council, in their circular advertisement of the subjects proposed for the medals of the institute, and the Soane medallion, addressed the following remarks to the public:—

"The object of the institute is not merely to draw the attention of the students, and younger members of the profession, to the important theoretical and practical subjects which are annually brought forward as subject matter for the prize essays,—they have a still higher aim;—they would wish to enlist the *experience*, the *judgment*, and the *taste*, of those *profoundly acquainted with the several departments of the art*, whether members of the institute or not; in the hope of collecting a series of authoritative essays upon every branch of architecture, considered both as a fine art and a science, so as ultimately to form an important body of information on architecture, both decorative and constructive.

The institute trust that this appeal to professional men will not be in vain, and when they consider the honoured names of Palladio, Chambers, Rondelet, Smeaton, Tredgold, Nicholson, Krafft, and others who have done so much, and deservedly gained so much honour in like investigations, they cannot but confidently hope that many other men of erudition, taste, and science, will be induced to add in like manner to the stores of architectural knowledge."

The Institute wish very properly to enlist the experience and the judgment of practised men; but the medal graciously presented by the Sovereign to advance the art and science of architecture—the greatest honour they have to bestow—is not to be open to such candidates. The council should have ennobled this medal to the utmost, and made it open to all, so that, like the corresponding medal given by the Royal Society, it might be an object of ambition to the most eminent in the profession. Architecture has few or no honours. By the course pursued they are not only throwing away the opportunity of creating one, but are actually, as would be found in practice, lowering the worth of their other medals.

It is of little use talking of making another arrangement for *next year*,—the purpose of the medal will be fixed, its value marked, and we therefore again urge the council to reconsider the arrangement forthwith.

A simple revocation of the limitation, although this will not place the matter in the way in which it ought to stand before the profession, would make the way easier for the restoration of the medal to its proper position next year. And this may be done without any difficulty.

* Page 309, *ante*.

AN ATTEMPT TO ESTABLISH THE NOMENCLATURE OF MONUMENTS AND SEPULCHRES.

THE very unsatisfactory state in which architectural nomenclature at present exists, has been referred to in these pages on several occasions. This state is not confined to terms adopted mainly by those who make the art their chief study, but is not the less remarkable in words of general use. In the papers on piscinæ,* we endeavoured to draw attention to this defect, as regards the department of pointed architecture, and Professor Willis's labours towards the same end are familiar to most of our readers. Much, however, has yet to be done, and much time would be saved could the whole nomenclature of architecture be fixed and arranged, not only that part of it which belongs to the art, but also and perhaps even more so, as regards young students, the department connected with building operations. It is not our aim at present to elucidate these subjects of professional importance, but much may be done to clear up the difficulty, which many who have not the leisure to investigate, occasionally labour under in ordinary conversation.

Few terms are so frequently misapplied, as those which relate to memorials of the dead. Some of the best dictionaries are not always perspicuous, and therefore it is not an uncommon occurrence to find the words monument, tomb, cenotaph, mausoleum, vault, and others of that class, applied in senses for which they were not at all intended. It is desirable that these words should become fixed in their proper use, and it would be an interesting inquiry to consider their origin with the customs from which they date, through their various changes and applications, down to the signification, which is attached to them by the best modern writers. The derivation of words is not always a safe guide without great circumspection be used, and the history of the word be considered along with its origin. In words derived from the Latin, the present meaning often varies from that of the original, whilst in the case of the Greek, there is not the same danger of misconstruction, and most of the terms, lately introduced by men of science, are formed with strict reference to the literal meaning.

The origin of the different forms of sepulchre, or commemorative work, must not be omitted, and the custom of disposing of the body, the last consideration being that which mainly influences the forms. The Egyptians, whose object it was to preserve from decay, enshrined the bodies, when embalmed, in "eternal houses." The Romans burnt them on the funeral pile, and collected the ashes, which they deposited in urns in sepulchral chambers. They also buried their dead. The custom amongst the Greeks was similar.

The name "sepulchre" is applied more to ancient than to modern depositories; its use is now usually confined to a receptacle for the dead, hewn from the rock, doubtless from no other reason than that the holy sepulchre was so constructed. Its derivation is through the French from the Latin, the words in the latter language being the noun *sepulchrum* and the verb *sepelio*, which mean *to bury*. It is, however, asserted that it has another origin, and that *sepelio* is the Gothic *filhan*, to bury, with a prefix. With greater probability, it is derived from *sepes*, a hedge or inclosure. The word "sepulchre" in its complete form, meant originally a place for depositing the dead, and therefore may have had a more extended signification than the word "grave." Sepulchres in the form of excavations in the side of the rock, are of frequent occurrence, and the cliffs of Asia Minor, and the city of Petra are full of this description of receptacle of different dates. —"Grave" is a Saxon word, the *f* being altered to *v*, and it is generally understood to mean, a hole dug in the earth to bury the dead in. It may therefore be very different to the ancient sepulchre, and to the modern use of the word. We should hardly call the sepulchral chambers in which the Romans deposited the cinerary urns, "graves," but they are correctly designated as "sepulchres."

At the place where the ashes or the body of the deceased were deposited, it became the custom to place a memorial at a very early period. The heaps of stones and barrows, raised over the grave of the deceased, or cover-

* Vide Vol. III.

ing his body, may be mentioned, monuments similar to which may be found in all parts of the world. Thus originated the tomb, which includes not only the grave, or the sepulchre, but the monument or structure raised above it. The Greek word is τυμβος. Perhaps the best meaning is "a *monument* in which the dead are *inclosed*," so that in effect though not in appearance it is the same as "tomb-stone." — "Cenotaph," κενοτάφιον, from κινος, empty, and ταφη, a sepulchre, was formerly an empty sepulchre, raised in honour of those who had received burial elsewhere. It is now, if properly used, confined to that description of memorial, and should therefore have the same appearance as a tomb.

"Monument" is a word which has the most extensive signification; we hear of monuments of art, national monuments, monuments of events, and monuments of individuals. It strikes us that the use of the word, as applying to the two first, may require to be defended. "Monument," from the Latin *moneo*, to admonish, and *mens*, the mind, is literally a reminder—which calls something to recollection. In this light, every thing in nature is a monument, and works of art are monuments to us, though they were not always so intended by those who produced them. It would, perhaps, be too stringent to argue that "monument" should be the name of those works only which are intended to *commemorate*, yet this might best agree with the strict definition. The column in the city of London has been properly designated a monument, for it commemorates a remarkable event. The Nelson Column is also a monument. Monuments of individuals may be either of living persons, or of those who are dead; it is only the accidental circumstance of there being few monuments of the living, which prevents such works being popularly recognized as "monuments." The Duke of Wellington's Statue in the city has, we believe, never been called a "monument," whilst that which the committee are determined to put on the arch at Hyde Park Corner—though a most remarkable monument for some people, is styled a "testimonial." The equestrian statues of George the Third and George the Fourth are seldom designated "monuments," in which, according to the intent and meaning of the term, they are included. Of monuments of the dead, some, like that in Trafalgar-square, are apart from the grave; and others, like the Nelson Monument in St. Paul's, are near to or over it. Monuments of the dead include *cenotaphs*, but do not always, or necessarily include *tombs*; the former can hardly be any thing but commemorative, whilst the latter may merely mark a spot, have no inscription, being nothing more than the completion of the grave. Monuments of the dead may be either statues, or groups, images of the deceased, or, like the sculptured lion which commemorates the Swiss guards, may have some allegorical meaning. They may be miles distant from the grave, like most of those in St. Paul's Cathedral; they may be erected apart from a sacred edifice, or, according to modern custom, they can be raised within it. We say according to modern custom, for we are not certain that the Gothic tombs are properly to be designated "monuments." They were, at least, erected for a higher purpose than that of modern monuments, which are quite unconnected with religious objects. The first are monuments of virtuous men, or benefactors, not what we have now got to understand by the word "monument." A monument is generally described as erected *to* an individual; "monument of" would be understood to mean a *statue*. Yet we do not erect a monument as a sacrifice, or an offering to the dead, but rather, what the name imports, in commemoration. "Monument to" is therefore incorrect, and the other preposition should be used instead, but without limiting it to a sense to which it is not confined. To describe the form or kind of commemorative work, "monument" is inadequate; it should be reserved as a general term.

"Mausoleum" is a word which has become less fixed in an English meaning than any we have mentioned. It is sometimes understood to mean a building, erected to contain the statues of deceased individuals, or else it is a sepulchral building. There is, therefore, the important distinction of its requiring consecration in the latter case, but not in the former. As it is a term derived from the celebrated building erected in memory of Mausolus, King of Caria, by his wife Artemisia, which was enriched with sculpture, and lavishly embellished, and which is generally considered to have been the place of sepulture, the term should be confined within those limits. It is therefore a magnificent tomb, but is generally built for the interment of several persons.

We have now only to remark, that the word "vaults" is a curious instance of the state in which the nomenclature of the art is at present. A vault, as we need hardly say, is a continuous arch, and from the circumstance that the crypts of churches are "vaulted," and used for burials, any receptacle for the dead which may be below ground, and walled in, has been considered as a vault. It might be thought that we were merely wasting the reader's time in drawing attention to an instance, which many would hold to be insignificant. But it is in this manner, that difficulty is placed in the way of the young student, who, instead of finding the nomenclature a help, as he would in the science of chemistry, can do nothing but regret the constant difficulties and impediments, which the use of one word with several different meanings is constantly placing in his way. We may not get the advantage of a nomenclature equal to that of chemistry, but we may in many cases do much to prevent that of the art becoming worse than it is. One of the first and best endeavours would be the disuse of many of the workmen's terms, which can be better supplied by those in use amongst educated architects, and the assimilation of all terms in construction to those of the metropolis. E. H.

WATER—HOUSE-SUPPLY—DRAINAGE.*

Rain-water being so valuable in a domestic establishment, from its softness, none of it should on any account be lost, and the receptacle provided for it should therefore be so situated, as to collect the drainage from the lowest as well as the highest roofs. Spring-water, on the other hand, being usually the most plentiful, should be forced up into a cistern, at a height sufficient to supply the highest water-closets; that by its use in this and similar ways, the soft-water may be saved for more important purposes. For rain-water, the best reservoir seems the underground tank; in the ground, scope is afforded for forming a much larger receptacle than could with convenience or sightliness be constructed above it, and the strength necessary to render its sides adequate to the pressure within is more easily obtained, the water, likewise, is kept at a more equable temperature. To give this arrangement full effect, there should be a well some feet deeper, sunk to receive the water from the tank in a state ready for use; the communication drain extending underneath the latter as far as its centre to receive the water as it percolates from the filter. The latter should be a small enclosure built with bricks, the bottom formed by a large perforated tile, situated immediately over the drain and supporting the filtering strata in the order we have before described.

The tank is most suitably situated in the centre of Kitchen-court; it is best of an oblong form, built of hard-burnt bricks in Roman cement, stoutly arched over, and with a man hole in the centre, covered by a stone flag with lifting ring, flush with the paving or gravel; the bottom should consist of an inverted arch, both for strength and convenience in cleansing. The level at which the influx drains terminate at it will be regulated by the fall from the down-pipes; this, for water, need not exceed the rate of 1 in 100, or say one-eighth of an inch in the foot; but as their terminations should assimilate, so that they may all enter at one level in the upper part of the tank, the fall of the longest drain should regulate all the others: at the same time it will determine the level for building the tank; and upon these circumstances it will also depend whether the stone covering to the man-hole is placed immediately on the opening, or the latter has to be continued upward with a shaft to receive it. The overflow drain should be situated a little lower than the influx drains, and should be trapped somewhere in its length to prevent the approach of small animals to the tank. The well, like the tank, should be built with Roman cement. We have generally placed it under the scullery window, extending rather more in than out, the wall arching over it below the ground line, and the mouth covered with a slab of flagstone, having a hole in it for the pipe of a small lift-pump above in scullery. It should be remembered, that drains of curvilinear section, especially in the bottom, are much superior to square ones for promoting the flow of water through them; and that, as in pipes, the more equal and uninterrupted their diameter, the more easy their sweeps, the more free from asperities their interior, and the better they are filled, the less will their discharge be retarded.

To revert to the uses of spring water: the force-pump for raising this to the high-service cistern before mentioned, should be situated on the ground story of offices—say in scullery—near the lift-pump of soft-water well, and should have a tap at that level, for affording a supply for kitchen uses, if it is preferred; the main or rising service-pipe should be accompanied, side by side, by a small warning-pipe, open at bottom, to give notice when the cistern above is full; and an overflow-pipe, of sufficient capacity, should lead the surplus water into the nearest soil-pipe, so long as the pump continues its supply after the cistern is filled to its maximum height.

We would here advert, though it may perhaps be considered somewhat foreign to the subject in hand, to the waste of liquid manure—perhaps the most valuable of all—which is involved in the usual system of draining. We have, by the arrangements already indicated, provided for rendering available, with the utmost advantage, the rain-water collected from the roofs; and also that the water-closets should be supplied only with hard water; now we would suggest that the overflows from cesspools should not be made mere channels of waste, but should be led to a capacious well, for the use of the gardener. It is well known that rain-water is far better than spring-water for promoting the growth of plants; this is from the former containing that which is a necessary ingredient in their formation—namely, ammonia; and which is abundant in liquid manure. The efficacy of this may be soon developed, by sprinkling one half of a grass-plot with spring-water, and the other half with water in which pounded carbonate of ammonia (about one ounce to the gallon) has been dissolved; the former will keep it alive, but the latter will give it vigour and luxuriance.

The *rain-gauge* is an instrument of simple construction, consisting merely of a vessel to contain the water, with a funnel-mouthed pipe to receive and conduct it in, and a scale by which to estimate its quantity; perhaps the best plan would be to make the width of the vessel four inches by three, or twelve square inches, and divide its depth into twelfths of an inch; thus no separate scale would be necessary, and every twelfth in depth would count one inch cube; if the twelfths were further subdivided into tenths, the quantity would then be given in inches and tenths of an inch. A method has been contrived for keeping the funnel mouth at right angles to the falling rain. A large vane acted on by the wind causes the gauge to turn round on a pivot, so as to allow the funnel, by means of another vane which is attached to it, to incline over according to the strength of the wind, so that its mouth shall face the rain as it falls. The following is stated to be the annual fall of rain at different places in Great Britain and elsewhere.

	Inches.
Bombay	82
Calcutta	81
Vera Cruz	63·8
Plymouth	44
Lancaster	39·714
Rome	39
Dover	37·52
Dumfries	36·919
Manchester	36·140
Liverpool	34·119
Chatsworth	27·664
Edinburgh	24·5
London	23·10
Glasgow	21·331
Paris	19·9
Petersburgh	17·5
Uleaberg	13·5

For preserving water from corruption for a long period, or indeed for any length of time, there seems to be nothing equal to charcoal. This appears to be owing to its peculiar property of absorbing the gases and putrid particles immediately they are formed, and thus

* Continued from page 314, *ante*.

preventing them from acting as a ferment to the rest of the water. Certain it is, that if a quantity of charcoal is thrown into water which has been long kept, or has become foul by being in contact with putrid substances, the water will become sweet in the course of a few hours: it should be perfectly well burnt, and kept from exposure to the atmosphere; if good, when pulverized, it will sink rapidly in the water. This property in charcoal, of resisting the action of putridity, has led to charring the inner surfaces of casks for containing water during long voyages. That its conservative power was known in very early times we have evidence in the ancient practice, still in use, of charring the points of piles and stakes intended to be driven in the ground. Water has been preserved, it is said, for seven years, by adding to it oxide of manganese, in the proportion of 1½ to 250, and agitating the liquid once a fortnight.

A knowledge of the pressure and motion of homogeneous fluids is essential to the proper disposition and proportionment of all hydraulic apparatus: where these are on an extensive scale, it will often obviate very serious mishaps. In obedience to the law of terrestrial attraction, otherwise gravitation, water, like other bodies, naturally presses downwards; but besides being subject to this general law, it is governed by another—that of equal pressure, which urges it alike in all directions, owing to that want of cohesion among its parts which is the characteristic of fluids. Pressure in proportion to its vertical height is a leading feature, and suggests, that the deeper we make a cistern, with a due regard to the strength of its several parts, to withstand the lateral pressure of its contents—if at the same time we lower the outlet—the more efficient will be the discharge. This last principle is one which should be held prominently in view; it makes no difference as to pressure whether we plunge our hand into water in an ordinary vessel, or to the same depth in the sea; the boundless ocean, when still, presses with no greater force against a sea-wall, than the water in a reservoir of equal depth does against its side—the force being ever as the depth, quite irrespective of breadth.

Since all parts at an equal depth press equally in all directions, and the pressure is as the depth, if we suppose a given thickness at the bottom of the side of a rectangular cistern, full of water, to be adequate to the lateral pressure at that level, then a straight line drawn from the outer extremity of that thickness at bottom up to the inner extremity at top, will give sectionally a tapering boundary, whose varying thickness will be everywhere adequate to the pressure at whatever level. Hence, the average pressure will be in the middle of the height, at the centre of gravity; and the deficiency above that point being just compensated by the excess below it, the pressure diffused over the entire side will be in the ratio of the average pressure; consequently, as every point in the base is loaded with a weight equal to the force which presses against the bottom of the side, or to the entire weight of the fluid, it follows, that when the bottom is equal to the square of the height, otherwise when the cistern is a cube, the weight on the bottom will be to the pressure on the side as the bottom is to half the side, that is just double; and as a necessary sequence, it will be to the pressure on the whole four upright sides as the bottom is to the entire upright surface, that is just half; this we say in the case of a cube, for it is obvious that the same proportions will not hold good in other cases, although their ratio will.

To find the load on the bottom of a cistern, multiply the cubical contents in feet by 1,000, and divide the product by 16, which will give first the ounces, then the pounds avoirdupois; or multiply by 635 which will at once give the pounds; then as the imperial gallon of water weighs 10 lbs., divide by that number if the quantity in gallons is required. To find the pressure against the vertical sides, multiply their area by half the depth, and the product will be cubic feet, whose weight is equal to the pressure. For computing the contents in various curvilinear forms, it is convenient to know that the cubic foot,

containing *exactly*	1728 cubic inches,
contains *very nearly*	2200 cylindrical inches,
or	3300 spherical inches,
or	6600 conical inches;

thus, a vessel of any of these forms, having its height and the square of its diameter multiplied into each other, and the product being divided by the number given, the quotient will be its contents in cubic feet. It will be seen that it embraces the cylinder, and is, therefore, applicable to ascertaining the contents of pipes, wells, &c.; also that the load on the bottom is thus ascertained. The pressure against the cylindrical or vertical surface of the latter, as in the case of a vessel of rectilinear figure, is found by multiplying the area of the upright surface by the depth of the centre of gravity, or half depth of the liquid—both in feet—the product being the effective pressure. The pressure in a hemisphere is found by multiplying the spherical surface by half the depth of the water.*

The law of equilibrium being established, it follows that the load on the base may, under particular circumstances, exceed the weight of the fluid contained; for supposing the vessel to be in the form of a frustrated cone or pyramid, and full, the deficiency of fluid in the parts surrounding the uninterrupted column in the centre, will be compensated by the resistance of the sides, causing the fluid, since it cannot recede from that force, to press in the direction of it. If the pressure in those parts were at any time less than it was elsewhere, the fluid would move towards them, and not become quiescent till the equilibrium was established; and hence the pressure every where the same. The pressure, then, being as the maximum height, the base of the cone or pyramid, has to sustain every where a load equal to that which acts on its centre.†

JAMES WYLSON.

* The relation which the diameter of the circle bears to its circumference; Or which the square of the diameter of a sphere bears to its surface; Or which the curved surface of a cylinder bears to the product of its length multiplied by its bore, } is nearly as 1 to 3·14159, or a little less than three and 3-20ths.

The square contents of the area of a circle will be found by multiplying the circular contents (obtained by squaring the diameter) by the decimal ·7854.

† To be concluded in our next.

THE YOUNG ARCHITECTS OF ENGLAND.

BY ONE OF THEMSELVES.

SIR,—Had we a Thackeray in *our* world, like him with whom the world of "snobs" is blest—or curst—to trumpet forth its secrets, doubtless said world of ours is rich enough in fun to furnish some most sapid subjects for his kitchenry.

Your last week's leader, Sir, leads me to this train of thought; your shrewd remark, that certain letters of the young and rising are chiefly remarkable, after "exclusive attention to pointed architecture," for, secondly, "great *self-conceit*," has here set one of the youngsters to think that a few words on the same subject, more closely directed, might serve a good end.

Perhaps, Sir, you may see in these very lines of mine the marks of the very "self-conceit" (homely but serviceable phrase!) which you seem so to deprecate. If so, I am shameless enough to glory in it, and to be in but little pain as to how much choler it may excite, or how much cold disdain it may receive. Self-conceit, Sir, is a valuable thing: I should have but poor hopes of your editorship if I thought you lacking in the same. The words of a friend, a man of eminence in the literary world, I think are good: "Self-conceit," says he, "is a sillyhow that envelopes a man; puncture it, and the man dies." Look abroad upon the world, Sir, and you will find it so. Your conceited man is the man for obloquy now, and fame for ever. His self-conceit is his life-preserver. It is this remaining full-blown that buoys him up,—that keeps the often weary swimmer from yielding to the current—sinking down into the common world—drowning in the calm depths of insignificance. Thousands resign themselves to seeming fate, and sink, tired of the wind-troubled surface: a few struggle on, the storm still raging; their brethren are at rest—beneath; *they* are in tumult, but it is *above!* Your aim, Sir, ought to be, not to resist the "self-conceit" of the young and ardent, but to *guide* it. Will you permit me to attempt this task for you?

But, first, to vindicate the general tendency—the *spirit*—of Young Architecture (Young England, we have, Young Hickory, Young France, young every thing else; and wherefore not *Young Architecture*, then, in these bold radical days?)—to vindicate the spirit of Young Architecture, I must constrain myself to say (with all becoming reverence and awe for your authority) that I should have liked your leader better had it been amended by omitting from the words, "Where, first unadorned," to the words, "aerial rise," and substituting something of *argument* instead; seeing that the testimony of *poets* is no argument with Young Architecture. No wonder, Sir, that "our student friends look scornfully on the 'orders,'" when they—*we*—read of the "manly" Dorie, the "decent matron" Ionic, the "wanton" Corinthian (O fie! "Shame! where is thy blush?), and the Composite thus made to be "of doubtful character," as some one says, and as we willingly allow; no wonder (to be serious) when we have this quoted, and find it believed in and acknowledged, that we, if we be *artists*, should "turn up our noses," as you have it, not at Sir Christopher Wren, but at such as wear his shape, and have none of his substance. Sir Christopher to one of these? "Hyperion to a satyr!" The dome of St. Paul's to the dome of the National Gallery!

Although I generally "go out into the same lobby" with Young Architecture (frequently "only more so," as the old joke hath it), I am not altogether one of the "student friends" whom you see fit, and justly too, to rate so soundly. I do *not* hold Michael Angelo "a man of very bad taste in architecture."* But neither do I agree in the inuendo of this, that "a Goth, for instance, is mistaken when from education, he imagines the architecture of his country to be the most perfect."† Instead of "turning *up* the nose" at Sir Christopher Wren, gladly will I turn that organ of expression, Sir, in any assigned direction whatever, if not personally inconvenient or contrary to statute,—any possible way you may direct whereby I may be understood to contribute to his honour and architectural glory. But at the same time, I would do likewise to him whom worthy Dr. Hutcheson above, in his innocence, calls "a Goth." And thus far you and I, Mr. Editor, I suppose mainly agree. But—*farther?* I hope much farther still, for although thus complacently inclined to give both their due, I do not hold myself bound by reverence for antiquity, to allow to either a single atom of weight *more* than his due. In short, I take Greek, and Roman, and Cinquecentist, and "Goth," and *every one else*, for just what I think him worth *and no more*. To bow to antiquity is to believe in ghosts and hobgoblins because we believed in them, in memory-hallowed "long, long ago," or because our grandmothers happen to believe in them still. *We* are the true *ancients* (it has been well said); our forefathers were younger as a world than we. But *Antiquity* is a thing that any one can comprehend who happens to keep sight of his arithmetic; while *Art*, and here is the key to much matter of wonderment,—*Art* is a thing which calls for more knowledge in him who would judge of it. The antiquarian-critic needs only to keep in view his "rules;" the artist-critic looks beyond these "rules" to principles of nature, and criticises (though to the bitter nausea of the orthodox) the very "rules" themselves. And Young Architecture, as I understand him, would be *an artist;* and "the more so" that I (humbly) sometimes feel that he ought to be *more an artist than he is.* The drift of your leader, Mr. Editor, is (if you will allow me) to make him *less* an artist. Perhaps it is unintentionally so. If your principles of liberalism can be so far stretched as to tolerate one so latitudinarian as I, and to permit him to speak without the shadow of fear, boldly and honestly (although in all *decorum*, I will promise you) I should feel honoured in being allowed the medium of your journal for the development of the views I have now expressed, in a few sketches like the present; my object being simply to lead the student in our profession to go beyond *dogmas* to principles of reason. I am hardy enough to fancy that I have done so. And the result is, not that I love Greece and Italy, or Germany and England less, but that I love Nature more.

If, then, I may find favour in your editorial sight, I shall not be an anonymous writer (a

* Hosking—"Treatise on Architecture."

† Hutcheson—"Inquiry concerning Beauty and Virtue."

thing not altogether lovely) when I reach the end; but in the meantime, that the Ayes may fancy me all that is needed for an authority, and that the Noes may "lay the flattering unction to their (negative) souls," that I am but a nameless scribbler,—that both may thus have their sweet complacency unruffled, for I like to see folks pleased,—and that both may judge of *what is said* independently of *who says it* (the great principle I advocate),—I shall hide myself under the modest signature of R.

London.

*** Our good-humoured correspondent misconstrues the article referred to. *Magnanimously*, however, we give him the full benefit of his own statement now, and promise due consideration for his future communications.

FOREIGN ARCHITECTURAL AND COLLATERAL INTELLIGENCE.

The late Excavations at Salona.—It seems that the *admonitions* addressed to the authorities of Dalmatia by an eminent archæologist have had their effect, of which the above may be considered the first result. On this occasion, it is very justly observed by the German periodicals, that it is far better to have left antiquarian treasure untouched, than to see it rifled and spoiled by the hands of strolling and untaught collectors and hawkers. It is, moreover, to be borne in mind, that as such people only value what they can carry *away*, the most valuable remains of temples, sepulchral monuments, *Columbaria*, palaces, and private dwellings, are wantonly deprived of those smaller accessories, which nevertheless give them only their true and historical value. In this way may be excused, that the excavations at Salona, begun so early as 1821, were again discontinued in 1828. It is owing to the zealous and patriotic professor Carrara, at Spalatro, to have broached this subject anew, and his majesty the Emperor at once granted the necessary means for effecting this purpose in a business-like and grand manner; and it is said that even an especial commission is to be instituted, presided over by the lord-lieutenant of the province.

The aim of the excavations is double—first, to ascertain the topography and the plan of the ancient Salona; and second, to get possessed, in a *systematic* way, of the antiquities which will be met with. Mr. Carrara began his operations near the ancient wall surrounding the city, in January last, and already forty-two towers and their connecting parapets have been brought to light, affording much information on the military buildings of the Romans, and their subsequent uses by the barbarians of the north. In following up the line of circumvallation, a paved street, leading from a newly detected gate into the interior of the city, has been laid open, along which runs an aqueduct (*sewer?*); and an ancient bath, and an octogon temple have been also discovered. The present operations will continue until all the remaining temples, basilicas, thermes, and other show-buildings of the once famed residence of Diocletian, shall have been brought to light;—who, after his abdication, had retired amongst the structures and gardens of Salona, to the enjoyment of study and contemplation. The hitherto acquisitions of bronze and marble works, mosaics, medals, &c., bid fair for further valuable acquisition; the more so, when the excavations, which were hitherto merely carried on in the outer periphery of Salona, will have reached the more central portions of the city.

The Great Hamburg-Berlin Line.— This line had to contend with many difficulties, amongst which the necessary building of a branch line to Lauenburg, and the unfavourable position of the Berlin terminus were the chief; while, on the other hand, the uniform level of the line, as well as the lucrative branch line of Wittenberg-Magdeburg, may be considered fair offsets. Up to May, 31¼ miles (German) had been completed, and only 4¼ of the proper line remained unfinished. Of the 300 bridges laid down in the plan, 184 were ready, and 60 in process of building. The grand terminus of Hamburg, and the communication with the wharfs of the Elbe, have also been decided upon.

Railway to Rome!— It seems, that even previous to the accession of the present liberal pontiff, the objections to a line passing Rome had been nigh overcome. A small pamphlet published at the beginning of the present year, seemingly half official, says, that it cannot be asserted, that the papal government had ever properly resisted or declined the making of these roads, as the proposals made in this respect were rather adventurous schemes (*avventurosi projetti*) than business-like plans, bearing the stamp of respectability or responsibility. After this, we may safely say, that *if* a sound and sterling plan be submitted to the present pope, it *will* be accepted.

The Statue-Mania.— German periodicals speak, with much truth, of the above mania, which pervades our age. No sovereign dies, not even a duke of some German *two square miles land*, without a statue or other monument being erected to him. Bankers and all sorts of rich men follow the same wake. Not satisfied to honour the dead, we erect *memorials* even to those who, being still *alive*, are not in need thereof. *We*, certainly, cannot object much to these procedures, in the *way of business*—but if, after all, *public* monuments are to be erected, let it be to such as deserve them, and have had none yet. Families may do with their money as they like—but let the people of this country remember, that Sir Thomas More, Sir W. Raleigh, Cabot, nay, even the monument-maker, Inigo Jones, are yet monument-less names.

Great attention to Railways—seems certainly to exist in Sweden, as the king has convoked an especial meeting of the Storthing of Norvegue, when a railway plan throughout the whole of that kingdom will be laid before the legislature.

"*Tradesmen*" *Exhibition of Industry at Frankfort.*—It deserves commendation, as it is worthy of imitation, that the different tradesmen of the above city have formed themselves into a society, who, on their own account, and for their own benefit, have established a show of their products, to which also some art-works were added. They are a branch of the Society for the Improvement of the Working Classes—a subject very energetically carried out in most parts of Germany.

The Nautical Gymnasiums of Paris—a real desideratum of the British Metropolis.—As the huge school of natation, Quai d'Orsay, has proved to be insufficient for the increasing *sanatory* and gymnastic exigencies of the French capital—another on a similarly vast scale is to be established in the Champs Elisées. It could not be well anywhere else, than near the five great steam-pumps of Chaillot—as it requires the enormous quantity of 80,000 litres (pints) of purified water, heated to 40° Réaumur, *every hour*. This hot water, in being brought in contact with an equal quantity of cold, will form a sort of flowing thermal rivulet. The statistics of popular bathing and natation in Paris, will still more prove the necessity of similar establishments with us. The different colleges and private schools of Paris contain 110,000 (?) pupils, of whom if only 30,000 were to frequent the nautical gymnasium ten times a year, would yield an income of 300,000 francs. A total population of 1,200,000 inhabitants, with 300,000 strangers, may, without exaggeration swell the above sum by 250,000 francs. The nautical gymnasium of the Champs Elisées will occupy an area of 2,400 mètres. There will be a winter garden, a flower market, hot and warm houses for the exhibition of plants, with ample covered places for walking and lounging added to the establishment! [The establishment of such places is still more necessary with us, where a murky and hazy sky for months together—makes every promenading in the open air doubly irksome].

Medieval Antiquities of Rhenish Prussia.—The restoration of ancient monuments has been carried on of late with great energy, which is not only owing to the art-love of the king, but now even to popular impulse. But the execution does not seem always equally felicitous. Even the placing of the fine columns in the Aachen Minster, although they have existed originally, has not been done with proper discernment. Then, new Corinthian capitals have been made, while the old ones are still existing. The whole effect, however, cannot be judged of, until the ugly stucco ornaments of the whole octogon have been taken down. Another church deserving equal restoring attention is that of St. Adalbert, a Roman basilica built on a rocky prominence under Emperor Otto III. That the old civic jail of Aachen, called *Gras*, has not been taken down, is owing to the exertion of Prof. Bock. To him is also owing the complete restoration of the town-hall.

Statue of the Emperor Charles IV.—This statue is destined as a commemorative of the fifth centenary of the Prague University—the oldest in Germany. The model has just been exhibited in Mr. Burgschmied's workshop in Nürnberg. It is 14 feet high, and weighs 40 cwt. The emperor—a graceful, manly figure—is represented in the act of surrendering the charter of the university; the crowned head slightly bent. The costume is historically true, the *pallium* covering the rear part of the figure; the folds full, yet graceful. The under garment is covered with lilies, and on the right-hand side hang down the rich tassels of the girdle; the sword adorned with a large, artfully-wrought guard. The contractor, however, has undertaken the difficult obligation of delivering the whole work, including a sculpture pedestal, to the Prague committee, at the end of the year 1847. The price is 80,000 fl. (9,000*l.*)

Canalization and Barrage of the Tiber.—An association of capitalists at Rome have made a proposal to government to canalize the Tiber from Ponte Felice to its embouchure, and to make it navigable for larger craft. They propose to build a harbour at Fiumicino, and thus establish a direct steam communication between Rome, Leghorn, and Naples, which would do away with the necessity of going, as heretofore, to Civitavechia. (As a plan has been before brought forth to dig up and drag the Tiber for its *antiquities*—of which, certainly, there must be many in its bed—both parties combined would be sure to do well.) J. L——Y.

ARCHITECTS' GRIEVANCES.

Sir,—Without entering into a disquisition on the difference between intellectual wealth and the wealth of the pocket, or the different degree of protection afforded to each by a mercantile people, it will suffice for the present to call your attention to the following case; for I perceive it is your most anxious desire to do all in your power to lessen professional grievances.

Fourteen years ago I made designs for a bridge across the Thames near the Red-house, Battersea, which were exhibited at the time in the Royal Academy, and other public institutions. Surveys and models were made, soundings taken, property ascertained, and considerable progress made in the formation of a company to effect the undertaking. The purpose of the bridge was threefold—to afford a passage for the usual traffic, for railway carriages, and for funeral processions, as I intended to appropriate five or six hundred acres of the Battersea-fields for a West London cemetery; the whole of this plan formed part of a grand scheme of metropolitan improvement; but speculations of this kind were not so popular at that time as at present, and it has remained in abeyance.

Entering one of the committee-rooms of the House of Commons yesterday, I found there a committee and a host of official gentlemen under Government, busily engaged passing the clauses of a bill for, among other things, erecting a bridge over the Thames, near the Red-house, Battersea. Surely, Sir, this is an apt illustration of the text, "One soweth and another reapeth." I mentioned to one of the landed proprietors whom I saw in the room, that he would now get what I purposed for him fourteen years ago, and passed on my way with feelings which may be readily imagined by those who have similarly suffered.

I am, Sir, &c., W. Bardwell.

4, Great Queen-street, Westminster,
4th July.

Rating of Tenements.—A Bill has been introduced into the House of Commons, entitled "A Bill to provide that the owners of tenements of small annual value shall be assessed to the rate for the relief of the poor and the highway rate in place of the occupiers." It proposes to rate the owners of tenements which are under the net annual value of 6*l.*

THE AWNING TACKLE NUISANCE.

Sir,—Though as yet but a stranger, and a very brief sojourner in your magnificent city, I can already fully corroborate the truth of your remarks in The Builder of to-day, upon the apparent insecurity of many of the balconets by which the windows towards the streets are ostensibly *protected*.

I am astonished, in fact, that any one arrived at years of discretion should ever, either with or without thought, trust his precious weight for even one moment to many of those precipitating traps which I have seen projecting themselves, and ready, it seems, at even one moment's notice, to project others who may be foolishly tempted to trust in their protection, out of first floor windows into streets and areas.

But my chief purpose in addressing you at present, Mr. Editor, is to call your corrective and influential attention to other projections than those above, projections in which *a stranger* at least,—though strange to say *not a citizen*, it would appear,—regards himself as one immediately and personally interested. I mean that abominable awning-tackle nuisance, which so frequently projects from shop w indows into the very faces of the passers by.

I admit that I for one, as probably you yourself, Mr. Editor, also may, stand considerably above the "average height of Englishmen, namely, five feet seven and a half," being, in fact, six feet, and somewhat indefinitely *upwards;* but surely the metropolitan shopkeepers ought to be compelled to elevate these nuisances clear of the extreme height of the hats and heads of all and sundry the lieges; whereas I do not exaggerate when I state that until I was taught by practical experience to steer carefully clear of these inexorable sticks of office, my beaver was doffed for me, nolens volens, and rolled into the kennel regularly twice, thrice, and upwards, every day.

As some little compensation, certainly, I must admit that, on the contrary, it was one day lately very unceremoniously, and to my no small astonishment for the moment, driven downwards nearly over my eyes, by an altogether different sort of impulse, communicated from above by a bundle of boots and shoes, which dangled freely in the breeze at the extremity of a long elastic pole, projecting boldly, *et error nullus*, into the very middle of the pavement in Oxford-street. But I relish neither such doffing nor such donning, and can only account for the silent endurance of nuisances such as these, amongst "Englishmen of five feet seven and a half," by the dignified reflection, unavoidably induced not only by this, but by other occasional inconveniences and evils with which, since I came to town, I have had the (perhaps exclusive and peculiar) misfortune to contend, such as with the insufficient length of bedsteads and sofas, and sometimes with the equally insufficient height of doors and ceilings, that I must here be a Gulliver in Lilliput, however preposterous it may appear to you, Mr. Editor, for a humble unit like myself, to designate this mighty Babylon by so diminutive a title.—I am, Sir, respectfully, at all events no *general* nor *particular* Homunculus.

GLASS TILES.

It appears from the "Patent Journal" of 4th instant, that a Mr. John Russell of Edinburgh, an accountant, has obtained a patent, dated 30th December, 1845, and enrolled 30th June, 1846, for the "manufacture of glass tiles," a circumstance which surprises us a little, as we very much doubt whether an alleged invention of such a date, entitles this patentee to the exclusive manufacture of glass tiles; indeed, it is not very clear, in his own specification, what is the extent or limit of his claim; for he "wishes it to be understood that he does not lay claim to the *mode of shaping* or manufacturing the glass tiles; but what he claims *is the form or shape* of the glass *for roofing purposes*."

His "invention," it is said, "consists in forming pieces or sheets of glass of convenient size, with two of their respective or opposite sides bent or turned up about half an inch, or from that to an inch, according to the size of the tile required, so that the two opposite sides will stand perpendicularly to the plane or surface of the glass, the flanges being so turned that the plane of the tile will be broader at one extremity than the other. The flanges may be turned at any angle, either inwards or outwards, as occasion may require, or else curved," and the "tiles can be formed at any angle or curve, so that they may be fashioned into hips or cupolas for domes or arcades, and may be made of stained or coloured, and also opaque glass for roofs."

"The roof for supporting the tiles is built in the usual manner, with rafters and laths between them, running parallel to the side walls for the purpose of receiving the flanges of the tiles. The apertures between the flanges may be filled up with putty or any other suitable cement, and covered with a hollow bead of metal or glass, or else a thin slip of metal may be first screwed to the laths, and then brought between the junction of the tiles, and turned over at the ends."

PROVINCIAL NEWS.

The Norfolk Estuary Bill is likely to become law, and to be brought into speedy operation. The tracts of land sought to be reclaimed and brought into cultivation under the provisions of this bill comprise about 31,000 acres, including 2,000 to 3,000 acres of the Green Marsh, private property, portions of which, adjacent to the respective estates, are claimed of the crown, though thus alone reclaimed. The cut and channel intended to straiten the course of the Ouse will proceed inland from Lynn Harbour to Howard's Sluice, and thence through the sands for eight miles to Lynn Roads, near the West Mark Knock Beacon. After satisfying the claims of the frontagers, about 14,000 or 15,000 acres will remain beneficially available to the company, of which, on Sir John Rennie's evidence, about 6,000 acres will be reclaimed in six years; but ten to twenty years may be expected to pass away before the remainder is reclaimed. The estimate for the whole works amounts to 500,000*l*.——The new dock works at Hull, with the pier and jetty, are in active progress. ——On the 1st instant the Bishop of Carlisle consecrated the church at Renwick, which has just been built and enlarged.——The new church at Upperby also was consecrated by the bishop of the diocese on Tuesday last week. ——A window of stained glass has been put up in the Abbey Church of St. Albans by Mr. Clutterbuck, of Stratford, Essex——On the 24th ult., the foundation-stone of the new chapel for the palace of the Bishop of Ripon was laid.——It is expected that Prince Albert will lay the first stone of the Birmingham Baths on his way south from Liverpool.—— The Lords of the Treasury have granted a site for the erection of a church in the St. Thomas's district of St. John's parish, Coventry. ——On Friday and Saturday last no less than three new churches were consecrated at Manchester—namely, St. John's, Longsight, erected by the Manchester and Eccles Church Building Society, at a cost of 4,000*l*.; the terra-cotta church erected by Mr. T. C. Worsley, in Platt-lane, Rusholme, at a cost of 3,600*l*.; and the church of St. Stephen's, Audenshaw. We shall give some account of the first of these, next week——From a report to the Liverpool Health Committee on cellar habitations, it appears, that since the cellars in courts were cleared, in conformity with the health Act, in November 1842, very few have been re-occupied; and that since the street cellars came under the operation of the Act, in July 1844, 2,391 cellars have been cleared of about 8,368 inmates, leaving about 3,620 cellars not conformable to the health Act. The report adds, that 322 informations had been laid against parties who had allowed cellars to be re-occupied, and that the whole of the cleared streets are now under police notice. The receipts of the Liverpool baths and washhouses for the current year have been found to exceed the expenditure by 8*l*. odds, and the demand has so much increased, that 100 persons have been sent away in one morning from want of sufficient accommodation. It is therefore proposed to erect an additional number of baths to be conducted on the same principle with those which have already so well fulfilled their excellent purpose. The cost of the proposed building is estimated at 6,500*l*.——The renovation of Malvern Abbey Church has just been completed.——The Bishop of Chester the week before last consecrated three new churches, St. Michael's, at North Rode, near Congleton; Holy Trinity, at Rainow, near Macclesfield; and St. Peter's, at Elworth, near Sandbach.——Lord Methuen has begun his extensive alterations at Corsham Court, which are to cost about 15,000*l*.—— "A site for a church and churchyard, schools, and residence for a clergyman, at the Ashford railway station," says the *Kentish Observer*, "has been offered by the railway company for the numerous workmen and other persons who will henceforth establish themselves in that vicinity." The company, however, seems to expect the public to assist in providing and endowing the church and schools.——The first stone of the Printers' Alms-house (to consist in the meantime of six houses) is to be laid shortly by Mr. Luke James Hansard, on a plot of ground to be appropriated within five miles of the metropolis. There is a fund in hand of 1,774*l*. odds, of which 600*l*. constitute the site money.——The proposal of the City Lands Commission to erect a new barge house at Kew, at a cost of 1,470*l*. has been rejected by a large majority of the Common Council. ——Mr. Thompson, of Limehouse, has lately completed a wooden church, destined for the diocese of Jamaica. It is dedicated to St. James, and consists of a nave and chancel with stained-glass windows. It will accommodate 300 to 400 persons.

LLANDILO CHURCH COMPETITION.

The committee have announced that they forwarded to the Incorporated Church Building Society, the whole of the plans and specifications submitted by the competitors (fifty-two in number), in order to be guided by the society in awarding the premiums; and that the surveyor of the society stated, that after a careful examination of the whole, he had selected certain designs as appearing to meet the stipulated requirements to possess the most merit, and to be best adapted for the purposes set forth in the advertisement. That in pursuance of this recommendation, the committee award the first premium of 50*l*. to Mr. Edward Davies, Architect, Bath, who designed the plan with the motto "Sic itur ad astra;" and the second premium of 20*l*. to Mr. John Colston, Jewry-street, Winchester, whose plan was transmitted under the motto "Spes." The surveyor has further reported that, amongst the plans submitted in competition for this church, many of them, in addition to those selected, display much taste, and are very creditable to the architects by whom they have been furnished, particularly those sent under the motto "Fides," designed by Messrs. Stenton and Edwards, 89, Charlotte-street, Fitzroy-square, London; and one under a cipher, from which it appears to have been designed by Messrs. Ordish and Johnson, 9, John-street, Adelphi, London. The mottos were not opened until the competition was determined upon.

THE COLOSSAL WELLINGTON.

A scaffolding of great strength has been erected on the east side of the archway at Hyde Park-corner, and the preparations seem nearly ripe for raising the ponderous mass to its ill-chosen destination. The transport and elevation of it will be difficult (we wish, as Dr. Johnson said of a piece of music to which this term was applied, it had been impossible), and will need much care and skill. A correspondent tells us that the carriage, on which it is to be moved, is 24 feet in length, the axle 13 feet 4 inches, with a circumference of 30 inches. The wheels are 10 feet high, or 31 feet 6 inches in circumference; four in number, and weigh 2 tons 6 cwt. each, or 9 tons altogether. The castings are at present in the pit, and "a long pull, a strong pull, and a pull altogether," will be needed, even to lift them thence. Government, it seems, is lending a hand to the work. An eminent contractor estimated the cost of carrying the castings from the artist's studio to the arch, and hoisting them (in three pieces, to do it whole he was not disposed), at 1,800*l*. What the operation is actually to cost we do not know. It is a grievous pity that so much pains and money are to be expended in destroying one monument, and putting another out of sight.

FLIXTON HALL, SUFFOLK.



FLIXTON HALL, IN SUFFOLK.

THE SEAT OF SIR ALEXANDER ADAIR, BART.

This noble structure is pleasantly situated on the river Waveney, between the market towns of Harleston and Bungay, from which latter place the river is navigable to Yarmouth, where it discharges itself into the North Sea, having divided the counties of Norfolk and Suffolk for a great extent of country. It is 105 miles from London, in a delightful neighbourhood.

The building stands upon or near the site of an ancient nunnery founded by Margery, the widow of Bartholomew de Creke, and daughter of Jeffery Hautville, about the time of Henry III. The foundress gave the manor of Flixton to this house, which was dissolved by the second bull of Pope Clement VII. in 1528, when its annual revenue was estimated at 23*l.* 4s. 1½d. and intended for Cardinal Wolsey; but that prelate declining the offer, it was granted to John Tasburgh, whose descendants long resided at Flixton Hall. When this family became extinct, it descended to that of Wyburn, and was afterwards purchased, about the middle of the last century, by Mr. Adair.

The present building was erected about the year 1615. Its old style of architecture is peculiar to the counties of Suffolk and Norfolk; probably it is the best specimen to be found in them. A moat originally surrounded the house, but this has been filled up. The principal front is to the north; the hall and staircase are grand, the apartments large and spacious. To the south was an open portico and colonnade, now closed up, and converted into separate rooms.

The grounds in front are ornamented with extensive plantations, which, united with the fine woods of the park, present to the eye an appearance of grandeur and magnificence, and with the river, have a most beautiful effect.

C. J. R.

ST. WINEFREDE'S WELL AT HOLYWELL, FLINTSHIRE.

The current number of the "Archæological Journal"* contains a plan and view of this monument, furnished by Mr. Poynter, with a notice of its present state of dilapidation, to which we drew attention many months ago. The structure is in the perpendicular style, and may be dated, on heraldic evidence, *ante* 1495.

"The building inclosing the well is erected against the side of the hill from which the water issues, and forms a crypt under a small chapel contiguous to the parish church, and on a level with it, the entrance to the well being by a descent of about twenty steps from the street. The well itself is a star-shaped basin, ten feet in diameter, canopied by a most graceful *stellar* vault, and originally inclosed by stone tracecried screens, filling up the spaces between the supports. Round the basin is an ambulatory, similarly vaulted."

"The neglected state of this beautiful edifice having forced itself upon the notice of the inhabitants of Holywell, a subscription was entered into, and the proceeds, about 400*l.*, have been expended in disengaging the chapel from some unsightly erections built against it, in restoring the windows, and in some general repairs necessary to maintain it for the purpose of a school-room, to which it is now put; but nothing has been expended on the crypt, which is, nevertheless, independently of the mutilation of the screens and decorations, in a state to excite the apprehension of all lovers of antiquity. Nor are the gentlemen to whom the expenditure of the fund has been entrusted open to blame on this account. The difficulties of effecting any substantial repair, when it is most likely to be wanted, are great and peculiar; so much so, that it is not easy even to speak with certainty on the actual condition of the substructure.

The water, as already stated, rises with great force from a bed of shingle, on which the inclosure of the basin and the supports of the vaulting have been founded without any excavation; and in order to prevent the effects of the shingle washing away, the overflow of the basin is raised about four feet (the depth is unequal) from the bottom, and the sluices of the mill raise the surface of the water about two feet higher. This depth of water, in violent agitation, even when the sluices are opened, and the water above the overflow let off, effectually prevents the possibility of *seeing* the bottom of the basin, but by sending workmen into the water, it was ascertained that the shingle had disappeared from under the foundations of the walls of the basin, in some places nearly as far as the men could thrust in their arms, and in one instance at least, a squared stone has given way. This disappearance of the foundation, notwithstanding the judicious precaution originally taken to secure it, might appear a mystery, but that the well, in the days of ignorance, was frequented by bathers, who, it is believed, pulled out the pebbles, and carried them away as memorials of the miraculous properties of the water. In the original state of the building, the main basin was protected by the screens, but these have been broken down long enough to allow for the gradual abstraction of the bottom in this manner and to this extent.

Whatever may be the cause, such is the effect, and under such circumstances this beautiful building cannot but be considered in a state of peril, which calls at least for further examination, although as yet the arches do not exhibit any marks of settlement. It is possible that the contingency of the shingle becoming loosened, or washing from under the wall, may have been provided for. There is evidently a

* In this number the view of the cloisters at Windsor Castle, omitted from the last, is given. There is also an illustrated account of the Franciscan Friery at Reading, by Mr. John Billings, already printed in The Builder (Vol. III., p. 500), and a notice, by Lord Alwyne Compton, of a decorated pavement in Haccombe Church, Devonshire.

great mass of masonry in the substructions, and it is quite consistent with what is known of the constructive skill of the architects of the thirteenth century, when they thought it worth while to exert it, to suppose that stones of such large size may have been laid down, that they may continue to support the superstructure in the manner of corbels, but it is not easy either to ascertain the fact, or to apply the operation of *under-pinning*, should it prove to be requisite. To obtain access to the foundations, it would be necessary to empty the basin, and discharge the water as it rises; and in order to effect this, the front of the basin must be taken down, and a channel as deep as the bottom of the basin cut through the outer reservoir, depriving the mill of its moving power as long as the repairs might be in hand. With so formidable an undertaking to contend with, it is cause less of surprise than of regret that the late repairs should have been restricted to the more accessible portions of the building, and that there should be no measures in prospect for its permanent security."

It occurs to us, that hydraulic concrete might be effectively employed, at all events to prevent further injury to the foundations, cheaply and without difficulty.

LABOUR AND MATERIALS IN SOUTH AUSTRALIA.

The *Adelaide Observer*, in order to shew that South Australia "should be pre-eminently the country of the industrious man's choice," presents a list of particulars relative to the wages of labour and the price of materials on 7th February last, from which we extract what is more particularly interesting to our readers:—

Bricklayers are generally in full employment at 5s. to 6s. per day, or in task work at the rate of 10d. to 1s. per yard for nine-inch brickwork, labour only; and scaffolding not included.

Cabinet-makers.—There are few journeymen required at present, the lesser masters working for themselves, being the principal operatives. The few persons employed on task work jobs earn from 5s. to 6s. per day.

Carpenters' wages 5s. 6d. to 7s. per day, according to ability, the highest quotation being for skilled as well as industrious hands. One report with which we have been favoured states, "a few unemployed," but as we have sought for such in vain, we conclude our informant should have written, "a few keeping holiday."

Masons are well engaged at 5s. to 6s. per day.

Plasterers experience no lack of employment; but are generally engaged in task work, for which they often receive as much as 8d. to 1s. per yard (super.) for three coat-work, including ceiling. This price, which is for labour only, and does not include any thing but journeymen's task prices, should (we are told) enable a steady workman of this class to e r. 10s. a day beside paying his labourer.

Painters' wages, 4s. to 5s. per day. Present hands not so much in request as to offer inducements for any influx, either of prime workmen or daubers.

Plumbers.—No more wanted at present.

Smiths are generally well employed at 25s. to 30s. weekly. The German blacksmiths, by the George Washington, found a choice of employers.

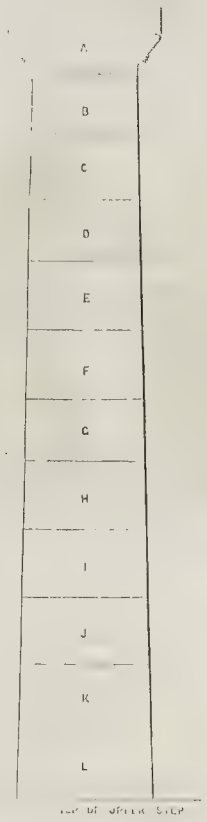
Sawyers are fully engaged at 10s. per hundred feet (super.) for gum or other hard wood; and at 7s. per hundred feet, for cedar or deal.

Building Materials.—Common building stone delivered in the city, for foundations or wall-work, 3s. 6d. to 5s. per dray load; freestone (whit-), squared and delivered, at 1s. per cubic foot; lime 5d. per bushel; river sand (for mortar), 1s. per cart-load, delivered; bricks, 25s. to 28s. per 1000, delivered; slate flagging, 4d. to 6d. per foot (super.); ditto roofing, 4*l*. 10s. per 1000; ridge tiles, 4d. each; joists, principals, purlings, &c., of gum or stringy bark, 6 inches by 2, are sold at 1½d. per foot run, and larger scantling in the same proportion; flooring boards, 7 inches by 1 inch, at 10s. per 100 feet run; battens, 12s. per 100 treble measure, being equal to 4s. per 100 feet run; Baltic deals are selling at the rate of 8d. per foot 9x3; inch board from ditto, at 3½d. per foot run. New South Wales cedar may be obtained in the log, or sawn, at the following general rates—namely, logs, at the rate of 2½d. per foot super. per inch; boards, 5d. to 9d. per foot super., according to breadth, quality, and condition.

MEASUREMENTS OF THE FALLEN BLOCKS OF A COLUMN OF THE PARTHENON.

In accordance with the request of a correspondent, made some time ago, Mr. Scoles has favoured us with his measurements of the fallen blocks of a column of the peristyles of the Parthenon, in order to test the truth of the law of the entasis, communicated by Mr. Penrose to the Institute of Architects.*

All the measurements of the diameters are taken to the back of the flutes, in feet, inches, and tenths of an inch.



	Height.				Diameter at base.		
A (capital)	2°	10′	0″	..	4°	6′	72″
B	2	7	5	..	4	8	15
C	2	9	6	..	4	10	25
D	2	7	8	..	4	11	7
E	2	11	1	..	5	1	35
F	2	11	9	..	5	3	9
G	2	7	8	..	5	4	35
H	2	11	15	..	0	0	0
I	2	10	25	..	5	7	1
J	2	10	6	..	5	8	25
K (course wanting; not measured)	0	0	0	..	5	9	25
L	0	0	0	..	5	10	7

Height of K and L together, about 5 feet 8 in.

ART-UNION OF LONDON.

SCULPTURE COMPETITION.

Twenty-one pieces of sculpture have been submitted to the Committee of the Art-Union of London, in reply to their offered premium of 500*l*., and are deposited in the concert-room of the Princess's theatre, in Oxford-street. The private view will take place on Monday, and subscribers and their friends will be admitted on the next and following days.

* See page 100, *ante*.

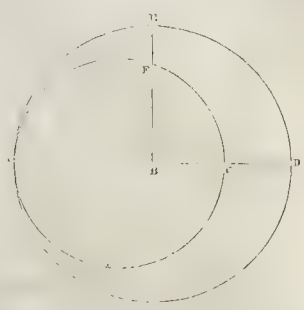
CONVERSION OF AREAS.

Sir,—As you have lately published many problems on the conversion of areas, I beg to forward you the inclosed. I will send you the solution of it in a few weeks if in the mean time you do not get a better one.

Yours very obediently,

June 23rd, 1846. R. S.

In the accompanying figure there are given the lines EF and CD (which meet when produced at right angles, at the centre B of the large circle) to find (geometrically), the diameter of a circle whose area shall be equal to the area of the space AEFDCA.



THE STAINED GLASS WINDOW IN ST. JAMES'S CHURCH, PICCADILLY.

The stained glass window in St. James's by Mr. Wailes is now fixed, and may be seen by all. In August last, we pointed out the mistake made by the committee in selecting a window of Gothic design and manner for an Italian Building.* In consequence of this, and the response our objections found in other quarters, considerable alterations were made by the artist, and no Gothic outlines appear in the window as now executed; the *vesica piscis* forms, and the foils are omitted, the borders altered, and the figures made to approximate to nature rather than in imitation of mediæval work. It has now a Byzantine rather than a Gothic character, and is less obtrusively objectionable than it would otherwise have been.

The window, as most persons know, is in two stories and six compartments. The principal compartment of the upper story contains the Transfiguration; that of the lower, the Crucifixion. In the other compartments are our Saviour praying while the disciples slept; the entombment; the resurrection, &c. Nearly 1,300*l*. were subscribed for the purpose, and as this sum is more than is required for the present window, the balance has been made the commencement of a fund, to defray the cost of filling all the other windows with stained glass likewise. However strongly we may have commented elsewhere on the proceedings of the committee, we cannot refuse them, and their honorary secretary in particular, Mr. Mayhew, praise for their zeal and good intentions.

By the way, those who visit the church should not fail to remark Gibbon's wonderful piece of carving, which adorns the chancel.*

PROFESSOR DONALDSON'S CONVERSAZIONI.

On Tuesday and Wednesday evening last, Professor Donaldson received, at his house in Russell-square, the members of the Institute of Architects, and a body of distinguished visitors, and provided sumptuously for their entertainment mentally and bodily. The tables that were not filled with choice carvings groaned under the weight of a goodly supper, and antique vases and agate cups did more than divide attention with Roman punch.

An immense number of drawings were scattered about, some of them of great excellence: of which may be mentioned a collection of sketches and details from abroad, by Mr. Garling. Amongst other fine specimens of art, we particularly noticed a singularly good colossal head in bronze, of the Duke of Hamilton, by Mr. Campbell.

* See Vol. III., p. 397.

RAILWAY CLEARING-HOUSE.

In a pamphlet lately printed for private circulation, by Mr. K. Morison, a summary of the progress of this useful institution towards general adoption is thus given:—

"On the 2nd of January, 1842, the system of the Railway Clearing-house came into operation on the railways extending from London to Darlington in one direction, and from Manchester to Hull in another. It was adopted at subsequent periods by the companies whose railways extend from Darlington to Carlisle, Sunderland, Hartlepool, and Scarborough; and from Birmingham to Gloucester, Birkenhead, Liverpool, Fleetwood, Lancaster, and Manchester. And in a few months it will be in force in all the railways included in the area defined by a line passing from London, through Gloucester, Liverpool, Fleetwood, and Glasgow, to Edinburgh; and returning by Berwick, Newcastle, Scarborough, Hull, Yarmouth, and Cambridge, to the metropolis; or in other words, on all the narrow gauge railways in Great Britain lying north of the Thames, with the exception of the few short lines which are beyond the limits of the area just described."

From returns for 1845 it appears, that 517,888 passengers were each conveyed clear through an average distance of 146 miles,—the average length of the lines travelled over being forty-one miles; so that each passenger travelled over four railways, on an average, and must have passed three junctions or points of convergence. To accommodate these passengers, 59,765 railway carriages and 5,813 trucks, carrying private carriages, were sent through. There were also sent through, in the same year, 7,573 horse-boxes, 2,607 post-offices, and 180,606 goods waggons, besides waggons conveying minerals, of which no record is kept in the Clearing-house.

RAILWAY TERMINI IN THE METROPOLIS.

The Commissioners appointed to investigate the various projects for establishing railway termini within or in the vicinity of London, have reported against allowing the extension of lines towards the centre of the metropolis. They think that the advantage to be derived from such accommodation has been much exaggerated.

They express a decided opinion, that unless the existing main lines of streets are enlarged and improved, to a degree far beyond the intention, and, perhaps, beyond the means of any of the railway companies or projectors with whom they have had communication, the legislature would not be justified in sanctioning the extension of any railway into the neighbourhood of those streets.

"And here we would observe," they say, "that the enlargements and improvements which would be required are not merely the providing open spaces and areas immediately around the station for the reception of the carriages and other vehicles, which may arrive at or depart from it, but a widening, more or less extended, according to circumstances, of those channels through which traffic must approach the railway, and which, if overcrowded now, must become more so in proportion as the site of the station is found to suit the convenience of the travelling public."

At the conclusion of the report, which is a document of considerable length, the commissioners submit the following recommendations:—

1. That on the north side of the Thames, no railway now before Parliament or projected, be permitted to come within the limits described in our instructions.*

2. That if at any time hereafter, it should be deemed advisable to admit railways within those limits, this should be done in conformity with some uniform plan, carefully laid down under the authority of your Majesty's Government, and sanctioned by the wisdom of Parliament; and that under no circumstances should the thoroughfares of the metropolis, and the property and comfort of its inhabitants, be surrendered to separate schemes, brought forward at different times, and without reference to each other.

3. That on the south of the Thames, either the North Kent Railway be permitted to have its terminus in Union-street, and to join the terminus of the South-Western Railway, at Waterloo-bridge; or that the South-Eastern Railway be permitted to extend to Waterloo-bridge; accordingly as one or other of these lines may, upon a comparison of their general merits, receive the sanction of Parliament, and subject, in either case, to the conditions which we have pointed out in this report.

4. That the extension of the South-Western Railway to London-bridge be permitted, subject to the conditions pointed out in this report.

5. That a communication between the railways approaching London on the north and south sides of the river, and a connection between them and the docks being desirable, this should be effected by a railway encircling the metropolis, crossing the Thames at some point west of Vauxhall-bridge, and not coming within the limits of our inquiry on the north side of the river.

Canning.
Dalhousie.
John Johnson, Mayor.
J. C. Herries.
J. M. F. Smith.

* These are the Edgeware-road, from Oxford-street to the intersection of the New-road; the New-road and the City-road, to Finsbury-square; Bishopsgate-street; London-bridge; High-street, Borough; Blackman-street; the Borough-road; Lambeth-road; Vauxhall-road; Vauxhall-bridge; Vauxhall-bridge-road; Grosvenor-place, and Park-lane.

RIVER WATER—RAIN WATER.

HOW TO SET THE THAMES ON FIRE!

Sir,—The perusal of Mr. Wylson's very useful and interesting article on water in last week's Builder, induces me to offer you one or two little suggestions and remarks.

Why is it "quite impossible" for water companies to keep river water stagnant for a sufficient time to allow of its perfect purification from extraneous matter?

As it is, these companies practise the method of subsidence in reservoirs, though not for a sufficient length of time. Would not *additional reservoirs* enable them to take *additional time*,—and that too to *any* requisite extent? And as to agitation of surface, could not these additional reservoirs be also roofed over, to prevent the action of wind or any other agitating causes on them?

Ought a great capital, at all events, like London, to be deprived of the luxury—nay the requisite—of a perfectly clear and pure soft water, merely on the ground of additional expense? Why, I find, in the pages of The Builder itself, that at this very moment, it is proposed to expend no less a sum than 2,000,000*l.*, in the obtainment, otherwise, of this very comfort, namely, an abundant supply of clear soft water for the metropolis.

Old and stale as the standard joke about setting fire to the Thames is, Mr. Editor,—though still held good enough for repetition, on account of its supposed outrageous absurdity;—what will your select and intelligent readers say to the fact,—attested gravely in the following quotation from one of the curious works of that rich and rare old "Empyric," Van Helmont—which has just been called to my recollection by some kindred remarks in Mr. Wylson's article—not only that the thing is perfectly possible, but that it has actually been done, and may yet be done, again and again, for all that I know!

"We find by experience," says he "that when the water of the Thames is carried to the East-Indies; when the ship in which it is, comes under the Equator, where the power of the sun is most intense, the water becomes thick, tough, and clammy; but as soon as it is brought again to these parts, it becomes thin again, *and takes fire like brandy!*"

Let us hear no more jokes then about setting fire to the Thames; it is clearly no joke, but a sober, honest fact, or possibility at least, even on the most approved principles of modern chemistry,—for nothing is at all events more likely, than that the animal or other organic matter contained in the Thames water may, by decomposition, in barrels or other close vessels, so impregnate the water with hydrogenous or other inflammable gases, as to render it apparently combustible.

By the way, and seriously too, Van Helmont's observations, and those of the old chemists in general, are not to be sneezed at, notwithstanding the odd way in which the old boys sometimes come out with them, as the following curious anticipation of the modern discovery of the volatile oil or spirit of ammonia, in clear rain-water seems very likely to shew.

"If we take clear rain-water," says Van, "and put it into a well-closed glass, and set it for a long time in the sun, or to digest in warm water, it will putrify and precipitate, *and the water when distilled, will yield an oyl!*"

I am, Sir, &c.,
High Holborn, 6th July, 1846. J. E. D.

WANT OF A PROPER BUILDING FOR THE RECORDS.

The necessity for the erection of a fitting building for the reception of our public documents, is becoming more and more obvious. The risk to which they have long been exposed, and are now, is a disgrace to those in power, and *in the event of a conflagration*, would draw upon them no small amount of popular indignation.

The "Seventh Report of the Deputy Keeper of the Public Records," recently published, again draws attention to the fact, that our records (invaluable historical documents) are in greater jeopardy than any ordinary merchant would expose his account-books to.

The proposed appropriation of the Victoria Tower, when built, served to drive off the consideration of the question for a time. The tower, however, it was found, would not be large enough for the purpose, and the roof of the whole building is now talked about as the intended record office. A more unsuitable place can scarcely be conceived: we trust the proposal will be abandoned, and a proper fire-proof repository for these most valuable monuments be speedily built.

INSTITUTION OF CIVIL ENGINEERS.

ARTESIAN WELLS.

June 30th, the president in the chair. A paper was read describing the effect of the deep wells of the metropolis on the supply of water in the London basin, by Mr. Frederick Braithwaite, member. The object of this paper was to direct attention to the fact that the numerous deep wells sunk in and near the metropolis were gradually draining the chalk basin, and that every additional well driven in search of water had the effect of diminishing the water level in all the wells already existing. As a proof of this fact, it was stated that in a well at Combe's brewery, sunk twenty years ago, the water rose at that time to within 70 feet of the surface, but that it now only rose to within 120 feet, shewing a diminution of 50 feet. From this and other instances it was argued that the supply of water was rapidly decreasing, and this was attributed as well to the improved under drainage of the lands which received the falling rain, as to the increased demand upon the springs. The deep springs, therefore, were shewn not to be inexhaustible, that obtaining water from them was attended with considerable expense and uncertainty; it was argued thence that it was necessary to consider very carefully any attempts for obtaining a considerable supply of water by means of wells, from the chalk of the London basin. A remarkable fact also shewn in one of the tables, was that on the 5th of April, 1832, there occurred a sudden depression of eighteen feet of the springs, which lasted for half an hour, at the end of which time thirteen feet of the eighteen were regained. The paper contained many interesting facts as to the general amount of the supply of water from the different strata, and was illustrated by a series of plans, the first of which was a map on a large scale, taking St. Paul's as the centre, describing around it a series of circles with a radius of four miles; the external circle was divided into the thirty-two points of the compass, from which lines were drawn to the centre (St. Paul's). Upon these lines a series of sections were laid down, exhibiting the various strata down to the chalk, as shewn by the deep wells sunk in the districts between those lines, as far as the information could be gathered from those employed in sinking and boring them. These sections exhibited a remarkable contour of the chalk basin, and furnished fertile subject for speculative geology, as well as very valuable information as to

the probable production of water from the various strata.

In the discussion which ensued, the dean of Westminster treated with his usual clearness of scientific research the difficult problem of the origin of subterraneous lakes or sheets of water, and the causes of the spontaneous ascent of the water towards the surface of the earth. He described the influence of the alternating impermeable beds of clay in retaining within the more porous strata the water received at their outcrop, whence became evident the cause of the rising of water in the Artesian wells, sunk through the impermeable London clay down to the porous chalk basin into which the water had filtered through the fissures and veins of flints, from the extensive denuded surface of chalk around the London district.

After treating this subject at considerable length, the rev. doctor alluded succinctly to the proposed speculation for supplying the metropolis with water from the river Colne, and described the labours of the Rev. Mr. Clutterbuck, who, in papers read before the Institution of Civil Engineers, had demonstrated, by a long continued series of measurements of the water in the chalk hills of Hertfordshire, that all the water taken from that neighbourhood would have been abstracted from the supplies of the river Colne, and would have trenched upon the water rights of the mill owners; he alluded also to the rain-gauge experiments of Mr. John Dickinson, who during many years had found by arithmetical evidence, that the quantity of summer water in the Colne varied with the quantity of rain in the preceding winter, and he regulated his contracts for paper to be manufactured in the summer and autumn, by the quantity of water shewn in his winter rain-gauge; these observations have been corroborated by foreign experiments. He then treated briefly the general subject of Artesian-wells, the increased temperature of the water in the exact ratio of the depth, the sympathy between the depression of water in the various wells throughout an extensive chalk district, proving the identity of origin of the supplies. As the number of deep wells was therefore constantly increasing, the extra pumping upon one of them necessarily affected all within a certain distance around it. Mr. Clutterbuck's observations confirmed this. He had further observed, that the surface line of subterranean sheets of water was not horizontal, but inclined at a considerable rate, in consequence of the friction of the strata through which the water descended. The doctor concluded by drawing attention to the remarkable contour of the surface of the chalk exhibited in the sections, upon which he proposed on a future occasion to offer some observations.

The substance of a description of the large cast-iron lock gates recently constructed by Messrs. Rennie for the new docks at Sevastopol, in Turkey, and of a new mode of analyzing iron by M. Margueritte, were briefly mentioned. The president congratulated the members on the success of the past session, and after the ballot, at which Messrs. C. E. Cawley, E. L. Williams, and G. Giles, were elected as members, and F. Warren and G. Selby as associates, the meeting was adjourned until the second Tuesday in January, 1847.

AS TO GIVING NOTICE TO DISTRICT SURVEYORS.

Mr. Moxhay, of the Hall of Commerce, in Threadneedle-street, appeared at Guildhall on Saturday last, upon the complaint of Mr. Montague, the surveyor of the north district of the city, for unlawfully taking down and rebuilding a piece of wall in Inner Cushion-court, Old Broad-street, without giving previous notice to the complainant, whereby he had incurred a forfeiture of thrice the amount of the surveyor's fees, and a fine not exceeding 20*l*. We take the following particulars from *The Times*.

Mr. Montague said he made this complaint, not to recover his fees, which in this case he renounced, but to shew that the New Building Act must be attended to, and that the consequence of disregarding it might be the incurring of serious penalties. He should press for the infliction of a fine, by way of warning to others. This wall was declared to be dangerous, was shored up, and Mr. Moxhay was required to repair it. It had been repaired, and no notice had been given to him. Now the law required him to sign a certificate that the repairs had been made properly, according to the Act, but how was he to do this when he knew nothing about it till the work was covered in and finished? By the 13th section, notice was to be delivered at his office two days before any wall should be altered. In this case, his fee for attending to survey, &c., was 3*l*. 3*s*.

Mr. Moxhay asked him how he could pretend to be ignorant of the matter, when he had himself caused an official notice from the Court of Aldermen to be served on him, requiring him to repair the wall within fourteen days.

Mr. Montague said he had nothing to do with the notice produced. It emanated not from him, but the office of the city solicitor.

Mr. Moxhay proceeded to interrogate Mr. Montague with some heat on this point.

Mr. Montague explained, that he received a letter from Mr. Brown of Cushion-court, calling his attention to the dangerous state of this wall, which was rotten, loose, and bulging. He went and looked at it, and reported to the official referees that he considered it to be highly dangerous. The referees gave notice to the Court of Aldermen, who directed the city surveyor to immediately, by hoarding in and shoring up, secure the wall; and the city solicitor was instructed to give notice to the owner to begin to repair the same within 14 days. He knew, therefore, that the wall required to be repaired, and that somebody would have notice to repair, but he did not know when the party would begin the repair, that he might attend and see what was being done. The party who repaired the wall was required to give him two days' notice before he began, in order that he might be present at the proper time.

Mr. Moxhay said he did not consider that the wall belonged to him, but it had been decided that it did. It had, to the extent of three yards, been loosened, by driving wedges against it, in the course of some repairs going forward at the premises of Mr. Brown, who made the original complaint of the unsoundness of the wall. He maintained that, in fact, there could be no want of knowledge that the wall was to be immediately repaired, as Mr. Montague himself helped to put the law in motion; and, secondly, that as the city authorities ordered him to make the repair, it dispensed with the necessity on his part of giving notice of his intention to repair. The one notice must override the other.

The magistrates called in the city solicitor to advise on the question, who was of opinion the builder or owner was not relieved from the obligation to give notice to the district surveyor of the precise day of commencing the repair, and that the penalty had been incurred; but Mr. Moxhay had not omitted to give the notice in the defiance of the law or to evade any lawful fees, and this should be considered in fixing the amount of the fine. They all knew how much Mr. Moxhay had done to adorn the city.

Mr. Alderman Moon and Sir C. Marshall concurred in the compliment paid to Mr. Moxhay, and mitigated the fine to 40*s*. At the same time they complimented the surveyor on his disinterestedness in renouncing the treble fee of nine guineas.

Mr. Montague surrendered the penalty of 40*s*. to the poor-box.

Completion of the Scott Monument at Edinburgh.—The statue of Sir Walter Scott will shortly be in its place, and on the 15th of August the anniversary of the birth-day of Sir Walter, the statue will be unveiled and the monument completed with great ceremony, in the presence of the members of a procession of the Grand Lodge of Scotish Free Masons, and a holiday crowd of the citizens, who are expected to carry through the inauguration with great éclât.

Cantlop.—A very fine quarry of red granite has been discovered on the estate of Mr. John Lawrence, of Cantlop, near this town, which is likely to prove very advantageous for building purposes, the quality of the stone being remarkably good and firm.—*Shropshire Conservative.*

RESTORATION OF COLOGNE CATHEDRAL.

The following is the eleventh quarterly report of the architect, Mr. Zwirner, from the beginning of January to the end of March, 1846. Translated from the *Kölner Domblatt*, No. 16, in the *Ecclesiologist*:—

"As is always the case during the winter, the works for the above period have been chiefly confined to preparing the stones to be employed in those parts of the building which will be erected during the ensuing summer. Thus on his Majesty's account, the materials provided for the south transept, and those also especially which are intended for carrying up the nave to a greater height, and for the columns and gallery of the triforium, have been now got ready, while on account of the 'Central Restoration Society' and the 'Bavarian Society,' similar preparations have been made towards the works on the north transept and nave aisle. In this latter part the building itself was resumed early in March, and the two half-blind windows with the pillars (or buttresses?) belonging to them, occupying the north-west angle formed by the nave and transept, have been raised to the height of about ten feet.

With a view to the erection of the north tower, it was essential that the foundations of the southern central pier (*mittelpfeiler*) should be properly laid and adjusted. Accordingly I had the pavement taken up, and the rubbish, which had been filled in, cleared away, in the full persuasion that the foundations to so principal a member of the edifice must have been laid by the old builders at the same time with the other foundations of the tower, according to what the first principles of the art would require. Upon making the excavations, however, there was first discovered a vault which had been filled in and walled up with brickwork, upon the floor of which great quantities of human bones were lying about without coffins. Beneath this floor, lying some ten feet below the surface, I expected to find the old foundations of the tower; we had however to dig yet deeper, and at a depth of thirteen feet first came upon a mass of masonry composed of large blocks of basalt. But this, upon closer examination, turned out to be no more than an old irregular and limited fragment of wall, having no relation to the general plan of the tower foundations, and, besides this, reposing on nothing but some building materials loosely filled in, without there being any appearance of masonry to be found further.

Here, then, we have the foundations of one principal support of the tower entirely wanting, and it will therefore have to be laid new from the very bottom. The requisite excavations for this purpose have been made to the depth of about thirty feet. Upon this occasion it appeared that the foundation to the western supports of this north tower, instead of being connected with the other foundations of the tower, is, in like manner, isolated, being laid in detached boarded shafts, of which the impressions left by the boards upon the external mortar are yet visible. The same way of building was also observed in the completion of the transept foundations, upon which I made what remarks were necessary in the supplement appended to my first report, entitled, 'The building of Cologne cathedral, past and present,' (see the *Domblatt*, No. 5, first year, 1842).

The worst of this occurrence is the great delay and unforeseen expense which must necessarily be occasioned by the construction of an entirely new foundation. Whether the foundation for the central pier (*mittelpfeiler*)* of the tower exists or not, it is as yet quite impossible to decide, as the ground is at present occupied with the materials for laying the foundation of that already mentioned."

In conclusion, after some accounts which are omitted here, the architect regretted that the keeping of several separate accounts and the division of the expenses among different portions of the building, tended much to complicate the management; and that the simultaneous employment of the workmen on five different parts of the works added much to the trouble and expense of the undertaking."

* The very extensive use of the word *pfeiler* (pillar, pier, column, support, buttress), in Germany, creates some little ambiguity in these reports. It is difficult to make the account fully intelligible without the assistance of a good plan, or an accurate knowledge of the building itself.—Translator.

On this same interesting subject, a correspondent of the *Athæneum*, who dates his letter the 18th of last month, writes as follows:—

"In two years, as Herr Zwirner *showed* us, the nave, aisles, and transept of the cathedral may be thrown open—not, in truth, to the entire height; but complete to a level above the clerestory windows. The vaulting of the side-aisles will be then completed; and a temporary roof will be easily placed over the central portion,—leaving, within, the upper part of the walls, vaults, &c., to be raised:—without, the flying buttresses, pinnacles, and other garnitures are a more serious business. The raising of the transept walls to their present important height, Herr Zwirner assured us, was a heavier two years' task than what remains to be done in realization of a scheme so attractive to the fancy. Moreover, the casual visitor is little aware of the vast collection of ornamental sculptures, ready to be placed, which the workshops contain. The canopies round the retreating portal of the northern transept are already fixed; the capitals of the pillars of the clerestory gallery are waiting by the score. Let not my statement mislead any one into imagining a case of *manufacture*. The old capricious variety of fancies in ornament, has been as religiously carried out as every other intimation of the nameless architect's intention. The small grotesque figures at the angles of the canopies aforesaid (which are merely shelters for statues of saints, angels, &c.,) are as minutely finished and whimsically diversified, as if they could be seen without the aid of an opera-glass when they shall be raised to their destined position. The foliage, again, of the capitals has the sharpness of the best period of cutting. No two devices are alike. The stone used for these more delicate portions is of peculiarly fine and close quality—from Rochefort. Nothing seems slighted or overlooked; and the workmen, of course, become more skilful as they proceed, and fuller of spirit and invention. A growing confidence that all this labour is not to be in vain as regards the grand result, probably animates those who have contributed to a scheme so magnificent, but for a long time deemed so visionary. Windows are beginning to drop in. The King of Bavaria's donation of *six* for one of the side aisles will be ready in 1848; and then, it is said, the spell is to be broken—the wall thrown down betwixt nave and choir, with splendid festive ceremonies. This will give an immense impetus to popular feeling.

VENICE.

"All the time I was at Venice," says Mrs. Jameson, in her last pleasant 'Essay on Art,' "I was in a rage with Canaletti. I could not come upon a palace, or a church, or a corner of a canal which I had not seen in one or other of his pictures. At every moment I was reminded of him. But how has he painted Venice? Just as we have the face of a beloved friend re-produced by the daguerréotype, or by some bad conscientious painter—some fellow who gives us eyes, nose, and mouth by measure of compass, and leaves out all sentiment, all countenance; we cannot deny the identity, and we cannot endure it. Where in Canaletti are the glowing evening skies, the transparent gleaming waters, the bright green of the vine-shadowed *Traghetto*, the freshness and the glory, the dreamy, aerial, fantastic splendour of this city of the sea? Look at one of his pictures—all is real, opaque, solid, stony, formal—even his skies and water—and is *that* Venice? 'But,' says my friend, 'if you would have Venice, seek it in Turner's pictures!' True, I may seek it, but shall I find it? Venice is like a dream—but this dream upon the canvas, do you call *this* Venice? The exquisite precision of form, the wondrous beauty of detail, the clear, delicate lines of the flying perspective—so sharp and defined in the midst of a flood of brightness—where are they? Canaletti gives us the forms without the colour or light. Turner, the colour and light without the forms. But if you would take into your soul the very soul and inward life and spirit of Venice—breathe the same air—go to Titian; there is more of Venice in his 'Carnaro Family,' or his 'Pesaro Madonna,' than in all the Canalettis in the corridor at Windsor.* Beautiful they are, I must needs say it; but when I think of enchanting Venice, the most beautiful are to me like prose translations of poetry—petrifactions, materialities: 'We start, for life is wanting there!' I know not how it is, but certainly things that would elsewhere displease, delight us at Venice. It has been said, for instance, 'put down the church of St. Mark any where but in the Piazza, it is barbarous:' here, where east and west have met to blend together, it is glorious."

* By the way, no one knows Canaletti's art who has not seen this aforesaid corridor. The collection is matchless. —Ed.

LORD EBRINGTON ON THE ARRANGEMENT AND VENTILATION OF HOUSES.

Lord Ebrington's lecture on the unhealthiness of towns, delivered in the Mechanics' Institution, at Plymouth, has been published by the Health of Towns Association.*

We take from it the following remark, and recommend the whole for wide distribution.

"With regard to ventilation in its largest sense, that of towns; by an improved arrangement of the streets, the expense I acknowledge would be formidable; but when it is remembered how many other useful purposes are effected by making streets straight instead of winding, wide instead of narrow, in continuous lines and free overhead, instead of discontinuous or connected only by archways, some expense would not be—indeed, we see daily proof that it is not—thought ill bestowed, in making our thoroughfares in large towns not only airier, but also drier, lighter, shorter, and more commodious for traffic, more cheerful and more handsome. When it is considered that the breath of human beings alone, exclusive of animals, in the metropolis, discharges into the air sixty tons of carbonic acid and sixty tons of water every day, it will be easier to appreciate the importance to health of allowing the freest access possible, not only to the light of the sun, but also to the purifying winds of heaven. Dr. Duncan, describing the well-like courts and alleys of Liverpool, speaks with enthusiasm of the delight with which he hails a hurricane or thunder-storm. No ordinary breeze has any effect in renovating the atmosphere of spots so completely hemmed in. Indeed, so strongly is the evil of the inevitable deterioration of the air of our enormous metropolis felt, that it is seriously in contemplation to establish villages for the residence of operatives in the neighbourhood of London, from which they would be daily conveyed to their work and back by the railways. The evidence of Captain Vetch as to the best mode of arrangement for the increments of towns is very interesting; as also what he says, and Mr. Butler Williams, on the importance of having accurate surveys made of every town, accessible to all who want them for the purposes of drainage, gas and water supply, &c. He shows the costly blunders and difficulties which result from the absence of such information. It is sufficient to say that additional streets ought to be made as nearly as possible parallel to the exterior lines of the town, with broad continuous communications across them nearly at right angles, and leading straight into the principal thoroughfares.

Now, with respect to the houses themselves, it is essential that they should never be placed back to back, nor even too close to allow of a fairly sized back yard or garden to each, accessible to light and air.

I will only mention one plan which I have adopted myself in building cottages on the estate which I have the management of, namely, the introduction of some air from the outside, through a pipe taken into an iron box at the back of the kitchen fire, whence it is conducted by another tube carried up the corner of the chimney into the bedroom above. In this manner a constant supply of warmed fresh air is furnished to the sleeping-room through a screen of wire gauze, which diffuses it without draught. The extra cost is so trifling, that it is not worth talking about. As a general principle it should be remembered that cold air is heavier than hot, and that consequently the breath and steam of the body, as well as the smoke and vapour from lamps and candles, has a tendency to ascend; the great object, therefore, is to have openings high up in a room. To prove this, Dr. Guy mentions a workshop in two stories without any opening; in the upper, ten out of seventeen, in the lower only one out of fifteen men working there, were affected by disease of the chest. Dr. Arnott, on the other hand, mentions a large sort of barrack at Glasgow, in which all the workmen of a factory lodged, from which fever was never absent. It was rendered quite healthy by carrying a tube from the ceiling of each room into the large factory chimney, the powerful draught of which secured a constant change of air for the inmates.

* C. Knight, London.

New Books.

An Exposition of the Danger of the Present Mode of Railway Construction, with Suggestions for its Improvement. By C. H. Greenhow. Weale.

The points urged in this pamphlet are, that a more perfect adjustment between the wheel and rail than at present exists, is necessary: that the only shape which can really give security under all circumstances, is the convex or round rail and concave tire, assisted by an inwardly inclined spoke, making the wheel in fact a cone, resting with its extreme edge on the rail; and that the tire, without the point on the surface of the rail perpendicular to its centre, ought to be so formed as to secure a perfect accordance between the wheels and the running surface of the rails, should either of them sink below the level of the other, or should the gauge separate so as to increase the distance between them.

A suggestion made by the writer to the effect, that all the carriages running on a railway should be of proportioned dimensions, seems worth consideration.

Gothic Ornaments drawn from existing Authorities. By J. K. Colling, Architect; Bell, Fleet street. 1846. No. 1.

This promises to be a useful work. The first number contains four plates in lithography, including capitals from the choir of Ely Cathedral, quarter full size; wooden poppy-heads from Paston church, Norfolk, half full size; portions of rood-screen from Ludham Church, Norfolk, portion of mullion of screen, crocket from the canopy of doorway, examples of decorations enriched by gold and colour; and wooden spandrils from North Walsham Church, and Trunch Church, Norfolk, half full size.

We withhold an opinion until the work is further advanced. The date should be given in all cases if possible.

Correspondence.

THE MADNESS OF BUILDERS.

Sir,—On last Friday, at the Sewers Office for the Westminster Division, there were let about 775 lineal feet of 18-inch barrel drain to be built in the line of the Old Ranelagh Sewer at Bayswater. I have taken the liberty of sending you a list of the tenderers and their amounts as a curiosity. I am, Sir, &c.,

July 7, 1846. Candid.

Johnson	£398 0 0
Mathison and Frost	298 17 0
Starkey	196 10 0
Yeomens	170 0 0
Austin	161 10 0

Austin's tender accepted.

The City of Mexico.—In the principal streets the houses are all constructed according to the strictest architectural rules. The foundations of the city were laid, and the first buildings were erected by Cortes, who did every thing well which he attempted,—from building a house or writing a couplet, to conquering an empire. Many of the finest buildings in Mexico are still owned by his descendants. The public square is said to be unsurpassed by any in the world; it contains some twelve or fifteen acres paved with stone. The cathedral covers one entire side, the palace another; the western side is occupied by a row of very high and substantial houses, the second stories of which project into the street the width of the pavement; the lower stories are occupied by the principal retail merchants of the city. The most of these houses were built by Cortes, who, with his characteristic sagacity and an avarice which equally characterised him in the latter part of his life, selected the best portion of the city for himself.—*Thompson's Recollections.*

Miscellanea.

IBRAHIM PACHA'S VISIT TO THE MANUFACTORIES.—It is an interesting reflection connected with Ibrahim Pacha's visit to the manufactories of England, says a writer in the "Literary Gazette," that, some three thousand years ago, many of these arts flourished in an eminent degree in the kingdom to which he is heir-apparent. In the manufacture of glass, for instance, which appears particularly to have excited his astonishment at Birmingham, the ancient Egyptians had attained a degree of perfection which, in some branches, has scarcely been equalled by the artificers of modern times.

When with just pride Britannia doth display
Before the wondering heir of Pharaoh's throne
Triumphs of art to other lands unknown,
Oh, may she not forget, in this her day,
That there was once, in years long passed away,
A time when all these arts so proudly shewn
To the Egyptian, were his nation's own!
And she who rules with such triumphant sway,
The realms of skill and science—where was then
Her glory? In the lowest form of man
Her children naked on the mountains ran,
Or shared the wolf and the hyena's den.
And if her heart beat high with the review,
May she be humble and be thankful too!

R. F.

INTERIOR DECORATIONS.—We learn that Sir Lionel Goldsmid is decorating in encaustic one of the rooms of his mansion, upon which he means to expend a thousand pounds. The work has been undertaken for him by—an eminent upholsterer! In the name of common sense, we ask, why will not such gentlemen employ artists, instead of persons who deface where they pretend to decorate? Cases of this kind are now of frequent occurrence; application is made to Mr. B. or Mr. C., who readily undertakes "the job,"—and how does he accomplish it? By cutting pages out of a few old or modern books, sticking them together, making up a pretty picture—and there is the design! Care to harmony he has none; uniformity of style is a matter of no moment; but it is essential to pick out a variety of pretty bits, and find an artist who will not spoil their effect by giving too much of his own work. We shall consider this matter more in detail ere long. It is grievous to know that every day large sums of money are paid to "decorators," who might as well be apothecaries for any knowledge of art they possess.—*Art-Union Journal.*

HAYDON'S ESTIMATE OF HIS PREDECESSORS.—Never were four men so essentially different as West, Fuseli, Flaxman, and Stothard. Fuseli was undoubtedly the mind of the largest range;—West was an eminent *macchinista* of the second rank;—Flaxman and Stothard were purer designers than either. Barry and Reynolds were before my time; but Johnson said, in Barry's Adelphi "there was a grasp of mind you found no where else;" which was true. Though Fuzeli had more imagination and conception than Reynolds—though West put things together quicker than either—though Flaxman and Stothard did what Reynolds could not do, and Hogarth invented a style never thought of before in the world, yet as a great and practical artist, in which all the others were greatly defective, producing occasional fancy pictures of great beauty, and occasional desperate struggles in high art, with great faults, Reynolds is unquestionably the greatest artist of the British school, and the greatest artist in Europe since Rembrandt and Velasquez.

ENTICING AWAY WORKMEN.—Some glass manufacturers at Sunderland recently brought an action against the proprietors of the British Glass Works, Newcastle-on-Tyne, for enticing away four of their workmen, and recovered 65*l.* 6*s.* 8*d.* damages.

GREAT WESTERN RAILWAY.—From returns made to the Board of Trade, we learn that the working stock of the Great Western Railway includes 127 engines, 232 passenger carriages, and 919 luggage vans, trucks, and carriages.

NAVAL ARCHITECTURE.—The Admiralty has issued instructions, under an order in council, for the revival of the school of naval architecture in the Portsmouth dockyard.

THE ROYAL ACADEMY has sent a donation of 50*l.* towards the fund for the relief of the widow and family of the late Mr. Haydon.

NOTICES OF CONTRACTS.

[We are compelled, by the interference of the Stamp Office, to omit the names of the parties to whom tenders, &c. are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent Garden.]

For the execution of the remaining portion of the Cumnock extension of the Glasgow, Paisley, Kilmarnock, and Ayr Railway.

For the execution of the Junction between the Glasgow, Paisley, Kilmarnock, and Ayr Railway, and the Kilmarnock and Troon line.

For the construction of the extension line of the Chester and Birkenhead Railway, from Grange-lane to Bridge-end, in the township of Birkenhead.

For repairing and making good the ceilings of the Sculcoates Union Workhouse.

For whitewashing the walls of the Sculcoates Union Workhouse.

For taking on a repairing lease, for 21 years, six houses in Bunhill-row.

For taking on a building lease for 61 years, a piece of vacant ground behind Bunhill-row.

For a supply of cast-iron pipes for the Liverpool and Harrington Water-Works (promptly).

For the disposal of a powerful fire-engine, with all necessary apparatus.

For the supply of broken Guernsey granite for the New Cross Turnpike Road Trustees.

For a supply of flints for the New Cross Turnpike Road Trustees.

For building about 2,260 lineal feet of quay wall at Glasgow.

For fitting up the church of Wimborne Minster, Dorset, with gas for evening service.

For the disposal to a machinist, engineer, or smith, of a jobbing trade of 20 years' standing, with forges, tools, lathes, vices, &c.

For widening and modifying the bridge at Innishannon, on the road from Cork to Skibereen.

For the erection of a district military prison at Cork.

For the mason's and bricklayer's work required in the erection and completion of a new manufactory at Sheffield.

For the plasterers' and slaters' work required in the completion of a new manufactory at Sheffield.

For the joiner's and carpenter's work required in the erection and completion of a new manufactory at Sheffield.

For the plumber's and glazier's work required in the erection and completion of a new manufactory at Sheffield.

For the painter's work required in the completion of a new manufactory at Sheffield.

For the disposal of a long-established business in the iron-founding and ironmongery line.

For the erection of a farmhouse and outbuildings near Newmarket.

For the cast-iron bridges required for the Edinburgh and Northern Railway.

For the letting of a valuable stone quarry, in the parish of West Monkton, near Taunton.

For the execution of the first contract for works on the branch of the Edinburgh and Northern Railway, from near Thornton, by Lochgelly, to Dunfermline.

For the execution of the second contract for works on the branch of the Edinburgh and Northern Railway, from near Thornton to Dunfermline.

For the execution of the third contract for works to be done on the branch of the Edinburgh and Northern Line, from near Thornton to Dunfermline.

For the execution of the first part of the Newport extension of the Edinburgh and Northern Railway, from the town of Cupar to the village of Leuchars, including the works from Cupar to near Dron, a length of about 4 miles.

For the erection of the second part of the Newport Extension of the Edinburgh and Northern Railway, from Cupar to Leuchars, including the works from Dron to Leuchars, a length of about 3½ miles.

For the execution of all the works necessary for the erection of the high level bridge over the Tyne, on the Newcastle and Berwick Railway (extension of time).

For the execution of the Viaduct through Gateshead, on the line of the Newcastle and Berwick Railway (extension of time).

For the execution of the Viaduct through Newcastle, on the line of the Newcastle and Berwick Railway (extension of time).

For building and completing a new Mansion House in Banffshire, Scotland.

For letting a Slate Quarry at Appin, Scotland.

For the execution of an improvement in Lydgate-lane, Sheffield.

For the erection of additional buildings at the Salop Lunatic Asylum.

For the widening of Topsham bridge.

For the improvement of the approaches to Topsham bridge.

For the excavator's work required for the intended Industrial Training Schools for Pauper Children of the township of Leeds (promptly).

For the disposal of a wholesale and retail ironmongery business in Bradford.

For the erection of a barn and hovel at Newbottle, near Houghton-le-Spring, in the county of Durham.

For the erection of a barn, stable, and hovel at Over-the-hill, near Houghton-le-Spring, in the county of Durham.

For the disposal of a builder's stock in trade at Llangattock, Crickhowell.

For the erection of a farmhouse at Maesyronen, county of Radnor.

For the erection of a new bridge over the River Worm (promptly).

For the making of a new cut to alter the course of the river Worm (promptly).

For the disposal of the Earl of Ducie's Iron Works at Uley, near Dursley, Gloucestershire.

For plans and estimates for the restoration and repewing of St. Lawrence's Church, Reading, by an architect resident in Reading.

For building sewers in Bell-yard, in the City of London.

For building sewers in Gracechurch-street, in the City of London.

For building sewers in Laurence Pountney-lane and hill, and other places contiguous in the City of London.

For a supply of cast-steel files and rasps for the East-India Company.

For the disposal of a business for plumbers, glaziers, and painters, near the City of London, and established for twenty-six years.

For providing and fitting glass tops with the best tin frames to about 290 public lamps in St. James's, Clerkenwell.

For the supply of 9,000 running feet of flat Aberdeen Carlinose or other granite curbing 12 by 6 inches properly squared, and not less than 3 feet 6 inches in length, for the parish of St. John, Hackney.

For paving certain of the footpaths in the parish of St. John, Hackney, with York paving of the best quality.

COMPETITION.

A premium of 25*l.* will be awarded by the trustees of the Jephson Gardens, at Leamington, for the best set of plans, accompanied with a specification for laying them out. A premium of 10*l.* will be awarded for the second best plan.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At Greenock: 105 logs and 12 Crotch pieces Honduras mahogany.

At Whelpleyhill, between Chesham and Berkhamstead: 544 beech timber trees, with tops; 933 beech poles, and some clean ash.

At Bristol: 80 pieces of English oak timber; also a quantity of larch railway sleepers, rails, and stakes.

At Whiteparish, Wilts: 367 large oak timber trees, 215 oak fitterne, 113 ash poles, 26 ash, and 16 beech trees, &c.

At Little Cornard, near Sudbury: 1,000 oak timber trees.

At Davis's Mart, Mark-lane: the whole of the plant and materials of the Experimental Railway on Wimbledon Common.

At Framsden, near Helmingham: a large quantity of oak top ends, gate posts, planks, &c.

At Inverary: a large quantity of growing and cut timber, chiefly larch and Scots fir of great size.

At Whittle Lodge, Essex: a large assortment of building materials. Day of sale altered.

At Dare's timber yard, Bermondsey, New-road, near the Bricklayer's Arms: the whole stock of planks, battens, deals, timber, mahogany, &c. &c.

At Southampton: 1,200 seasoned Memel and Petersburgh deals and battens.

At Southampton: a cargo of yellow and red pine, elm, deals, lathwood, &c., in suitable lots.

At the Custom-house Dock, Dublin: 100,000 feet Honduras mahogany, 28 to 40 inches in depth.

At the Workington Iron Works, Cumberland: 200 tons bar iron, in suitable lots for engineers, iron merchants, railway contractors, &c. Also upwards of 300 tons of pig iron. Time of sale now fixed.

At Llangattock, Crickhowell: a builder's stock in trade, &c.

At Knotting, near Higham Ferrers: about 1,200 oak timber-trees, with tops and ash spires.

At the Buck Inn: Annan New Tile Works, with three fields of excellent clay.

At King-street, Hammersmith: the good-will of an old established business for plumbers, painters, glaziers, house-decorators, and others, with stock in trade, shop fixtures, &c.

TO CORRESPONDENTS.

"*Cedar Wood.*"—The communication on this subject is postponed, as the signature appears to be accidentally omitted.

"*W. F.*"—Bloxam's "Principles of Ecclesiastical Architecture" (8th Edition), gives good general information. (Bogue, Fleet-street).

"*G. G. F.*"—Caen stone may be used externally without fear, if properly selected. An English stone is used externally for the Houses of Parliament, called Anstone stone.

"*Citizen of the World.*"—The etching of Sir J. Brunel appeared to us to promise a good likeness, but we cannot speak positively.

"*J. M.* (York-street)."—The letter did not reach us in time. What are the particulars?

"*W. P.*"—Write for a penny pamphlet on the subject published by Churchill, Princes-street, Soho, London. Consult any elementary work on chemistry.

"*S. B. P.*" declined with thanks.

"*J.*" (Newbury).—The price of each part is 3*s.*

"*J. C.*"—Thanks.

Received.—"George Lock," "G. H." "Old England's Worthies," Part VI. (C. Knight.) "Pictorial Gallery of Arts," Part XVIII., Architecture. (C. Knight.)

ERRATUM.—Page 320, for "the small portal of William Horne," read "small portal of Wilton House."

ADVERTISEMENTS.

TO ARCHITECTS, BUILDERS, &c.

GAS LAMPS, GAS BRACKETS, GAS PILLARS, BURNERS, &c. &c. In calling the attention of architects, builders, &c., to their assortment of Gas Furniture in general, C. DEBAUFER and SON respectfully announce they continue to fit up premises of every description on the most approved and newest system of gas fitting. An experience of forty years justifies us in making the above assertion.—P.S. Country orders attended to with dispatch.

10 and 11, Creed-lane, St. Paul's.

MORTGAGE AND ANNUITY OFFICE, No. 123, CHANCERY-LANE.

PERSONS requiring LOANS by way of MORTGAGE or otherwise upon any available security, may at all times procure an advance to the extent of from 100*l.* to 150,000*l.*, or so much as the property will bear, by applying to Mr. BRAY, surveyor, at the offices as above, where a registry for the sale of estates, houses, land, life interests, and reversions, is kept for inspection.

N.B. To expedite the procuration, personal application at the office would in all cases be better, the party bringing with them the abstract of title, plans, &c.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

BRITISH and FOREIGN SHEET GLASS for Horticultural purposes, &c., may be had at JAMES BROMLEY'S, 315, Oxford-street, London, at the following reduced prices:—

In crates, containing about 200 feet, of coarse 13 oz., at 4½d. per foot, or fourth quality, 5d. per foot; ditto, 16 oz. coarse, 5½d.; ditto, fourth quality, 6d.; or cut to any size not exceeding 40 inches long by 10 inches wide at ½d. per foot extra. Also Microscopical Glass, French Shades, Plate and Crown Window Glass.—A discount to the trade.

TO THE PLATE GLASS TRADE.

THE BIRMINGHAM PLATE AND CROWN GLASS COMPANY, "Registered," beg to inform the Trade and Public, that the extension of their Works at Smethwick, near Birmingham, being now completed, their Warehouse, 141, Fleet-street, London, is now open for the Sale of their Crystal Plate Glass, which will be found to stand unrivalled by that of any other manufactory. They are also in a position to supply Rough Plate of any substance for Skylights or Floorings on the shortest notice.—Orders addressed to B. MOSS, Company's Warehouse, 141, Fleet-street, London, will be promptly attended to.

WINDOW GLASS, LEAD, VARNISH, and COLOUR MANUFACTORY.—Crown Window Glass, in squares under two feet, 4½d. per foot; glazing, 5d. per foot; sheet glass, 4d. per foot; best white lead, 20s.; seconds, 24s.; thirds, 22s. per cwt.; linseed oil, 2s. 2d.; boiled oil, 2s. 5d.; turpentine, 3s. 9d.; fine oak varnish, 10s.; carriage, 12s.; copal, 14s.; body copal, 20s.; gold size, 10s.; paper varnish, 10s.; linseed oil putty, 7s. 6d. per cwt. per firkin; patent dryers, 42s.; black paint, 28s.; lead colour, 24s.; Oxford ochre, 42s. per cwt.; best pan water-closet, 34s. complete; ½-brass cocks, 2s. 3d. each. Milled sheet lead, patent pipe, beer-machines, tapping-cocks, and brushes and colour of every description. Thomas Millington being the manufacturer, can supply a much better article than most other houses. Address, THOMAS MILLINGTON, 87, Bishopsgate-street Without, London.—Established upwards of 90 years.

SASHES primed, glazed, and sent to any part of London at 6d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.

FOREIGN SHEET 5d. per foot.
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Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Shew-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.

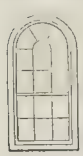
Dry and Good Colours of the best quality; Brushes Dryers, and every article used in the Trade Warranted.

VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.

For complete lists priced.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

HERRING'S PATENT SAFETY WINDOW.—All danger from cleaning or repairing windows at an end. No housekeeper should be ignorant of this invaluable invention. Simple, cheap, and effectual; will repay the cost every two years; add 5 to 10 per cent. to the value of houses. No one should buy or rent one without it. Now in full operation in most parts of the kingdom. Builders and the public can inspect its real merits, and have licenses, at the Patent Steam Bed-feather Factory, 14, Kinggate-street, London.—JOHNSON and PASK, Makers.

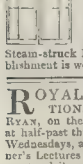
SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.



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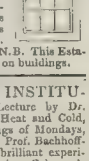
Beg to inform the Trade, and the Building Public in general, that they continue to manufacture Sashes and Frames, Shop Fronts, Doors, and all other kinds of Joiner's work, on the lowest possible scale of prices. All kinds of Wainscott and Mahogany Work done in the very best manner; French Polished, and carefully Packed for the Country.— A full list of prices forwarded by return of post to any part of the country.





CHAS. WM. WATERLOW,

Manufacturer of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square. Well-seasoned materials, superior workmanship, lowest prices. Upwards of 400 Doors and a large variety of Sashes and Frames always on Sale. Glazed goods securely packed for the country.



Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged on buildings.

ROYAL POLYTECHNIC INSTITUTION.—A new and interesting Lecture by Dr. RYAN, on the Phenomena and Effects of Heat and Cold, at half-past three daily, and on the Evenings of Mondays, Wednesdays, and Fridays, at nine o'clock. Prof. Bachhoffner's Lectures on Natural Philosophy, with brilliant experiments, daily. Macintoshe's Revolving Engine, Coleman's Patent Locomotive Engine for ascending and descending inclined planes, Farrell's Archimedean Railway, the Atmospheric Railway, all in action. Portraits of distinguished Men in the Government and Army of Lahore, magnified by the Oxyhydrogen Microscope. The Oxy-hydrogen Microscope, exhibiting a fine Collection of Living Objects. A beautiful Picture of the Chapel in the Convent of St. Catharine, near Jerusalem, by Mr. Charles Smith, is one of the series of Dissolving Views just introduced.—Admission, 1s.; Schools, Half-price.

FINE ARTS.

By Her Majesty's  Royal Letters Patent.

LORIMIER'S TRANSPARENT PLANES for Perspective Drawing; BENJAMIN WEST, Patentee.

"This Instrument will enable Artists and others to make any Drawing, whether from Nature or Models, in perfectly true perspective, so that a likeness or landscape may be taken in a few minutes absolutely perfect. It is used by her Majesty's Royal Sappers and Miners, Chatham. To Travellers it would be found serviceable, since it can be employed without the knowledge of drawing."—*Art Union.*

Price 18s. and 26s. Apply for Agents to BENJAMIN WEST, 2, St. James's-walk, Clerkenwell.—Sold by BARRITT and Co., 173, Fleet-street, London; GRIFFIN and Co., Glasgow, and by all Fancy Stationers, &c.

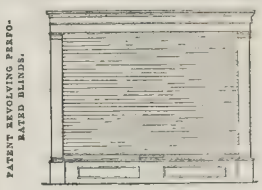
SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.

PATENT SAFETY IRON SLIDING SHUTTERS.





The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 115, Old Street, London; or at the Licensees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using BENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licenses Granted.

REDUCTION IN THE PRICE OF BUNNETT AND CORPE'S PATENT REVOLVING IRON SHUTTERS.

THE validity of this Patent being completely established, the Patentees have much pleasure in stating that the very extensive demand, and the employment of improved machinery in the manufacture, have given them an opportunity (of which they gratefully avail themselves) of making a considerable reduction in the price of this well-known and tried invention, thereby rendering them the cheapest as well as the best iron shutters in use. Every improvement suggested by practical skill and most extensive application has been adopted, and no effective REVOLVING IRON SHUTTER can be constructed without infringing B. and C.'s patent. The worm and wheel, as patented by them, being the only safe, durable, and efficient mode of raising and lowering such shutters, these shutters can be applied horizontally, either above or below the window, or vertically, as introduced by BUNNETT and CORPE, in some of the largest establishments: they are made with bent or corrugated laths, if required.

BUNNETT and CORPE also manufacture

REVOLVING WOOD SHUTTERS,

with their patent raising machinery, or with counterbalance weights, and with proper metallic hinges, without which no shutters can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop Fronts fitted in a superior manner with Iron Shutters, Patent Brass or Zinc Sashes, Moulded Engraved Stall Board Plates, best Plate Glass, and internal Brass Fittings of all kinds, on the most advantageous terms. Estimates given and contracts taken in Town or Country.—All kinds of metal works executed to any design. Metal Drawing, Rolling, and Stamping for the Trade. OFFICE, 26, LOMBARD-STREET, LONDON, WORKS, at DEPTFORD, KENT.

PORTER'S CORRUGATED, and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanizing Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway, and other Iron and Smith's work Manufactured of the best quality. Iron Fence and Hurdles as usual.—The Trade Supplied.



PATENT GALVANISED TINNED IRON.
(MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and water-closets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 9oz. to any required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quick-set-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 20s. per gallon.

STEPHENS'S LIQUID OAK, MAHOGANY, ROSE, and SATIN WOOD STAINS, for Staining various sorts of Inferior Woods, so as to give them the appearance and character of the more costly and ornamental kinds; also for reviving the natural colour of Wood Carvings and Panellings, and other ornamental Wood Work, when such has become faded from age or other causes.

IN THE BUILDING AND DECORATING NEW CHURCHES, where it is desirable to give to the cheaper kind of Woods the appearance of Antique Oak, or to make Deal assume the character of Oak Panelling, whereby the effect of the more costly may be produced by the use of a cheaper material, these Stains will be found more effective than any means hitherto employed.

IN OLD MANSIONS AND HALLS, where the Wood Carvings and Panellings have faded, the applications of these Stains will be found to revive and bring back the rich natural colour, and which colour may be varied from the lighter to the deeper shades of the most Antique Oak.

The BIRCH WOOD, which has a fine natural grain, with little colour, is particularly suited to the application of these Stains; and the appearance which the Grain assumes after Staining is so near that of the natural wood, that it is only when the grain and colour of the latter is particularly fine that it is preferred. Beech, Birch, Elm, Ash, and other Woods, English and Foreign, receive the Stains and produce various imitations.

For the exposed Timbers of the inside of the ROOFS of CHURCHES, for which north country Timbers and Deals are generally used, by brushing them over with the Stain, which operation is very rapidly, and of course economically, effected, the appearance of an Oaken Roof will be produced. For colouring the backs of the Seats, Pews, the fronts of Galleries, the Pulpit, &c., it is equally advantageous.

Prepared by HENRY STEPHENS, and may be obtained at 54, Stamford-street; at the Office of "The Builder," 2, York-street, Covent-garden, and in Manchester, at CRAKE'S MARBLE WORKS, Garratt-bridge, Davidstreet, at which places specimens of their application may be seen.

TO ARCHITECTS, BUILDERS, & BRICK MAKERS.

PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Roads, Gardens, and for Liquid Manure. BRICKMAKERS' PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to 12-inch bore, kept for Hire.

BENJ. FOWLER, 63, Dorset-street, Fleet-street.

BUILDERS' CASTINGS, Beams, Posts, Air-bricks, Eave-gutters, Pipes, and every description of builders' castings; also Turntables, Cranes, Watercranes, Weighing-machines, and all apparatus connected with railways; also engines of every kind and size may be obtained of the best description and at the lowest possible price, by applying to JAMES CURRIE, 16, Wellington-street, North, Strand, London. There is a communication by steam-packet with the works at Aberdeen, twice a week.

TO ARCHITECTS AND BUILDERS.

DOOR SPRINGS AND HINGES.—GERISH'S PATENT DOOR SPRINGS, for CLOSING every description of DOOR, consists of Single and DOUBLE-ACTION BUTT HINGES in Brass and Iron for Doors to open one or both ways, and Rising Hinges for the convenience of Doors opening on uneven Floors. Easterwise Swing Centres, which consist of a combination of power unequalled by any made at present. Manufactured by F. W. Gerish, East-road, City-road; and sold by all respectable Ironmongers in the United Kingdom.

The Builder.

No. CLXXX.

SATURDAY, JULY 18, 1846.

IT seems now tolerably certain, that the new Buildings Act will not come into the House this session—if, indeed, the alteration of the ministry should not induce an entirely different arrangement. Several modifications have been recently recommended by the referees to the Commissioners of Works and Buildings; one relative to the "insulation of buildings," and another as to chimney shafts for manufactories. The latter is to the effect, that such structures, if not exceeding sixty feet in height, may be built without special application to the official referees.

It is satisfactory to find that, with some few exceptions, the district surveyors perform their very onerous duties in such a manner as to avoid exciting unpleasant feelings and so increasing the unpopularity of the measure. One member of the body, to whom we have had occasion to refer, with much regret, on several occasions, still amuses himself and annoys others, by taking unsound cases to the referees, for which he has very properly to pay the costs; and another has placed himself, by want of judgment, in a very critical position. Exceptions of this sort, however, were to be expected, and do not prevent us from saying, that the district surveyors as a body, are an intelligent, able set of men, and have shewn themselves deserving of confidence.

Some of the surveyors, in the newly formed districts, have had anxious duties to perform in respect of ruinous buildings, and have necessarily excited for a time, the ill-will of those who, having derived revenue for years from decaying structures without outlay, felt aggrieved when called on to support or rebuild them. The number of restorations which have been enforced, would scarcely be believed if stated, and in several cases, we are informed, the premises have actually *fallen* during the process required by the Act. The advantage to the public in this respect is undeniable.

The clause for vacating cellars and underground rooms not deemed fit for habitation, came into operation on the 1st instant, and has been very rigidly adhered to in many of the districts. It is asserted that in St. Giles's alone, upwards of 5,000 persons were unhoused; we are disposed however, to think the number must be exaggerated. The difficulty of finding accommodation for them was great, and shews the necessity of providing fitting habitations for the working classes, so many of whom are turned out by every improvement made. If the model houses proposed to be built in St. Giles's were ready, there would be no lack of tenants.

Relative to cellars, it may be well to remind our readers, "That from and after the 1st of July, 1846, it will not be lawful to let separately for hire as a dwelling, nor to occupy or suffer to be occupied as such, any underground room or cellar,—that is, any room or cellar of which the surface of the floor is more than 3 feet below the surface of the footway of the nearest street or alley,—

Unless there be an area adjoining one side of such room or cellar, and extending the full length of that side, and at the least 3 feet wide in every part, and 6 inches lower than the floor of such room or cellar;—

And unless such area, to the extent of at the least 5 feet in length by 2 feet 6 inches in width, in front of the window of such room or cellar, be open or covered only with open iron gratings;—

And unless there be in such room or cellar an open fire-place with a proper flue therefrom;—

And unless there be to such room or cellar a window opening, of at least 9 superficial feet in area, fitted with a frame filled in with glazed sashes, of which at the least $4\frac{1}{2}$ superficial feet is made to open for ventilation:—

And unless such room or cellar be 7 feet at the least in height from the floor to the ceiling."

The penalty for allowing an under-ground apartment not in accordance with these provisions of the Act, to be used as a separate dwelling, is a sum not exceeding twenty shillings for every day during which it shall have been occupied; one-half to go to the informer, the other half to the poor of the parish in which the apartment is situated.*

The value of the clause which provides that the stairs and landings of public buildings, and the floors of their halls, vestibules, and passages shall be fire-proof, is brought forcibly to the mind by the account of the recent dreadful loss of life through the burning of the Theatre Royal in Quebec. It is not quite clear (in the accounts) whether or not the staircase, to which all rushed in the awful confusion of the moment, gave way, though this seems to be the impression of one who was an eye-witness of the occurrence: but one feels, when reflecting on such an event, the immense importance of safe means of egress from buildings where large numbers of persons congregate, and the even greater importance of having it well understood publicly that there *are* such means, as this knowledge, giving confidence, would lessen the ill-considered rush to escape, through which, under such circumstances, life is usually sacrificed.

The constant recurrence of destructive fire will one day lead to an entire alteration in our manner of building.

The following is the new "Table of fees to be paid to the Registrar of Metropolitan Buildings in respect of the services to be performed by the official referees, and by the said registrar, in order to defray the expenses of the office incident to such services, and the salaries of clerks, &c." On comparing it with the original table, previously given in our pages,* it will be seen that a great reduction has been made.

No.	MATTER OF BUSINESS.	Fee. £.	s.	d.
1.	For every application for the approval or sanction of the Official Referees	0	5	0
2.	For every application for the modification of the Act	0	5	0
3.	For every information or application in cases of irregularity	0	5	0
4.	For every requisition	0	5	0
5.	For every appeal	0	5	0
6.	For every first notice (§ 21, 24)	0	5	0
7.	For every application for consent (§ 117)	0	5	0
8.	For every certificate of the District Surveyor (§ 24, 40)	0	5	0
9.	For every application for appointment of a deputy, substitute, or assistant surveyor, or of one surveyor to act for another	0	5	0
10.	For every hearing by the Official Referees,—From 5s. to	1	0	0
11.	For every survey by the Official Referees, or any of them, or by any other person under their direction ... From 5s. to	1	0	0
12.	For every certificate ... From 5s. to	1	0	0
13.	For every award ... From 5s. to	10	0	0
14.	For every order or determination ... From 5s. to	1	0	0
15.	For every license to use a building, subject to special supervision ... From 5s. to	1	0	0
16.	For every report to the Commissioners of Works and Buildings, for a modification of the Act ... From 5s. to	1	0	0
17.	For examining accounts referred to the Official Referees,—One per cent. on the amount.			
18.	For measuring work,—$2\frac{1}{2}$ per cent. up to 100*l.*, and $1\frac{1}{2}$ per cent. on all above 100*l.*			
19.	For making, verifying, copying by hand, or tracing any drawing,—1*s.* for every half hour occupied.			
20.	For printing copies of any drawing,—1*s.* for every page of foolscap occupied, by the size.			
21.	For every certified copy of, or extract from, any document,—6*d.* for every folio of 72 words.			
22.	For copying any document to be registered or filed ... 6*d.* for every folio of 72 words.			
23.	For copying any other document,—2*d.* for every folio of 72 words.			
24.	For attending parties searching documents,—6*d.* for each volume searched.			
25.	For the travelling expenses incurred in any survey made by direction of the Official Referees and Registrar,—The expenses incurred.			
26.	For petty disbursements (for messages and postages, &c.)—The expenses incurred.			
	FEES FOR THE TRAVELLING EXPENSES OF THE OFFICIAL REFEREES AND REGISTRAR.			
27.	For the travelling expenses of each of the Official Referees and Registrar,—The expenses incurred.			
	FEES FOR SPECIAL SUPERVISION.			
	[To include travelling expenses, but not copying expenses and petty disbursements.]			
28.	For the special supervision of buildings subject thereto—			
	If of the extra first-rate	3	12	6
	If of the first-rate	2	2	0
	If of the second-rate	1	11	6
	If of the third-rate	1	1	0
	If of the fourth-rate	0	10	6
29.	For the special supervision of alterations and additions to such buildings,—Such fee not exceeding the above in amount for each rate respectively, as shall be appointed by the official referees.			
	FEES FOR EXAMINATION OF CANDIDATES FOR CERTIFICATES OF QUALIFICATION FOR THE OFFICE OF DISTRICT SURVEYOR.			
30.	For every preliminary statement lodged by candidates for certificates of qualification for the office of district surveyor	2	2	0
31.	For every certificate of qualification	3	3	0
	GENERAL RULE AS TO FEES.			
	The official referees and registrar are to have the power, when more than one case has been surveyed at the same survey, or heard at the same sitting away from the office, of dividing the fees for travelling expenses and incidental disbursements between such cases as they think fit.			

THE YOUNG ARCHITECTS OF ENGLAND.

BY ONE OF THEMSELVES.

II.

SIR,—The kind manner in which you were pleased to acknowledge my last caused THE BUILDER to rise at once to a prodigious premium in the market of my estimation. Your liberality, your "magnanimity," such want of *partizanship*, is *good*.

But, Sir, you do not suppose that I meant to attack your leader? If so—"Mr. Editor, thou art beside thyself; much learning," &c. Sorry should I be also if any one of the multitude of men, women, and children who sit at your feet as a sort of Gamaliel, should for a moment conceive that either you or I could be guilty of such error. My object was very different indeed, Sir; merely *to follow you up*, to carry out more particularly a certain idea, to support with a charge of philosophical cavalry the previous havoc of your common-sense artillery. When I might seem to differ from your expressed opinion, I was but directing you to another aspect of the scene, far from denying the truth of the view which you had previously taken. I hope we *both* are right.

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* On Tuesday, Lord Duncan put a question to the Chancellor of the Exchequer, in connection with this clause and the window-tax. His Lordship said a circular had been issued by the official referees, calling the attention of the inhabitants in the metropolitan districts to a provision in that Act, which said that no person should be suffered, after the passing of the Act, to let as a dwelling any underground room or cellar, unless there were to such room or cellar, a window-opening of at least nine superficial feet in area, fitted with a frame filled in with glazed sashes, for ventilation. He held a petition in his hand from a person who represented that, by making such additional window, he should be charged with eighteen windows instead of one. He wished to ask the Chancellor of the Exchequer whether he was willing to make some provision whereby windows opened under the Metropolitan Buildings Act should be exempted from the window-tax?

The Chancellor of the Exchequer said, the question which the noble lord had put was not exactly that of which he had given him notice, which was whether such windows under the Act would be liable to duty; he had not, therefore, given any consideration to this question. There could be no doubt that such windows were liable to duty.

* See Vol. III., p. 37.

I think I laid claim to self-conceit; and, in so doing, I am afraid I may possibly have fibbed. The great value of it (*a certain kind of it*, of course,) I am most serious in asserting: and I often wish I could myself command a greater share. For instance, I feel fear now. For I have in a manner committed myself to a task for a strong man—to pull down fortified opinions: and the fortresses, when I look at them more closely, are defended by *men*—real men of flesh and blood. I fear, therefore, lest I should be led into war; not that I am afraid of a cracked crown for myself; but because I dread being obliged, or being *supposed*, to crack the crowns of others. Willingly will I assail doctrines; but "Strike my dog strike myself" say the teachers and supporters of these. And how am I (now when I think of it)—how am I to assail doctrines without assailing *doctors?* When I wish to say such and such an opinion is absurd, how can I word it so as to avoid calling such and such a man an ass who chooses to identify himself with it? Might Luther hope to pull down the old Papacy and ruffle never a hair of Leo's mane? Duty and sympathy clash within me. But one word of yours, Sir, (and I thank you for it,) goes far to give me confidence. There was I (in my last) vehemently denouncing, (as I fancied,) and in no measured terms, "boldlyand honestly," certain gross abuses, and my song of war is received as the warbling of a "*good-humoured* correspondent!" Surely I do not know myself. By the bye, (just by way of an anecdote, you know) once on a time before this in my life I remember launching forth heavy words in a long strong strain of declamation which I meant to be interpreted as something most heroic and intrepid; and, (I shall never forget it,) when I expected to be put to the sword for rodomontade, a serene newspaper coolly approved of my "modest remarks!" "Myself is to myself unknown;" that's certain: *my* thunder is construed a joke, *my* lightning the flicker of a farthing dip. Men look at me through the wrong end of the glass, Mr. Editor. But since it is so, be it so. If thus there is so little poison in my ink, I am all the less in fear of giving wounds by these the spirtings of my pen; wherefore—Turn up thy cuffs, O my courage! and go *bang* at the enemy!

Well, Sir, there are "Protectionists" in architectural doctrine as well as in commercial: only that in this respect Commerce happens to be some years ahead of Architecture. Your most obedient is a sort of architectural Cobden; Young Architecture a "League;" the Institute, a House of Lords (with somebody by way of a "Duke" in it I hope); and you, Mr. Editor, a kind of Sir Robert (if you will) whom we hope to find taking up the matter of "Repeal," and therein, with the aid of the aforesaid Duke, triumphing to the utter discomfiture of the foe, and the firm establishment of a new *regime* with more enlightened opinions and more salutary standards. (Hear, hear.) More than this,—we are quite prepared to find you taking all the credit to yourself at the end; and to allow you all the glory of a renovator of the public mind, and a conqueror of public prejudice and error.

Before proceeding to direct assault upon the fortifications, suppose, as a preparatory step, we do a little in the way of undermining, whereby a certain portion of certain outworks of self-conceit may perchance tumble down. There lies at the root of the matter a branch of a certain vexed question, whose ramifications so spread abroad across the world that scarce a single man exists, perhaps, who is not in some way reached and troubled by it,—*That which I count* ALL, *another man counts* NOTHING. This, with regard to our present subject, is important enough to demand a serious paragraph. To every mind of man there is peculiarly some object of high value the estimate of which by others is matter of much wonderment to him — chagrin —perhaps provocation—perhaps disgust. Men see not alike: and somehow this gives them pain; they cannot help quarrelling about it. They think each other wonderfully stupid—lamentably lacking in the higher parts of Manhood—strangely perverted in the capital machinery. The old peruquiers thought the Earth had reached its dotage when men began to wear that frightful thing the natural human head! The anatomist is wonderstruck this day, to think how other men could live in deadness to the exquisite beauties of *os this* and *os that* and *os t'other*. The scholar marvels that men could breathe at all in ignorance (whatever that may be assumed to be): and the unenlightened are equally at a loss to conceive what pleasure there can be in poring over dusty tomes. Some thousands have their highest joy in butchering birds in Autumn, or find such raptures in "the gentle art" of murdering fish, they wonder how it possibly can be that other men resist the strong temptation of so excellent a thing. While some poor ignorant misguided beings marvel how *Men* could have such murderous souls. So different are we,—so strangely manifold Earth's elements! Many a one, Sir, would rather be a fractional Stultz than a giant Buonaparte: many would prefer a Grimaldi to a Howard or a Wilberforce! Hundreds have the noblest thing of Earth in Geology—Botany—even Conchology;—thousands in Cookery;—multitudes in fox-hunting or The Turf;—myriads in War and Conquest;—and myriads more in spangled Rank and jingling Title. Among the rest, some hug Philosophy; some Science; some Art: and of the votaries of Art some choose the idol Architecture.

From this, now, Sir, we may easily step to two important points with regard to our subject, Architecture; 1st, its intrinsic value in the *real* world; and 2nd, the way in which it becomes to some the All of an *ideal* world.

But—query—what *is* Architecture?

Architecture is—the science of foundations, and concrete, and drains, and stone, and brick, and mortar, and strength of timber, and all that sort of thing,—knowing all about *houses* —you know. Not at all, friend Pickaxe-and-shovel; that's not Architecture—that's *Building*.

Architecture is, then,—drawing plans of Churches, and Railway-stations, and perhaps Bridges, and—all kinds of houses; isn't it?—No.

But *Archi-tecture — Architectura — tego — τεκτων.*—No matter: I am at Philosophy—not Philology; I speak of the *Thing*—not the *Word*.

Architecture is—the five orders, then. Nay, my dear Grandmother; that's not Architecture, —that's *Fiddledeedee*. The *three* orders, then?—No; that's *Fiddlededum*.

Architecture is, then, the—Camden Society sort of thing;—pots for holy water, altars, pixes, piscinæ, stained glass, old manuscripts, bishops, rubbings of brasses, images scarcely decent, pictures horribly worse, madonnas, crosses, queer illegible kinds of printing, freemasonry, curious locks and hinges, and—all sorts of funny old things; isn't it?—O dear no; that's not Architecture; that's *Archæology, mon cher*—the Science of Rubbish.

Architecture is—the Greek style, then, and the Roman, and the Italian, and Gothic, and all that sort of thing; Norman, Early English, Decorated, and Perpendicular; Elizabethan, Castellated, Cottage style, Swiss, Sir John Soane's style, and so forth: Architecture is *that* then.—No it isn't.—Then what *can it be?*

It is one of The Fine Arts.—And what then?

Well, let us explain it thus. Music, for instance, is another of The Fine Arts. The Fine Arts are *The Arts of The Beautiful*. Now what is Music? Music is The Art of The Beautiful in sounds. And, similarly, then, *Architecture is* THE ART OF THE BEAUTIFUL *in buildings*.

Ha ha ha! shouts the old gentleman; and his merriment is very great.—But, O parent of my parent! I reply, have I yet told thee in *thy* language what Architecture is? Do old madams like thee know what *Art* means? What *The Beautiful* is? These words are not in thy Dictionary. The world, believe me, hath grown *older* since the days of thy reverend chickenhood. Men—*Men*—have increased upon the Earth since thou wast a maiden.

Some, then, choose for their chief good, their excellent thing of Earth, Architecture. And be it so: many go farther and fare worse.

Now, Sir, much of the evil of the self conceit of your young and rising is to be found in the evil or erroneous judgment with which they have made this choice,—the wrong sense in which they return to the question, What is the chief end of man? the answer, *Architecture*. I was once young—very young—and (although I didn't think it) very simple. In those days I answered this question thus, and *erroneously* thus; (for it is possible to answer it *truly* thus.) And I remember well how I thereupon built up a false notion of myself and others—a misconception of the World; a dangerous thing for *any man*, and *ergo* a dangerous thing for an Architect. *The misconception of the World*, Sir, in the variety of its phases, is the true and philosophical root—the manifold "root of *all evil*." The machinery of Earth is such that he who misjudges it *must* be at fault; he who trusts himself into its enginery with a false idea of its structure *must* get a knock on the head; thousands are torn limb from limb thereby. It needs no *clairvoyance* to tell that the plentiful conceit of your juveniles bas this false notion in it as an important ingredient. And we need not marvel at this. Neither need they be discouraged. There are *older* juveniles of the same stamp.

But think you that I speak in paradox when I say, that many a one from the beardless to the hoary at this moment believes that Architecture is the greatest purpose for human life? and that some are right in so believing, and some wrong? Look into the prefaces of professional books; listen to certain lectures and speeches; shrewdly scan the sentiments of correspondents in your own and kindred journals, especially the matter of their grievances; look into the heart of many a youth, as he lays it bare in his enthusiasm, or, more cautious, betrays it in a look—a word—a joy—a sorrow. It is no paradox, but a calm clear truth —*a fact*, however much some may disguise it; a fact of mighty value both for good and for evil.

Both good and evil, I have said. For there are two senses in the answer given,—two kinds of men that give it;—a right,—a wrong. One wraps himself for ever and completely in his Art, all things else lesser garments; he lives in an ideal World, and *there* his Art is All, supreme: the other sits him down upon *this* World, to breathe *its* air; and thinks (O falsely!) that his Art is *here* supreme. One has the mighty fact mighty for *good;* it is his vigour,—his heart-blood,—the *Love* that is the Soul of *Life;* his whole long history is a swift strange beauteous day-dream in the air —his angel home far out of Earth—his magic life a Rainbow in the sky—his death its merely vanishing! And such men (it is a purpose in the being of Earth) *such men there are*. The other has the mighty fact mighty for *evil*. *Half*-elevated, tied to the surface,—too high for Earth, too low for Sky,—with none or little of the joys of That Above, and all the cankering pains of This Beneath; a man half Art half Pelf,—half Angel half Man;—too matter-of-fact for life *there*, not enough for life *here;*—he, not, like the other, giving Art a true value in an ideal world, gives it a false value in the real world; and opens up his soul therefore to a factitious misery,—clothes himself in—often—Oh! a pitiable susceptibility to a keen false pain.

But I must take a week to think over this matter. To excogitate the *system* of so cloudy a thing we must throw alum into the Thought-butt to see the bottom. Meantime, Sir, if you will just say to your compositor, "O most excellent Compositor! this man is angry, and commandeth, saying, Alter no more of my sentences," I shall be, Sir, your obedient,

London. R.

The temporary church erected on the estate of the Marquis Camden, in Cantelow's-road, Camden-villas, near the spot on which it is intended to build a permanent church as soon as funds can be obtained, was opened on Sunday week for divine service. Upwards of 3,000*l.* have been subscribed, but this is only one-half of the amount required.

COLLEGE OF ENGINEERS, PUTNEY.—The president and council, in order to meet the requirements of thisrapidly advancing institution, have resolved to build an extensive range of studies and private rooms for the students, fronting on the river. The designs, prepared by Mr. Thomas Little, are now being carried into execution by Messrs. Burton, the contractors. Additional buildings are also being erected for the use of the Government Commission, under Dr. Lyon Playfair, for the purpose of testing the qualities of the different mines of coals throughout the kingdom.

CEDAR WOOD FOR BUILDING PURPOSES.

Sir,—In your last number, a subscriber under the signature of *Ædificator*, desires to be furnished with some data respecting the strength of American cedar wood, in reference to an article which appeared in No. 177 of your publication, signed J. E.

Desirous to communicate what information we are possessed of on the subject, we have great pleasure in furnishing your correspondent with the following facts, trusting that they may prove of some advantage both to your enquiring correspondent and to the generality of your readers.

Pencil cedar is imported from the United States in large parcels, at Liverpool and in smaller at this port, and is extremely cheap in consequence of its abundance, and its exemption from the charge of freight, as it is shipped as basement stowage for cotton; and lastly, in consequence of their being always a large stock of this article on hand both in Liverpool and London, owing to the constant excess of supply over the demand. This cedar wood is used in England by black-lead pencil manufacturers, for the inward parts of cabinet work, and various kinds of fancy nicknackery. It is likewise exported to Germany, where it is employed for similar purposes. Its price in the London markets is from 4d. to 5d. per superficial foot, and sometimes it is even so low as 3d. In Liverpool the price runs generally from 3d. to 4d.

The lower qualities are very seldom regularly squared, and even when they are, the corners are full of sap, so that after being clearly marked out, it would assume more of an octagonal form, and might then be very well employed for pillars, columns, &c. Its texture is very fine and well known; it takes a fine polish, and emits a fragrant odour, whence it is generally used in the construction of water closets, boarding of cupboards, &c.

It is sometimes not free from knots, which are injurious to the work, and affect also its appearance, since these knots are often surrounded by white spots which are very offensive to the eye, marring as they do the beauty of the work. In the construction of common buildings, it will not, probably, ever supersede good foreign fir or oak, and as American cedar of middling quality is 50 per cent. higher in price than Dantzic timber or Memel oak, it would never be substituted for these, but it ought to be more generally used than it is at present, though for other purposes. Indeed, some months since, we proposed to Messrs. Grissell and Peto to employ it in some railway buildings, in which a union was required of lightness, neatness, and durability, and some elegance withal, and likewise for the water-closets in the Houses of Parliament.

As to the durability and solidity of American cedar, experiments have furnished unquestionable evidence that it not only resists the weather, but that exposure to the atmosphere hardens it and improves its quality; hence it is used in the United States for railway sleepers in preference to any other wood, and for which it is in part better adapted in every respect than any other. Nor is cedar wood liable to putrefaction; hence, probably, the ancients used it for ship-building.

Muschenbrock has made some experiments to try the comparative strength of cedar, and he found it to be to that of oak as 4·880 to 17·300; but unfortunately we are ignorant of the description of cedar employed by him in his experiments: most probably it was either of European growth, or that grown in Cuba, which is much more brittle, as in his time any other description was scarcely known, and cedar of any description scarcely ever imported, and if so, never used to any extent deserving to be noticed. It seems, however, certain to us, that he did not employ pencil cedar, as the following experiment made by us would appear to prove.

We have taken two panels, one of oak and one of cedar, both of the same dimensions, namely, three feet in length, six inches wide, and one-fourth of an inch in thickness; from each of these boards, and from the centre, we suspended similar weights, and indeed we were astonished to perceive that we were enabled to increase the weights till they reached ninety pounds, before the boards shewed any indication that they were about to burst (transversely, of course); but even when we stopped, the oak (wainscot) shewed much greater inclination to break than the cedar, and after the boards had been freed from the weights, the oak had become bent or warped to the extent of upwards of an inch, and remained so, whilst the cedar, resuming its elasticity, resumed also immediately its perfectly straight form, though during the experiment it had been bent to almost the same degree.*

We have this year imported into Liverpool, a parcel of pencil cedar for the first time in round logs and free from sap; and, consequently, in this case, extremely useful for building purposes, to which it is to be hoped this description of wood may be more generally applied, considering the advantages which it possesses.

We concur in J. E.'s remarks on pencil cedar, and generally that the exotic woods which now pay duty, could be replaced with great advantage by different kinds of European timber and cabinet woods.

It was in 1843 (towards the latter end of that year), that we proposed to Mr. Charles Barry, in our general report, to use exotic woods, which are extremely costly in all other capitals of Europe, and at a very moderate price to be had in England, for the embellishment of the new houses of Parliament, but our proposal was not adopted, for this reason, namely, that only oak was to be used, in conformity with the gothic style of building, and with the epoch of the origin of gothic design, and at which period exotic woods were not known. And we concurred in this view; the more so, as notwithstanding the beauty of other sorts of wood to the eye, we regard oak as the queen of the forest, not only in regard to its beauty, but likewise with respect to its durability: the beauty and variety of the grain, indeed well entitles it, in many respects, to dispute the palm with the universally admired mahogany.

It is true, mahogany is very moderate in price, but only the inferior sorts are cheaper than wainscotting; wood of a finer and superior quality fetches very high prices. Lately at a sale, Cuba mahogany was sold at 4d. per foot, whilst a small but beautiful log of the same wood was sold at the same time at 10s. 6d. per superficial foot. Mahogany has likewise lately been admitted at Lloyd's at a higher quotation.

We should be glad if J. E. would continue his communications on the subject of ornamental wood. Should he, however, decline doing so, we shall have much pleasure in following up the subject ourselves, from time to time as we may find leisure, and you, Sir, may feel disposed to favour us with a corner in your valuable publication.

With our best wishes for the further success of your publication, and thanks for your courtesy, we are yours sincerely. Steinitz.

* In an experiment to try the strength of both by pressure, the result was in both nearly alike; or, if there were any slight difference in the power of resistance, it was in favour of the pencil cedar. According to some writers, the strength is about two-thirds in proportion to that of oak, namely, 627 horizontally, and 720 vertically, when we adopt 1,000 for oak horizontally as a standard, and 807 vertically for a cube of ¼ inch.

DILAPIDATIONS.

WAKEFIELD AND BINGLEY *v.* BROWN.

This was an action in the Sheriff's Court, on the 9th inst., to recover damages for dilapidations. The actual plaintiff was a Mr. Bingley, a licensed victualler, at the King's Arms, Shoreditch. The defendant is a livery-stable keeper.

Mr. Crowder stated the case. It appeared that in 1826, Mr. Bingley erected extensive stabling, &c., which he leased in 1830 to a Mrs. Brown, and on her decease in 1840 the premises fell into the possession of the defendant till 1843, when the defendant, who considered that if he got rid of the lease, he also got rid of his liability under the covenants of the lease, assigned it to a person named Hardwick, who was a mere pauper, and could neither pay rent nor put the place in repair. The action was therefore brought to recover for the damage done during the time the defendant held the lease, and for which he was thought clearly liable.

Witnesses were then called for the plaintiffs, who estimated the damage at about 120*l.*; but after a consultation between the learned counsel, it was agreed that a verdict should be taken for 40*l.*

RAILWAY JOTTINGS.

The European and American—in short, the general—railway progress at the close of last year is thus summed up in a table, apparently of French or rather Belgian extraction, in the *Mining Journal* of Saturday last. [A kilometre is rather more than half a mile English.]

	Kil.	Fr.
Belgium	559	145,984,014
England	3,638	2,000,000,000
Holland	154	32,340,000
Germany	3,140	502,400,000
United States	7,500	846,075,000
France	986	330,000,000
Denmark	106	12,508,000
Italy	228	45,782,000
Cuba	37	7,030,000
Russia	52	14,560,000
Total.. kilometres	16,400	3,936,989,414 fr.

Thus, it is shewn, that calculating the population of the two quarters of the globe in which railways have been introduced at 234,000,000, a capital of 19 f. 55 c. has been already expended on the whole for each individual. The comparative cost of construction is estimated at—for Belgium, 261,000 f.; Great Britain, 550,000 f.; Holland, 210,000 f.; Germany, 160,000 f.; United States, 113,000 f.; France, 335,000 f.; Denmark, 148,000 f.; Italy, 200,000 f.; Cuba, 190,000 f.; Russia, 280,000 f.——The mean speed per hour upon several of the principal English lines is thus represented: — North Midland, and Eastern Counties, 58 kil. (33 miles); Great Western, 53 kil. (31 miles); London and Birmingham, 43 kil. (25 miles); Manchester and Leeds, 39 kil. (24½ miles); Birmingham and Gloucester, 38 kil. (24 miles). The remarkable progress of the speed of locomotives since their introduction, of course in England, is noted thus: —In 1824, the first locomotives in England, with a 40-tons power, travelled at the rate of only 10 kil. per hour (6 miles). So great was the improvement in a few years, that, in 1829, the Rocket travelled at the rate of 25 kil. per hour (15 miles); in 1834, the speed of the Fire fly was 34 kil. per hour (20 miles); in 1839, the North Star moved with a celerity of 62 kil. per hour (37 miles); and at the present moment, locomotives have arrived at a speed of 70 kil. per hour (42 miles). During the same period (since 1825) the quantity of fuel required for the propulsion of locomotives was diminished five-sixths—that is, six tons of coal were consumed formerly for one at the present moment."——L. R., a correspondent of the *Daily News*, has very properly pointed out the distinction between provisional and managing committeemen, the latter superseding the former altogether so soon as they are appointed; so that "to hold a provisional committeeman, who has been denuded, or who has denuded himself, of all power, liable for all the actions of the managing committee for months and years, is monstrous."——The recent scrip forgeries and thefts have afforded a good pretext with companies winding up, for alarming their subscribers into an easy acquiescence with their deduction of a good round sum for preliminary expenses, and payment of the remnant of their deposit in full of all claim.——The recent minute of the Board of Trade is now said to have been the production of Sir Robert Peel himself, at least in a negative sense, by emasculation of the original report.——The great increase of traffic on the Hertford branch of the Eastern Counties Railway is to be accommodated by the formation of a double line of rails.— Two new stations were opened week before last on the Ashford and Ramsgate branch of the South-Eastern line, one at the old and till now decayed collegiate town of Wye, and the other at Grove Ferry, midway between Minster and Canterbury. "Locomotives," says the *Railway Chronicle*, "now pass half way between Ramsgate and Margate, and it is expected that the whole line will, in two months, be available for the swarms of yellow-slippered Cockneys that congregate on the Isle of Thanet in August and September."——The Grand Junction Company have purchased at Liverpool ground for the extension of their Lime-street station works. The School for the Blind, in London-road and Hotham-street, and the church and school there are included in the purchase, the company having engaged to erect a new church and school in Hardman street, on ground also purchased by them.

DREADFUL RAILWAY ACCIDENT IN FRANCE.

A MELANCHOLY accident occurred last week on the great French Northern Railroad, by which at least fourteen persons were killed and ten wounded,—some of the accounts say many more.

According to the *National*, "the train consisted of twenty-four carriages, and was drawn by two locomotives. At five minutes past three the train was in front of the village of Fampoux and near Rœux, where there is an embankment near a deep lake over a peat bog. At this point the rails were either disjoined, or displaced, or broken. The first locomotive, however, got over them, but the second entered the sand without going completely off the rails. The violence of the shock, from this sudden stoppage, was such that the chain which united the carriages to each other was snapped like glass, not precisely close to the locomotive, but at the fifth or sixth carriage. The carriages thus detached were thrown into the marsh. The first was literally broken to pieces, others were upset and submerged."

The scene was dreadful: some of the passengers were crushed to death, others drowned. A report issued by the company says:—"The train went off the rails at Fampoux, near the station of Rœux. The second waggon went off the rails, no one knows why; the others, to the number of thirteen or fourteen, followed it, and fell down a high embankment into the bed of an old peat bog, where there were ten feet of water. The others remained above. The chain of the second waggon, which had gone off the rails no doubt in breaking, slightly drew the second locomotive of the train off the rail; the first remained on the way. There have been fourteen victims, two of whom are conductors; nine persons whose names are known; two whom it has been impossible as yet to extricate from the interior of a diligence; Guerin, and a child since dead from its hurts. The greater number were drowned in a carriage which was submerged."

A second accident took place soon afterwards on the same spot, through one of the carriages striking a crane brought there to raise the fallen waggons from the water. Much blame has been attributed to the company, on the ground that the line had been opened to the public without taking proper precautions.

The *National* urges, that, "at the moment when the works were ceded we formally demanded, in the interest of the public and of the company itself, that it should seriously examine and survey the line. We particularly dwelt on the immense responsibility which would lay on the company. At the time when the works were being executed by contractors and sub-contractors, the local press pointed out an infamous abuse. In a small section of the line (about thirteen kilomètres) between Clermont and Amiens, two bridges, two aqueducts, and a viaduct which had received the sanction of the minister in person, in spite of the advice of the engineers, were so badly constructed, that it was necessary to demolish them and rebuild them from the very foundation. The warnings of the press have not therefore been wanting to the company. What control has it exercised over it? What measures have been taken? Is it not, however, true that a few days before the opening of the line, the engineers had forwarded reports pointing out several sinkings, particularly near Auvers? Was it not officially stated by other reports that the rails were too weak, particularly for heavy locomotives? Were they not constantly occupied in repairing the levels? Were not the directors of the company apprised of all these defects, which were such serious causes of peril? And yet they now pretend to shelter themselves behind the Government!"

A carrespondent of the *Times* bears witness to the fact, that the line was *not* in a fit state for traffic.

WILTSHIRE TOPOGRAPHICAL SOCIETY.—The council announce that the "History of Castle Combe," by Mr. Poulett Scrope, M.P., is preparing for immediate publication, and that it will be followed by Aubrey's "Natural History of Wiltshire." The establishment elsewhere of similar county associations to promote the publication of local history is much to be desired.

THE ARRANGEMENT OF KITCHENS AND COOKING APPARATUS.*

THE knowledge which an architect must possess to carry on the ordinary practice of the profession is most extensive and varied. Through the whole of literature, science, and art, there is hardly any branch of which he must not possess at least the elements. He must be ready to undertake any inquiry, to supply information upon all subjects, however much they may vary from his ordinary routine. The list of qualifications given by Vitruvius, has amused those who doubt whether anatomy and music are useful to an architect. But the architect of matured experience will be disposed rather to extend than to limit the catalogue of requirements. Indeed he will possibly arrive at the conclusion, that there is not any branch of knowledge which he should overlook. The professors of the college at which he would graduate, should be more numerous even than those of which a list was given by the late Mr. Bartholomew.† But neither the *curriculum* indicated by the modern writer, nor the careful summary of the old author have made any mention of cookery. Indeed we, ourselves, though our attention is necessarily called to a great variety of subjects, required to be reminded by Mr. Soyer's book, how much we had yet to learn in matters affecting personal comfort, enjoyment, and health. Our notions as to when different articles were in or out of season were not by any means definite, and we had never attempted to find out how a *hors-d'œuvre* differed from an *entremet*. Do we therefore undervalue these difficult studies? Certainly not! and our readers will find Mr. Soyer's book servicable not only in such investigations, but also in "that vast field of culinary delight," their own kitchen. The author has made many improvements in cookery, as well in those branches which are suited to the tables of the wealthy, as in points of economy and convenience, adapted to the circumstances of ordinary life. But we are less at home with him here than in that part of his book, which he devotes to the arrangement of the apparatus, and the plan of the kitchen, a department which is too often deputed to the manufacturer. Mr. Soyer has been the first to give information on this important subject, and we are happy that his liberality enables us to extract largely from his illustrations.

As so much of the comfort of a house depends upon the kitchen grate, that important piece of apparatus should receive much of the architect's attention. Sometimes without any additional space the grate may be contrived to hold a greater number of pans, sometimes it may be made to afford a constant supply of hot water, and it has even served to heat the whole of a large house. We mention these points merely to shew that an architect's duties should not be limited to a general superintendence of the works, but that he should be able to modify matters of detail. In large mansions, hotels, and club-houses, it is still more important that he should know what will be required, and the best method of fixing the stoves and dressers, so that the cooking may be done with cleanliness and facility. We do not mean that he should be able to state the exact number of pans or ladles that may be required, though on this head he would find sufficient information in the book, but that the position of fire-places and other apparatus in the kitchen, scullery, and larder, should not be entirely absent from his mind from the first consideration of the plan. The kitchen of the Reform Club, in which we include the scullery and larder, is perhaps the best that has ever been arranged; and it would be well to examine it very carefully before fitting up kitchens in similar buildings. In an establishment of this kind, it is, of course, of the utmost importance that every thing should be done with despatch, and we believe we are right in attributing the general arrangement to Mr. Soyer, who has also introduced several new and useful inventions. Some time ago, a large sectional view was published by the author, of which Fig. 2. is a reduced copy, which together with the plan, Fig. 1. will give the positions of every thing that is required. It will be seen that the view is taken in the same position as the plan is lettered. The principal stoves, and other necessaries, will be found at large in this and a future number of this journal.

The essential requisites in the kitchen department are, the larder for cooked and uncooked meat, in which coolness and ample ventilation are of the utmost importance, a kitchen for roasting and dressing dishes of every description, with conveniences for preparing confectionary and vegetables. There must also be a scullery, with a supply of hot and cold water; and all these departments must be close together, yet without interfering with each other. We shall now avail ourselves of the description, referring our readers to the plan and reference for the precise position of the different articles described.

"KITCHEN OF THE REFORM CLUB, &c.

(A.) *La Boucherie.*

The length of the room is 12 feet by 9; at the further corners are two blocks to cut the meat upon, which are 2 feet in diameter, and 2 feet 7 inches high, including the supporters, 8 inches from the floor, giving facility to clean underneath, also to prevent decay; between the two blocks is a patent scale of a simple construction, and very convenient, upon which can be weighed above 200 pounds of meat with great ease. On the right and left are two tables, 3 inches thick, 6 feet 6 inches long, 1 foot 9 inches wide, and 3 feet 3 inches high, with a drawer to each, and a square box covered over, underneath the tables, for waste fat, &c.; above the tables is a flat rod with small hooks, 1½ inch long and 3 inches apart, upon which are various sized meat-hooks. All round the room upon the walls are thick slates, 6 feet high. These slates, lately introduced in building, I would particularly recommend where coolness is required, and also as being very clean.

(B.) *Principal Larder for Meat and Game.*

The size is 18 feet long and 15 feet wide, having on the right side a dresser 14 feet long, 3 feet wide, and 2 feet 10 inches high. The top is of slate 1 inch thick, instead of wood; this is an excellent substitute, and is always covered with a dresser cloth. There are eight ice drawers opening on castors. When large and deep as these, it is advisable to make them in a similar manner, as their weight would otherwise cause them to open with difficulty. The first four are 2 feet 8 inches square and 9 inches deep, lined with lead, and principally for jellies, ice creams, &c., the others beneath are deeper, for pickling-tubs; the temperature is from thirty-five to forty degrees, allowing comestibles of the most delicate kind to be kept a considerable time without deteriorating their qualities. The construction of these drawers is considered ingenious; the bottom being inclined on each side towards the middle, which forms a channel, at the end of which there is a small drain to let the ice water escape without the assistance of hands, having at the back a pipe to receive the waste water running into other pipes outside.

On the left going in there is another sideboard of the same material, 8½ feet long, and 2 feet wide; there are six drawers, all of them lined with lead, and (which might be called ice-preservers, being almost free from air, and only now and then refreshed with ice at a trifling expense) from 5 to 6 inches thick, covered with a zinc plate to fit the drawer, and a cloth over it for chops, steaks, aspics, entrées, and a variety of things always kept fresh and tender: the woodcut gives the exact form of the drawers as described above.

At the end of this sideboard is a slate well, 3 feet 6 inches long, 2 feet wide, and 1 foot deep, supplied with hot and cold water; this well is used for soaking hams, tongues, and calf's head; adjoining is a slab for opening oysters, under which is a well to keep them in.

In the middle of the larder is a dresser-table, 10 feet long and 2 feet 4 inches wide, covered with a tablecloth, to deposit fresh provisions ready for the day's dressing.

On the right going in are fixed divisions, boxes made of slate, for vegetables, having sliding fronts of wood to facilitate cleaning."

Mr. Soyer recommends these boxes as being extremely clean and cool. They will be given at large in a future number, along with the suspended frame seen in the view.

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* The Gastronomic Regenerator; a simplified and entirely new system of cookery, with nearly two thousand practical receipts, suited to the income of all classes; with numerous engravings and plans, shewing how kitchens of every size, from the kitchen of the royal palace to that of the cottage, are to be constructed and furnished, by A. Soyer, of the Reform Club; Simpkin, Marshall, and Co.

† "Specifications for Practical Architecture, &c.," by Alfred Bartholomew.

"(G.) *The Cold Meat and Sauce Larder.*—This room, close to the other, is 13 feet long and 11 feet wide; on the right is a meat-safe, constructed on a new principle, for keeping cold meat, and by which flies are always excluded. It is 4 feet high, 6 feet wide, and 3 feet deep, with two shelves inside; under it, between the bottom and the floor, is a shelf for jars and kitchen basins, &c."

This safe we postpone, as it will illustrate a plan of a kitchen of ordinary extent, which we shall give in the continuation of this notice.

"On the opposite side is a slate dresser 11 feet long and 2 feet 3 inches wide, with a skirting all along, 7 inches high; underneath at the further end is a cupboard, 3 feet long, with shelves for china, by the side is a shelf for jars, &c.; above the dresser there are two shelves the whole length and 2 feet wide, for preserves, and bottles and jars of all sizes.

(D.) *Pastry and Confectionary.*—This important part of the kitchen department may appear small at first view, being only 8 feet long and 13 feet wide, but the arrangement is in every respect perfectly convenient. A marble slab, 5 feet 9 inches long, and 3 feet wide, on a level with the window, with two ice-drawers beneath, one for butter and eggs, and the other for preserving various forcemeats, salad, sauces, &c., is sufficient for the work of two pastrycooks. On the right is a marble mortar, with a long-handled pestle going through a ring fixed in the wall, and on the left a flour-bin covered. Underneath are divisions for scales, weights, and sundry implements; on the right and left are dressers, 2½ feet wide, with two rows of drawers, where rolling-pins, cutters for all kinds of pastry, and sugar-sieves are kept. Above, at 1 foot 4 inches from the dresser, are closets, 1 foot 6 inches in depth, and 8 feet frontage, with three sliding doors. Within are divisions to put away fancy ornamental pieces, and useful articles and ingredients for that tasty department; in this as well as in the other three rooms there is an admirable coolness, absolutely necessary for the making of pastry, and preserving it when completed. Any pastry or entremet which requires to be kept dry, such as meringues, maccaroons, almond paste, &c., must be kept in a closet in the kitchen.

(E.) *The Head Cook's Office and Parlour.*—This room is about 19 feet long and 13 feet wide, and contains closets for preserves, and some kitchen utensils.

(F.) *Passage.*—This space is three-and-thirty feet long and nine feet wide, dividing the rooms above described from the kitchen; although a passage, it is particularly useful. On the right from the second larder, and immediately under the stairs, is a white marble slab, four feet long and three feet three inches in width, surrounded with a slate border of three inches in height; the slab is used for keeping fresh and cool all the fish brought in for use; at the extremity of the slab, which is an inclined plane, there is an horizontal shower-pipe, supplied with iced water from a cistern above. On the opposite shelf, along the wall, is an hour shelf, thirteen feet and a half long and one foot six inches wide, divided by numbers shewing the hour when dishes are to be cooked, which is from five to eight at night.

Upon the same line, on the left, is another dresser, four feet and a half long and three feet wide, to cool sauces and stock before they are removed to the second larder to be put by the side of those already cooled.

At the end of the passage on the right, and above the kitchen door, is a ventilating screen four feet square; it is a simple frame with two cross-pieces covered with canvas, and fixed horizontally above the door, with hinges so as to move it up and down at will, which is done by means of a cord nailed in the middle of the frame and passed through two pulleys fixed in the ceiling, and tied with hooks on the wall opposite. You make use of the cord the same as for a Venetian blind; the only difference is, that you keep moving it up and down all the time required to diminish the heat of the kitchen. The ascending movement draws away the heat from the kitchen into the passage, and introduces fresh air into it. It is only on particular occasions, and in the heat of summer, that it is made use of, as the ventilation of this kitchen is every thing that can be wished for; it was more as a model for confined kitchens that I applied this extra-ventilating screen.

(O.) A small back yard, nine feet long and seven feet wide, separated from the passage by a glass partition and doors, where are deposited various things for kitchen use, and ice creams frozen.

(H.) In the small passage leading to the roasting kitchen there is a lift worked by steam to hoist coals to the sleeping-rooms, and a gas-meter inclosed in a wooden box for the supply of the gas-stoves in the principal kitchen.

(I.) Passage leading to and from the roasting kitchen.

(J.) The kitchen-maids' dining-room, eight feet square, fitted with drawers, tables, closets, &c.; the entrance in the passage above mentioned.

(K.) *Roasting Kitchen.*—On entering into this room, you see in a direct line the vegetable kitchen and the scullery. On the left, there is a low cast-iron French stove for boiling large joints, and making stock which has been previously boiled on a quick fire, and removed there to simmer gently; this stove is two feet seven inches long, two feet nine inches wide, and one foot nine inches high, and is purposely made low on account of the great weight lifted on and off. In the centre is a grate, one foot square, for charcoal. Contiguous to it is another cast-iron stove, or hot plate, the waste fire of which heats the small oven for gratins, soufflés, &c. It is five feet long by two feet nine inches wide, and the same in height. At the end, on a line with the fire-place, is the steam-closet, six feet high, four feet and a half wide, and two feet deep, forming three shelves, with the bottom, to keep the dishes very hot, as well as the roasts; near it is the large roasting fire-place, six feet and a half wide and five feet and a half high. The grate is five feet wide and three feet high, and very shallow, giving a great heat at a comparatively small expense; a boiler is at the back, which holds one hundred gallons of water, always hot, and amply sufficient for all kitchen purposes. The salamandar is also easily and quickly heated at the same fire, without interfering with the roasts, having a place formed in the front of the grate purposely for its reception. (This grate will be given at large.)

In front of the roasting fire-place is a closet-screen, six feet wide, two feet deep, and six feet high, to keep all joints very warm.

Lower down is a large cast-iron oven for pastry, 6 feet 9 inches high, 4 feet 9 inches wide, divided into two parts, one above the other, each of 2 feet opening, 1 foot 9 inches high, and 2 feet 6 inches deep, with grated shelves.

Joining the oven there is a French stove, 3 feet 2 inches long and 2 feet 4 inches wide, with one grating, to boil delicate vegetables.

Above, in the thickness of the wall, is a cistern 2 feet long, 2 feet 4 inches deep, and 1 foot wide, to keep the large boiler behind the roasting fire-grate constantly supplied with water.

Opposite is a sash window, by which roasts and vegetables for the coffee-room are handed to the waiters; beneath the window is a closet for plates and dishes, the top of which is of cast-iron and warmed by steam, thus dishes are removed from one hot place to another until they reach their destination; the length is 4 feet 11 inches, and 2 feet deep, with a sheet-iron shelf inside.

On the right side of this closet is a marble mortar of 20 inches diameter, surrounded with wood-work and forming a pedestal, the pestle with a long handle passes through a ring fastened in the wall, 4 feet above.

Near to the above is the iron rack to hang up all the spits and other implements. It consists of two half rings, to each of which are attached scroll hooks. The hook on the upper ring supports the wheel end of a spit, and the lower hook holds the point.

Further on, next to the door leading to the principal kitchen, is a dresser, 8 feet long and 2 feet wide, to unspit the roasted joints, or for other purposes.

(L.) *Vegetable Kitchen.*—At the end of the roasting kitchen, divided by an arch 12 feet in span, is this room, 15 feet long and 16 wide; in the centre is a deal table, 9 feet long and 2 feet 2 inches wide, with drawers.

On the left, upon a wide shelf, are three steam-boilers, two of them square, to cook potatoes, and the other for steaming puddings, &c.; the square ones might be taken as models, they are one foot five inches square, and one foot high, divided into four parts, forming four distinct compartments in one.

The round boiler is fifteen inches in diameter. The front of the shelf has a groove under the tap of the steamers to let out the water produced by the steam, which runs into the sink; a draining-board is next to the steamers, where vegetables are deposited after they are washed.

Next is the vegetable sink, three feet nine inches long, two feet six inches wide, and one foot eight inches deep, with two taps for hot and cold water. Against the glass partition, on each side of the door which leads to the scullery, are two dressers, six feet long and two feet four inches wide, with four open divisions under each, for sundry articles of kitchen utensils. On the right are two sinks, three feet six inches long, two feet six inches wide, and one foot six inches deep, for washing dishes, having two taps each, for hot and cold water.

Above is a plate-rack, eleven feet long and one foot deep, to dry plates and dishes.

On the right side of the sinks is a delivery window with a closet beneath, four feet long and two feet wide, serving as a dresser, from which clean plates and dishes are sent to the coffee-room.

(M.) *The Scouring Scullery and Steam Boiler.*—This room, on a level with the vegetable kitchen, is thirteen feet long and seventeen feet wide; on the left is a large dresser, or draining-board, with grooves, six feet long and three feet and a half wide, to dry all the coppers after being scoured; under it are large drawers. Above are two shelves the whole length of the room for large pans and coppers.

Next to the dresser are two large sinks, 3½ feet long, 2½ wide, and 1½ foot deep, with two taps for hot and cold water.

Against the window, and close to the sink, is a thick scouring table, 3 feet by 2, with a box underneath for sand, &c.

On the right is the steam-boiler, 8 feet 3 inches long, 6 feet wide, and 5 feet high, surrounded with bricks, and by which large closets, *bains maries*, plates for delivery-windows and tables, are heated, large coppers supplied with steam for cooking; also dressing-rooms, baths, and closets in various parts of the house.

The appearance of these three rooms, each for a different purpose, forms, as it were, only one room, well lighted, very cool, extremely convenient, and without the least confusion.

(N.) *Butler's Pantry.*—A large room, 24 feet long and 17 wide, including private room, with a fire-place, cupboards, sink, and plenty of water; a large table in the middle, where everything belonging to his department is prepared.

(O.) Butler's office.

(P.) *Iron closet* for plate, fire-proof.

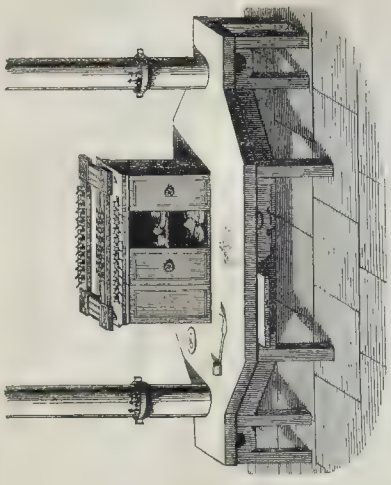
(Q.) A large passage leading out, and also to the back staircase, to the coffee room.

(R.) A lift, by which dinners are conveyed to the coffee-rooms worked either by steam or by hand.

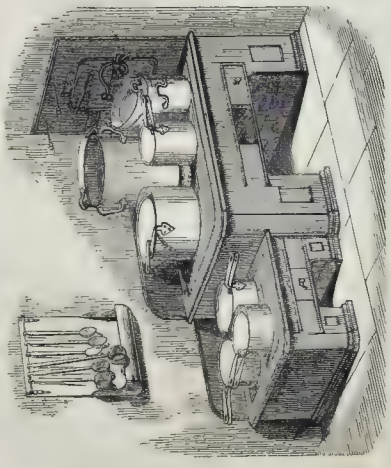
(S.) The back staircase for servants.

(T). *Principal Kitchen.*—The size of this kitchen is twenty-eight feet long and twenty-four wide; in the middle is an elm table, made on a plan entirely original, having twelve irregular sides, and giving the utmost facility for the various works of the kitchen, without any one interfering with another. The principal length is twelve feet by seven wide, and three inches thick. Under the edge of the table, in front, are two sliding boards, two feet long, and two inches and a half thick, which are used for straining sauces, purées, &c.; as these sliding boards are lower than the table they are particularly useful, and save an additional width; below are two drawers, and at each end in front, are two little moveable copper buckets with water, for sponging off any blood or mess left upon the board or table after the cutting of poultry, game, or fish. In the same direction there are two columns supporting the ceiling and passing through the table, round which, at a convenient height, are copper cases lined with tin, in ten compartments, each of which contains every ingredient and chopped herbs of the seasons for flavouring dishes, such as salt, pepper, spices, sweet herbs, crumbs and rasping of bread, eggs, chopped onions, &c.; the other contains various sauces for fish dressed in the English style. These cases turn at will on castors fixed underneath the round

KITCHEN ARRANGEMENTS.



KITCHEN TABLE AND HOT CLOSET.



CHARCOAL STOVE AND HOT PLATE.

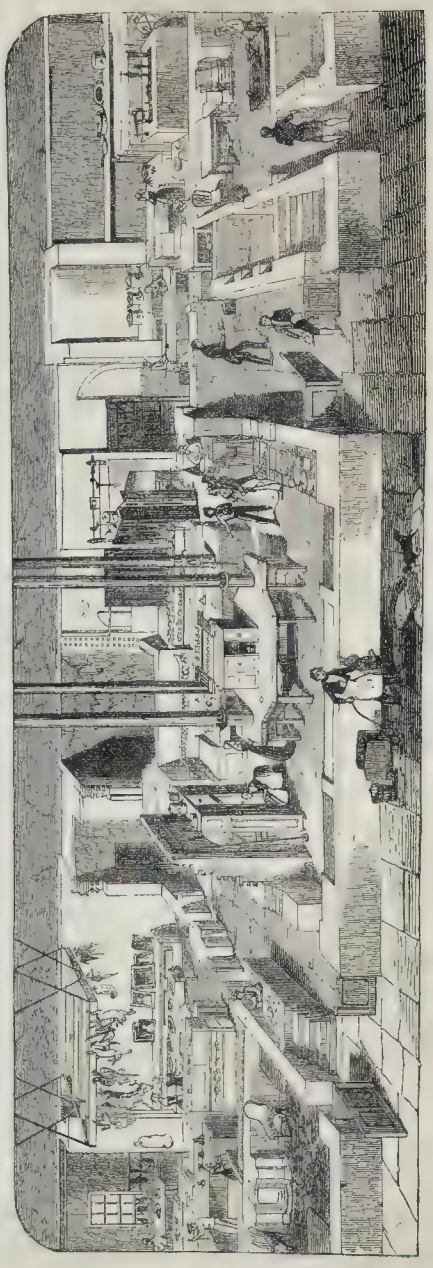


Fig. 2.—SECTIONAL VIEW OF THE KITCHEN DEPARTMENT OF THE REFORM CLUB

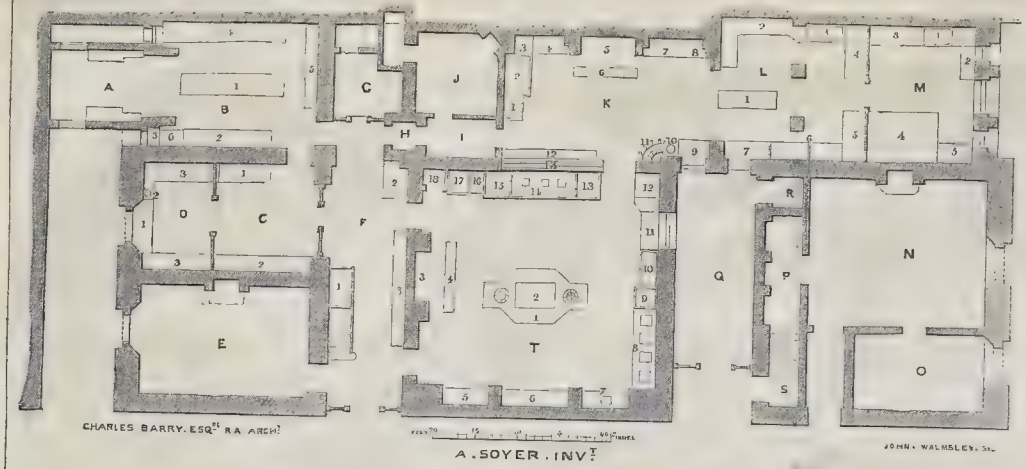
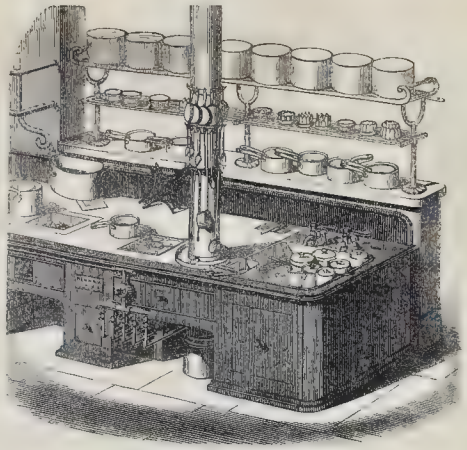
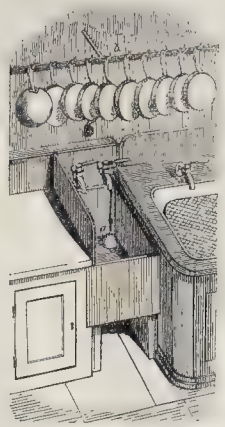


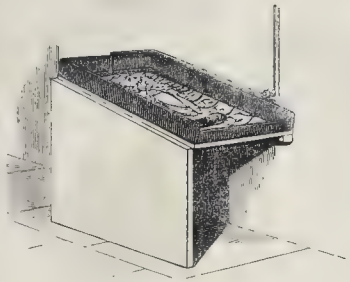
Fig. 1.—PLAN OF THE KITCHEN DEPARTMENT OF THE REFORM CLUB.



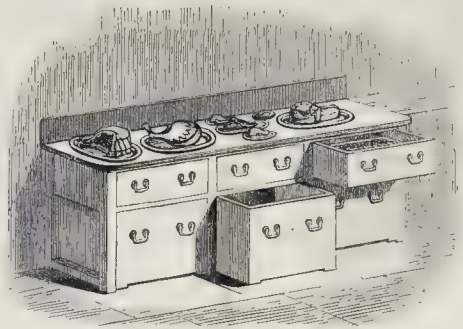
GAS STOVES, BAIN MARIE, &c.



BAIN MARIE, SINK, AND HOT PLATE.



FISH SLAB.



ICE DRAWERS AND DRESSER.



THE DINNER LIFT.

column, so that, without moving from your place, you can get every ingredient you may require; the diameters of the column are one foot; and the cases for ingredients project over three inches and a half. As columns are not always wanted to support the ceiling of a kitchen, the cases might easily be introduced on the table supported by a stand, turning in the same way as, and similar in shape to, a lamp.

In the middle of the table is a cast-iron steam closet, four feet one inch long, two feet eleven inches wide, and two feet nine inches high, with two sliding doors on each side, and a shelf inside for keeping delicate entrées perfectly good for several hours, by means of two different degrees of heat. Above, five inches distant from the top, is a grated iron shelf, all round upon which are placed middle-sized and small stewpans, supported at each corner by little balusters; as it projects beyond the closet, it forms a cornice and gives it an elegant appearance. The whole contrivance of this table is much more convenient than might be imagined, by the number of useful objects a common table is deprived of. I consider too large a table to be as bad as too large a kitchen, in which much time is lost in the cleaning, and more in running about for articles required for use.

On the right-hand side of the table is a roasting fire-place, principally used for game and poultry, on a plan entirely new, the size is seven feet wide and five feet six inches high, the bars are perpendicular and vertical, opening at one end, and supported upon castors, which allows the cleaning of it with much more ease, and affords access for the repairing of the boiler without pulling down any of the works around it; at the back of the stove in front of the boiler are thick Welsh lumps, by which hot water can be obtained twenty-four hours after the fire is put out.

On the left, in the thickness of the wall, is a small cistern to supply the boiler with water as it is drawn out hot on the right-hand side.

A screen closet is placed before this fire, drawn on castors, seven feet long, six feet high, and two feet wide, having two grated shelves for dishes, and open to the fire, with sliding doors and flaps.

Turning your back to the fire-place, on the right is a recess, ten feet high, ten wide, and two and a half deep, forming an elliptic arch, in which is fixed a dresser used for silver dishes, &c., previous to a large dinner: underneath are four drawers for small kitchen utensils, and above the dresser three shelves for tinned iron saucepans; in the front of the shelves are suspended covers of various sizes, and large preserve-pans.

On the right, in another recess, six feet four inches high, four feet three inches wide, and two feet and a half deep, there is also a dresser, above it large dish covers.

In the recess of the same size on the left is fixed a low cast-iron charcoal stove for boiling large fish; when not in use for that purpose it is covered with a thick board elevated one foot above, being supported upon four strong feet in wood, thus forming a dresser upon which to deposit any article previous to its being dressed at the broiling or fish stoves; on each side are tin drainers for kitchen spoons, &c., higher up are two rows of hooks for large dish covers. Facing the fire-place is a large cast-iron stove, heated with coals, twelve feet five inches long, and two feet ten inches wide, divided into five parts, two of them are used for broiling steaks, cotelettes, &c., and the others to broil and fry fish. On a compass brass rod, and moveable, is fixed a fire-screen obliquely at the end, to prevent the heat injuring the eyes, and at the same time acting as a reflector in the interior of saucepans on the stove if required. At the extremity of the stove is a bain marie, two feet eight inches square, and seven inches deep, principally for keeping fish-sauces hot.

Next is a cast-iron steam closet, four feet seven inches wide, two feet two inches deep, divided into three parts, the two shelves are of iron, two inches and a half thick, therein are deposited all the fish dressed and waiting to be taken up.

Near it is another closet, five feet and a half long and two wide, warmed also by steam, with sliding doors for china dishes and covers; the top, which is on a level with the delivery window, is of cast iron and heated by the same means, therefore every dish from the time they are dressed up to the time they reach their destination, keeps moving from one place to another in or upon places kept hot for that purpose.

In the corner next to delivery window is the desk for the clerk of the kitchen, the size is four feet long and three feet wide, with a seat; all the orders are sent from the dining-room by a wooden pipe of communication, and after each dinner is served the bill is sent up in the same way. Every dish is called for by the clerk at the hour ordered. On his left are three voice conductors with bells communicating to all parts of the club where culinary services are required. Turning to the left is the large and principal French stove, fifteen feet three inches long by three feet nine inches wide, beginning with a bain marie two feet and a half square, warmed by steam, with two taps for hot and cold water. The bain marie is for soups and sauces especially prepared for the coffee-room. By the side is a column supporting the ceiling, round it at a proper height are three rows of hooks for fryingpan covers, spoons, forks, skimming ladles, &c. Along the stove at back is the coping wall separating the two kitchens, on which are fixed two grated iron shelves, upon which are placed a number of stewpans and moulds of all sizes. Further on are the stoves where entrées, soups, &c., are prepared, being a grate for a charcoal fire in the centre, with one of my new gas stoves upon each side, which afford the greatest comfort ever introduced in any culinary arrangement; each stove is divided into five compartments each having a separate pipe and brass cock, with a separate main pipe to each stove, which supplies sufficient gas to burn the whole five compartments at once, or only one by not turning the gas into any of the other compartments, or if all burning at once the fire may be regulated to any height you may think proper by means of the brass cocks, turning the gas either full or only partially on. It possesses also the following advantages: you obtain the same heat as from charcoal the moment it is lit, it is a fire that never requires making up, is free from carbonic acid which is so pernicious, especially in small kitchens, and creates neither dust or smell (except the gas should neglectfully be not properly turned off), and by my last improvement it is also now quite free from smoke. With the aid of my new octagonal trivet I can place nine stewpans over without the fear of upsetting either, some only simmering and others boiling at the same time. The gas stoves also tend to greater economy, as they are not lit till the moment wanted, then only the quantity required, and may be put out the moment they are done with.*

Further on at the end of the stove and parallel with the bain marie there is another, two feet six inches square, with two taps for hot and cold water, used for keeping sauces hot for a private dinner in the house dinner-room. There are in all three different bain maries, one for fish sauce, one for the coffee-room, and one for the private dinner. Next is a slate sink two feet and a half long, one foot two inches wide, and eleven inches deep, with two taps for hot and cold water used for washing various kitchen utensils used at the charcoal stoves. Above the sink, hot plate, and bain mairie, is an iron rack (*b*), nine feet long, with hooks to hang large sauté-pans. Near it is a hot plate two feet six inches square heated by steam, upon which are placed dishes prepared for dinners, and from thence removed to the house-dinner-lift, which is drawn up either by steam or hand machine.

"I now beg leave to remark to my readers that if I have been a little tedious or profuse in giving the exact measurement of the different parts and every object of this kitchen by feet and inches, it was with the view to be useful to those who have honoured me with their subscription, and the public; I dare hope that my humble efforts will have the effect of producing hereafter a reform in the art of building and fitting up a kitchen which, without being of an immoderate size, contains all that can be wished for as regards saving of time, comfort, regularity, cleanliness, and economy. I am happy to have this opportunity of acknowledging that without the great liberality of the honourable members of the Reform Club, and the kindness of that celebrated architect Mr. Barry, I could never have succeeded in accomplishing the improvements so essential in a well-regulated establishment; I shall, therefore, remain always gratified for the encouragement they never ceased to give me in confiding to my direction this new system of building and fitting up a kitchen which is now in active operation, not only for the economy of the Reform Club, but to serve as a guide to the amateurs of a good kitchen as well as of good living."

We have already devoted so much space to this important subject, that we are compelled to defer the conclusion of our notice, in which we shall be able to give plans of kitchens, adapted to ordinary wants, as well as some further details. Meanwhile our readers, whether they have to order a dinner, or to arrange their cooking apparatus, cannot do better than avail themselves of Mr. Soyer's book.

Reference to the Plan of the Kitchen Department of the Reform Club.

A. La Boucherie, in which all Joints are trimmed for cooking.
B. The Meat and Game Larder.
  1. Table for provisions which are ready for dressing.
  2. Sate dresser, with ice drawers and pickling tubs underneath.
  3. Slate well for soaking hams.
  4. Slate dresser, similar to the preceding, but larger.
  5. Vegetable boxes.
  6. Slab for opening oysters.
  *** The frame for hanging meat, game, &c., is suspended from the ceiling.
C. The Cold Meat and Sauce Larder.
  1. The safe.
  2. Slate slab to deposit cold stocks, sauces, &c., and shelves.
D. The Pastry and Confectionery.
  1. Marble slab.
  2. Mortar.
  3. 3. Dressers for dishing up the second course, and depositing pastry and confectionery, under which are hot and cold drawers, lined with tin, and having a steam-pipe passing behind, which slightly warms them; these drawers are for keeping either moist or dry whatever may require to be so kept. Above each dresser are closets.
E. Office du Chet de Cuisine.
F. Passage.
  1. Fish slab.
  2. Large shelf to deposit sauces, &c., for cooling.
  3. Hour shelf.
G. Open Yard.
H. Lift to hoist coals to the Dormitory department.
I. Passage.
J. Kitchen Maids' Dining Room.
K. Roasting Kitchen.
  1. Low French charcoal stove.
  2. Stove.
  3. Oven for gratins, soufflés, &c.
  4. Steam closet.
  5. Fire-place.
  6. Screen, with hot closets.
  7. Large pastry oven.
  8. French charcoal stove for vegetables.
  9. Hot delivery window for joints and vegetables.
  10. Mortar.
  11. Rack for the spits.
  12. Dresser.
  13. Iron rails for moulds and coppers.
L. The Vegetable Kitchen.
  1. Table to dish up vegetables.
  2. Dresser, with steam-pans for cooking vegetables.
  3. Sink for washing vegetables.
  4. Draining dresser.
  5. Dresser to deposit clean crockery.
  6. Two sinks for washing plates and dishes, provided with bell-traps to prevent smell. Above is the plate-rack.
  7. Delivery window for crockery.
M. The Scouring Scullery.
  1. Two sinks for washing coppers.
  2. Scouring table.
  3. Dresser and draining board.
  4. Steam-boiler.
  5. Large coal-box.
N. The Butler's Pantry.
O. The Butler's Room.
P. Fire-proof Plate Closet.
Q. Passage.
R. Lift, to convey Dinners to the Coffee Room.
S. Staircase.
T. The principal Kitchen.
  1. Table.
  2. Hot closet.
  3. Fire-place.
  4. Screen and closets, as in the roasting kitchen.
  5. Sideboard for silver dishes.
  6. Dresser, and shelves for covers, moulds, &c.
  7. Low French charcoal stove for large fish.
  8. Broiling stoves.
  9. A bain marie.
  10. Hot closet, to deposit fish, chops, &c., if required to wait.
  11. Delivery window for entrées.
  12. Kitchen Clerk's desk.
  13. A bain marie for soups and sauces, to supply coffee-room.
  14. Large French charcoal, and gas stove, for made dishes.
  15. A bain marie for soups and sauces, for house dinners.
  16. Sink.
  17. Hot plate for dishes to be sent up to private dining room.
  18. Lift for sending up dinners.

* The maker of these gas stoves is Mr. Rikett, who constructs them to perfection at a trifling expense according to their merit.

THE LORD MAYOR'S DINNER TO SCIENTIFIC MEN.—On the 10th inst., the Lord Mayor gave a splendid entertainment to the Presidents of the Royal and other distinguished Scientific and Literary Institutions, at the Mansion-house. We are compelled to postpone some remarks on the occurrence till next week.

COMPETITION SCULPTURE.

ART UNION OF LONDON.

With a view to the production of a fine work of art, and to direct the attention of the public to sculpture, the Committee of the Art Union of London offered the sum of 500*l.* for a group or single figure in marble, to be competed for by finished models in plaster, the size of the intended work.

The models received in competition for this premium are now in the concert-room of the Princess's Theatre, Castle Street, Oxford Street, and are open to all who apply. Many of them possess great merit—two or three, merit of the highest order, and the exhibition is altogether exceedingly interesting: still it seems to us that the English sculptors have scarcely responded to the praiseworthy and liberal offer of the Committee, to the extent that might have been expected.

It is unnecessary for us to say that the stake is a high one—not simply 500*l.*, but a widely-spread reputation.

Nearly half the score sent in have been exhibited before, including, as we believe, No. 3. "Taliesin Pen Beirdd;" 4. "The Contest between the Minstrel and the Nightingale;" 7. "Charity;" 11. "Hagar and Ishmael;" 13. "Pastoral Apollo;" 14. "A Youth at a Stream;" 15. "Group of Adam and Eve lamenting the death of Abel;" 16. "Narcissus;" and 19. "A Hunter returned home." Looking at the terms of the advertisement and the intention of the offer ("to *induce* the *production* of a fine work of art"), we may venture to say the selection will not be made from these.

Of No. 9. "A Deer-stalker in pursuit" (an admirable group, demanding the attention of those who have to decide) there is a cast in the present Royal Academy Exhibition. We understand, however, evidence is offered that it was prepared expressly for the competition.

Let us glance briefly at those about which there is no doubt.

No. 1. "A Girl persuading Cupid to shoot at one she loves," embodies a pretty notion,—the half-willing, half-hesitating Cupid is well conceived and well executed. A meanness in the figure of the girl lessens the value of the group; 2. "Iris ascending" is a work of great excellence; the lower limbs are beautiful; 5. "Maternal Affection;" 6. "Sleep" (a sister and brother); and 18. "The Centaur instructing Chiron," have each points of excellence; 8. "Dancing Girl reposing" is a powerful competitor for the prize. The lower part of the figure is too heavy for its title; nevertheless it is an exquisite production, honourable to the country.

10. "Innocence" may justly stand in rivalry with the last. The subject is a young girl seated, clasping a dove to her neck. The author of this will stand in the first rank of English sculptors, if he be not there already.

12. "Genius receiving the Reward of Merit," displays much ability, and has barely escaped being a fine work. The idea is conveyed by a youth who is placing the crown on his own head—a doubtful position.

17. "The Meeting of Hero and Leander" has many faults, but gives good promise: and 20, "L'Allegro," though pictorial rather than sculptural, has much grace.

CAUTION TO RAILWAY SURVEYORS.

Sir,—I beg once more to occupy a place in your valuable journal, to shew up a new system of railway fraud, as practised by a Mr. England, living at No. 11, Queen's-road, Bermondsey. It appears, he put an advertisement into the *Times*, in the beginning of last month, stating that he wanted eight or ten railway surveyors' assistants, and many there were who answered it. However, upon an interview being appointed, he stated that he wanted from each assistant two guineas, one to be paid there and then, and the other out of the first week's salary (which was to be four guineas per week). He subsequently desired all the assistants to meet him last Monday evening, at six o'clock, at a coffee-house in the city. He came there with his portmanteau at five o'clock, and after persuading the landlord to pay him one guinea, and let him take his son out with him, left under some pretence, and has never returned. A warrant was applied for, but could not be obtained, on account of his having actually been employed on a *bonâ-fide* line of railway at the time he put in the advertisement, so that they must all calmly submit to lose their money. If, Sir, you would either insert this, or expose Mr. England in some other way, you would oblige your constant reader, Veritas.

6, Cadogan-street, Chelsea, 8th July, 1846.

PROVINCIAL NEWS.

The healthy contagion of the sanatory influence has "broken out" at Ipswich, where the inefficient cleansing and drainage of the streets and houses, the prevalence of open cesspools and burial places within the precincts, and the want of an abundant household supply of water, are at present forcing themselves into public notice. A general system of sewerage is under consideration, as (at least it ought to be) but an initiative and partial remedy. The *Ipswich Journal* is very properly pointing attention to the other and even more particularly necessary measures; and salutarily reminds its readers of "the noxious effluvia emitted when the corner of St. Peter's churchyard was rounded off," and of the state of the churchyard at St. Mary Kee, the desecrated churchyard of St. Lawrence, and indeed of every churchyard in the town. We would recommend to the attention of the editors the proposals of Mr. Parry, in a recent number of The Builder, for the institution of joint-parochial cemeteries. ——Energetic means, in the shape of 30,000*l.*, have been placed at the disposal of the Leeds Street Committee, by the town council, for the formation of an efficient system of sewerage there.——On Friday week the new church at Morton, near Gainsborough, and on the following day the Stockwith Church, in the same vicinity, was consecrated by the Bishop of Lincoln. Both have had stained glass windows provided by gift.——The journeymen plasterers of Huddersfield have struck work for an advance of wages 6d. a day, making 21s. to 24s. a week. The masters are determined to resist.——The Bricklayers of York, too, have struck for a similar advance.——It appears that the chapel of the episcopal palace of Ripon, noticed in our last, is to be erected at the sole expense of the Archbishop of York for the use of an adjacent hamlet, as well as of the bishop and his household.—The foundation-stone of the Monastery of Holy Trinity, to be erected near Market Weighton, in Yorkshire, as a normal and boys' school, was laid or blessed by the vicar-apostolic of the district on the 24th ult.——A new Gothic decorated window has been added to Royston Church.——It is said that in the churchyard of St. Helen's, Worcester, upwards of 1,100 bodies have been buried within the last thirty years in a space of only 300 square yards.——A paving rate of 2s. per pound has been ordered at Birmingham to meet the expense (about 30,000*l.*) of the improved culverts in course of formation in the town. The evidence of twelve parties resident there having been obtained in favour of the practicability of consuming smoke and at the same time saving fuel; the Street Act Committee recommend the commissioners at once to "compel every owner of a steam-engine to consume his own smoke."——The last stone of the Branch Bank of England at Manchester was laid on Tuesday week.——At Liverpool, there are to be two holidays during Prince Albert's visit. The plans of Mr. Cunningham, Architect, for the arrangement of the spectators on the intended site of the Sailors' Home, are well spoken of. The steam-boat owners not consuming their own smoke on the river, are to be requested to burn coke on the two gala days.——The Liverpool Church Building Society have voted that a subscription be now entered into for the purpose of raising a fund to build churches in the new districts of the parish of Liverpool assigned by the Ecclesiastical Commissioners under the 6th and 7th Vict."——Herefordshire, it is said, is the only English county in which there is not one steam-engine.——In the public works in Ireland, 14,000 men are employed at the public cost.——The sum of 20,000*l.* has been bequeathed by the late Mrs. Magee, of Dublin, for the erection of a Presbyterian College in Ireland.——In a number of cases of loss of life through bathing in rivers, ponds, and canals, collected from the provincial papers, the verdict of the coroners' jury, it is said, "has been in every instance, 'Accidental Death:' the *Daily News* says, should it not have been 'Drowned for want of safe and proper bathing places?'"

CONSECRATION OF ST. JOHN'S CHURCH, LONGSIGHT.

The church newly-erected at Longsight, near Manchester, has lately been consecrated. It was noticed under the head of "Architecture and Art in Manchester," in our last volume. It was commenced in March, 1845, by Mr. Hunt, builder, of Broughton, from designs by Mr. J. E. Gregan, architect. It is in the early English style of architecture; and consists of a chancel, nave, and aisles, a south porch, and a tower and spire at the south-west angle. The east windows of the chancel and the south aisles, are filled with stained glass, made by Mr. Willement, of London. The glass in the chancel window is the gift of Miss Marshall, and contains representations of of a number of the saints. That in the aisle window is the joint gift of Miss Marshall, and her brother, Mr. William Marshall. The church contains rather more than 700 sittings, one-half of which are free.

The *Manchester Guardian*, from which we take the account, has the following judicious comments:—"It ought, in justice to the architect, to be stated, that this church is by no means carried out according to his original designs and intentions; for the successive alterations and enlargements which he was, from time to time, called upon to make, have, as might have been expected, thrown the building out of proportion, and given to it a shortened appearance, very different from any thing in the plan as first adopted. Changes made in a design after the commencement of the building are always dangerous, and are among the severest misfortunes which architects are subject to; that nice and delicate adjustment of parts, which an artist deems essential to the perfection of his work, is but too seldom taken into consideration by those who have it in their power to interfere with it; and thus an architect is often blamed for that which he could not avoid, and which he laments more than any one else is likely to do, from his more intimate acquaintance with the cause of the failure. It seems that the entire clerestory was an after-thought; added to a building originally designed to be without it; and the tower and spire are diminutive and insignificant in dimensions from the simple fact of the church having out-grown them, they being part of the small plan on which the church was begun.

The temporary causes of such changes pass away and are forgotten, the building remains.

FUND FOR MR. GEORGE MOORE,

THE DRAUGHTSMAN.

The subscriptions in aid of the unfortunate George Moore, now in a state of imbecility, and for whom we appealed to our readers some time ago, amount to 500*l.*, and will be invested in such manner as the trustees may think most eligible.

Mr. Cockerell, R.A., Mr. Edward Blore, and Mr. Francis Moore (Mr. George Moore's brother), have consented to act in that capacity for the administration of this fund, which it is to be hoped, will be increased to a sufficient sum to obtain such comforts for him, as even those so peculiarly situated may be supposed to appreciate.

Mr. Wyatt, of 77, Great Russell-street, will gladly receive any additional contributions.

Perils of Miners.—One of the most fearful mining calamities ever known occurred on the 9th, at East Wheal Rose lead mine, about eight miles from Truro. A thunder-storm of unprecedented violence, with a flood of the heaviest rain, broke over the neighbourhood. The torrents pouring from Newlyn Downs, collected towards the valley, where the mine is situated, and rushing down the shaft, filled every level. Forty-three persons were drowned.

New Court of Exchequer.—On Monday workmen commenced operations at Guildhall for forming a new Court of Exchequer. To effect the improvement, the foundation walls of stone, nearly three feet thick, are being cut away, in part.

ELECTRO MAGNETISM AT LENGTH APPLIED TO RAILWAYS.

The anticipated application of the power of electro-magnetism to railway locomotion is beginning to shew itself in a practical form, at least, whether practicable or not in the present instance. Taylor and Condor's patent invention consists in "the application of electro-magnetic power to what is commonly known by the name of the atmospheric system of railway propulsion, in order to connect the piston carriage of a train with the driving piston within the tube;" and this is done through a series of electro-magnets, of course acting attractively on a parallel series of armatures, capped with iron, in the interior of the tube, and projecting through the slit; which, however, is covered air-tight with "copper, brass, or some other substance not susceptible of the electro-magnetic influence," and, therefore, offers little or no obstacle to the electro-magnetic induction between the exterior magnets and the interior armatures.

PAYMENT OF ARCHITECTS.

STAFFORDSHIRE COUNTY PRISON.

In a report of the proceedings at the last General Quarter Sessions for Staffordshire, given in the Staffordshire Mercury, we find the following discussion, as to the payment of the gentleman who designed and superintended the erection of the new gaol. It seems to us not wholly uninstructive.

Major Chetwynd said he had just had placed in his hands Mr. Potter's bill, as architect of the new buildings at the gaol. The original estimate for the buildings was 19,700*l.* Mr. Potter says he has now measured up, and taken an account of work done, which together with the fittings, will amount to 28,979*l.* 14s. 3d. Mr. Potter has received no money for his services or expenses. If he be paid by a per centage, his claim would then amount to 1,400*l.* or 1,500*l.*; should he charge for his services and expenses, the claim would be pretty much the same. He now asks for 500*l.* on account.

Mr. Talbot: Major Chetwynd had better state to the court the terms upon which Mr. Potter was engaged.

Major Chetwynd: Major Jebb thought it better that the county should employ Mr. Potter, he being in possession of the plans. How he was to be paid was not agreed upon. It was mentioned that it was usual to pay for such services by a per centage. Some objection was made to that mode of payment, and Mr. Potter agreed to leave his remuneration to the generosity of the Court—whether to allow him five per cent. on the estimate, or to remunerate him for his services.

Mr. Talbot: Mr. Potter undertook, for his father, then very infirm, to make the plans of the new buildings. Before the buildings were commenced Mr. Potter's father died, and Mr. Smith was appointed county surveyor. The question then was, whether Mr. Potter would give up the plans, or whether he should be engaged as architect. The court came to the conclusion, that it would be unfair towards Mr. Potter not to let him build the gaol. The rate of payment he left to the generosity of the court; there was no understanding about a per centage.

Capt. Powys: I perfectly recollect that I objected to Mr. Potter being employed. I wanted the court to allow Mr. Potter a proper remuneration for what he had done, and then for him to hand over the plans to Mr. Smith, under whose superintendence the building might have been erected. The county would have saved a considerable sum had my advice been taken. Last year, I asked Mr. Potter how much he thought the new building might amount to, and he distinctly replied 22,000*l.* or 23,000*l.*; we now find the expense already incurred amounting to nearly 30,000*l.* The 22,000*l.* or 23,000*l.* was to include every thing except the fittings, which were estimated at 1,500*l.*

Mr. Potter: That was as near as I could judge; additions have since been made.

Captain Dyott: However objectionable it might be to agree to pay an architect a per centage, it is much more so to have no agreement at all. I would propose that the court, having received an estimate for 19,600*l.*, pay a per centage to Mr. Potter on that estimate.

Mr. Talbot: We were indirectly pledged to give a per centage, but I never contemplated that Mr. Potter would charge an architect's fee of 5 per cent. As an act of justice to Mr. Potter, I was anxious that he should have the building of the gaol, but as for expecting that we were to pay him 5 per cent. on the estimate, it never once entered my mind. I would never sit in this court and permit such a payment.

Captain Powys: I wished the court to pay Mr. Potter 200*l.* for the plans. Had we done so, we should have saved 1,200*l.* I think it would be better to appoint three magistrates, unconnected with the gaol-committee, who might say how much we ought to pay. In the mean time advance Mr. Potter 500*l.* without prejudice.

Mr. Pye thought the matter might very safely be left to the gaol committee.

Earl Talbot then moved that the Deputy-Chairman, Mr. Foster, and Captain Mainwaring, do form the committee for fixing Mr. Potter's remuneration.

Captain Mainwaring: I fear such a piece of business will be entirely out of my line. What are we to do? *Is it running the tape over the work?* (Laughter.)

The Chairman: The committee will have to report if any and what further sum is due to Mr. Potter.

New Books.

The Principles of Gothic Ecclesiastical Architecture. By Matthew Holbeche Bloxam. 8th edition. Bogue, Fleet-street. 1846.

The appearance of an eighth edition of this valuable little book, sufficiently proves that it has found favour in the sight of the public. Illustrated with 228 wood cuts, it traces the origin, progress, and decay of gothic art, and forms an attractive and useful introduction to the study of ecclesiastical architecture. From a note in it, we learn that the author has a companion volume in progress, treating of the internal arrangement and decoration of English churches.

The book is too well known to admit of extracts or require eulogium. We transcribe, however, its last paragraph:—

"In conclusion, what Archbishop Bramhall hath declared concerning rites and ceremonies, may fitly be applied to the construction and arrangement of new churches, as most conducible to those ends for which they are in part intended; that is, they ought to be so planned, constructed, arranged, and adorned, not going beyond the limits prescribed or sanctioned by the church, as 'to be advancements of order, modesty, decency, gravity, in the service of God, to be adjuments to attention and devotion, furtherances of edification, helps of memory, exercises of faith, the leaves that preserve the fruit, the shell that preserves the kernel of religion from contempt. And all this with due moderation, so as neither to render religion sordid and sluttish, nor yet light and garish, but comely and venerable.'"

Appendix A to Tottie's Sepulchral Monuments. Weale, 1846.

This appendix contains five plates, ably designed by Mr. Carl Tottie, architect, and very well engraved by Mr. H. Adlard. Five or ten years ago these designs for monuments would have been very popular, but at the present moment opinion runs in a different channel.

Intellectual Enjoyments for the Multitude.—That ungodly selfishness is now exploded, says Dr. Hook, in his recent letter to the Bishop of St. Davids, by which the upper classes were induced to suppose that mental pleasures were a luxury reserved for their exclusive enjoyment, although they were often forced to adopt the dog-in-the-manger system, and neither taste of those pleasures themselves nor permit them to others. Whatever may add to the innocent enjoyments of our poorer brethren, we are bound by common feelings of charity to procure for them if possible; and this duty becomes the more important, when the object in view is to call them from the world of sense without, by opening to them the world of thought within, and by adopting those means which cannot fail to soften, refine, and humanize the character.

Miscellanea.

Supply of Water to Rome and London.—A sufficient supply of pure water is a matter of vital importance. A correspondent of the *Mechanics' Magazine*, in the current number, after describing briefly some of the principal aqueducts in Rome, says,—"The probable supply to the 1,000,000 of inhabitants of which Rome could one time boast, amounted to 50,000,000 cubic feet, being equal to about 50 cubic feet for each individual. This is probably twenty times the quantity which London now receives for each of its inhabitants—a fact which goes far to justify the application of the disgraceful term "bathless" to this, the largest, the most opulent, and the most powerful city in the world. How miserably insignificant do our water-works appear, and how trifling the supply they furnish to this mighty city of more than two millions, when contrasted with the immense flood of pure water poured into old Rome by her gigantic aqueducts! And how discreditable the difference between the two capitals, when we reflect on the far superior resources which modern science has placed at our command, and on the well-known fact, that, through the happy constitution of the strata on which London stands, she has at her command—requiring, as it were, but the smiting of the rock to make them gush forth—boundless supplies of the purest possible water!

Stealing the Lease of a House.—On Monday, at the Police-court, a little dark-complexioned man, named James Lyon, was charged by a man named M'Grade with this extraordinary offence. Complainant said he had taken the lease of a house in Arley-street, from the prisoner, in 1841, for twenty-one years, and had the lease duly executed on stamped parchment. He had since laid out 280*l.* upon the house. Some days ago, the prisoner called upon him, and some representation being made by him, complainant laid the lease on the table, when the latter having turned his back, the prisoner seized the document, put it into his breast, and ran off with it. This statement being confirmed by a witness, the prisoner was committed for trial.

The Railway System turned upside down.—A model is said to be exhibited at Gerard's-hall, representative of an ambitious, but apparently more fanciful than practical, novelty, called "Parkin's new system of locomotion," in which the wheels are fixed and the rails locomotive—the wheels being, in short, transferred to the road and the rails to the carriages. Vast improvements in speed and comfort and economy are claimed for this invention, which is proposed to be worked by a steam-engine in the centre of a train of very light carriages, without springs, which the engine is to push along at the rate of fifty miles an hour over the stationary wheels. Altogether the scheme appears to be a very doubtful one, though said to have been voted by forty or fifty apparently intelligent persons as "worthy of public support."

Early Architectural Remains.—The *Cumberland Pacquet* says, that "The workmen employed in taking down the ancient parish church of Aspatria, for the purpose of rebuilding it, have discovered, amid the fragments of that venerable edifice, a number of indubitable and interesting remains of a previously existing church, consisting of crosses, window mullions, capitals, shafts, &c.,—all of which are elaborately carved. These antiquities, and their workmanship, evince a style of architecture long prior to the Norman conquest, and appear to belong to the style of the Anglo-Saxons. Other discoveries may yet be made calculated to throw additional light upon the history of this time-honoured edifice; as much of the foundation still remains to be excavated."

Uffculm.—In recently taking down the tower of the ancient church in this parish, a square stone was found, bearing the inscription "H C C B 704" coarsely cut, but quite legible. The date corresponds with the sixteenth year of the reign of Ina, King of Wessex, and shews that the church was erected during the Saxon heptarchy.

The Colossal Wellington.—A move is being made in the House of Commons to prevent even now, if possible, the elevation of the statue at Hyde-park corner.

SEYSSEL ASPHALTE.—A few weeks since a paragraph appeared in our paper, which stated that during the very hot days the asphalte laid down in the streets of Manchester had actually become so soft, as to render it a nuisance to those persons who had to walk over it. Since, however, the above article appeared in print, we have learnt that the material so affected was not real asphalte; and we deem it fair, therefore, to state, that portions of the pavements of this town, which were laid down eight years ago with Seyssel Asphalte by Claridge's Company, were uninjured by the heat.—*Liverpool Standard.*

ARE ARCHITECTS ONLY TO COPY?—It is a humiliating truth, but truth nevertheless, that very low views—utterly derogatory to it as art—are entertained of architecture, both by those who follow it as a profession and by the public. For the latter there is more excuse than for the former; since, if they are ignorant, it is because they are uninstructed—kept in ignorance by those who, at least, ought to be able to inform them better. The mere bluster of fine phrases and pompous words, put forth by way of asserting the claims of architecture, very ill disguises the degrading fact that, as a fine art, it is held to have been long ago so completely worn out, that nothing is now left for it but to mimic—with what ability it may—the efforts of its palmier days, when t was permitted to indulge its native impulses, uncontrolled by the fetters of all-enslaving PRECEDENT. However they may differ in other respects, servility is alike the badge of all—of the "Goth" as of the "Greek," of the "Greek" as of the "Goth." The universal *refrain* is, Copy, copy!—Accordingly, copying is made the alpha and omega of the art; and the public—that is, the thinking part of it—wonder very justly that architecture, advanced as it has been to the merely mechanical, should rank as a fine art at all.—*Lamb's "Studies of Ancient Domestic Architecture."*

THE MEEANEE COLUMN.—We understand that preparations are going forward for having the Meeanee Column cast in Calcutta, and that 44 brass guns of various sizes, have been sent from Scinde for the purpose. The column is to be 130 feet in height, including the plinth, base, shaft, capital, and a figure of Britannia, 19 feet in height, which, with a pedestal of 7 feet, is to surmount the whole. The design was drawn by Colonel Waddington, of the Bombay Engineers. The column is to be of the florid Corinthian order, and its shaft 60 feet in height, and 7 feet in diameter. The figure will be of brass gilt. This column is destined to adorn Bombay, and will, as we hear, be erected on the esplanade near the Wellesley statue.—*India paper.*

NEWLY-PAINTED HOUSES.—An American physician attributes the deaths of several members of his family to living in newly-painted houses, the effect of which engenders disease of the lungs.

MARBLE FROM HAVANNAH.—The arrival at St. Katharine's Docks of a new sort of importation from Havannah, in the shape of nine blocks of marble, is announced.

NEW CHURCH IN CHARLOTTE-STREET, FITZROY-SQUARE.—The church of St. John the Evangelist, in Charlotte-street, erected from the designs of Mr. Hugh Smith, Bedford-row, was consecrated on Thursday last.

ALL SAINTS' CHURCH, ST. JOHN'S WOOD.—This church was consecrated by the Bishop of London on the 9th instant. We propose to give an engraving and description of it shortly.

CHELSEA BRIDGE.—The Chelsea Bridge and Embankment Bill was read a second time on Tuesday last.

NOTICES OF CONTRACTS.

[We are compelled, by the interference of the Stamp Office, to omit the names of the parties to whom tenders, &c. are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent Garden.]

For lighting the parish of Paddington for three, five, or seven years with gas.

For repairing Stogumber Church, Somersetshire.

For the construction of a warehouse at Liverpool.

For three miles of six-inch cold blast iron water-pipe for the town-council of Bath.

For one mile and a half of five-inch cold blast iron water-pipe for the town-council of Bath.

For the disposal of an old-established builders and carpenter's business at Trowbridge.

For the erection of an addition to the House of Correction at Swansea.

For the erection of a prison, including a Court House and court accommodation, keepers' and other apartments, boundary walls, &c., at Fort William, in the county of Inverness.

For the earth work necessary to complete the widening of the Arbroath and Forfar railway.

For the mason work necessary to complete the widening of the Arbroath and Forfar railway.

For other work necessary to complete the widening of the Arbroath and Forfar railway.

For raising the turnpike-road leading from Upton-upon-Severn towards Hanley Castle to a level with the present footpath.

For the paving of 300 tons of Scotch granite in the street of Claypath, in the county of Durham (promptly).

For the disposal of an ironmonger's business established upwards of 50 years.

For the re-erection of the house of the feoffees of the Stroud Charities.

For the erection of a lock-up house at Wittersham.

For the erection of a lock-up house and police house at Loddon, Norfolk.

For the disposal of an extensive trade in the plumbing, glazing, and painting line, established at Fakenham for nearly a century.

For the erection of a free church at Kirkwall, Orkney.

For the disposal of an iron staircase, 40 feet in height, and of light and elegant construction, at Piccadilly.

For the superintendence, by a clerk of works, of the erection of the fever hospital of the Fermoy Poor Law Union, Ireland; remuneration limited to a maximum of £20 (promptly.)

For 400 tons of limestone at Cork.

For the re-erection of the Great West Window of the nave of Leominster parish church.

For the mason work of a new church, Upperthong, Holinfirth.

For the carpenter work of Upperthong church.

For the slater and other work of Upperthong church.

For the erection of a new barn near Newcastle-on-Tyne.

For the erection of an inn at Wittonby, Darlington.

For iron work and apparatus, consisting of retorts, purifiers, condenser, meter, &c., &c., for the West Ham Gas Works at Stratford.

For the transfer of a plumber's, glazier's, and painter's business, established for many years in Preston.

For the erection of the buildings and works necessary for the Crediton Station, of the Exeter and Crediton Railway.

For the sale or letting of a bed of clay in Liverpool.

For the erection of a new station and lock-up house at Wrexham.

For the employment of 200 masons by the contractors for the Cork and Bandon Railway.

For taking down and rebuilding the Stockwell-street bridge at Glasgow.

For the erection of new vestry rooms and offices for the vestrymen of St. Pancras, Middlesex.

For the transfer of a painter's business (in town). Profits about 250*l.* per annum.

For supplying her Majesty's several dockyards with red and yellow pine timber, rock elm timber, spruce deals, &c.

For one or two cast-iron tanks, with or without gas-holders, and ready for immediate delivery.

For a considerable quantity of rain-water pipe.

For five tons weight of hot-water pipe.

For the disposal of the machinery of a saw-mill at Liverpool, with lathes, planing machine, benches, &c.

For the erection and completion of a cast-iron tank and gas-holder at the West Ham Gas Works at Stratford.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At Liverpool: 5,835 logs of pencil cedar from New Orleans, 450 logs Cuba mahogany, 1,590 large lancewood spars, and 276 Rio rosewood planks.

At Helmingham: 2,300 feet of stout oak slabs, 1,500 feet of 1¼ inch oak plank, 900 feet of 1 inch and 2 inch oak board, &c.

At Liverpool: a periodical sale of mahogany and other fine woods.

At Osborne-street, Hull: the building and other materials of two houses.

At Halstead: 600 oak trees.

At Southampton: 1,200 seasoned Memel and Petersburg deals and battens, also 2,100 red and white Norway deals and battens, and 25 loads of Norway die square timber.

At Liverpool: the stock in trade of a nail-maker.

At Newcastle-on-Tyne, the building materials of the Royal Agricultural Society's cattle yard and Pavilion: also,

At Newcastle-on-Tyne: a quantity of colonial cottages, adapted for hunting-boxes, or emigration, and a quantity of iron hurdles.

At Bermondsey, New-road: a valuable stock of timber.

At Park-road, Liverpool: the stock in trade of a general ironmonger.

At 55, Church-street, Liverpool: an elegant assortment of flock, satin, oak, gothic, and other new patterned paper hangings.

At Islington: two brick built carcases in a forward state of completion.

At Ovingham boat-house (by Newcastle): several hundred oak-trees.

At Datchett, Bucks: 50 large elm-trees.

At Whittingam, East Lothian, Scotland: a quantity of peeled oak and ash cut wood, 6 to 10 inches on the side.

At Gas street, Aberdeen: the whole works and plant of the Aberdeen Gas-light Company, in complete working order.

At Leith: a cargo of yellow pine, birch, and deals.

At Holkham: 3,500 large oak, ash, &c., poles, and 9 large sycamore trees.

At 57, Brick-lane, St. Luke's: an extensive builder's stock, with a 26-horse power steam-engine, sawing machinery, forge-bellows, smith's tools, &c., &c.

TO CORRESPONDENTS.

"*J. Houston.*" Is he certain that Mr. Turner designed the conservatories in question?

"*J. B. F.*" Weale has published a "Drawing Book for Students in Architecture, &c." (30 plates), but we cannot say if it be good or bad.

"*T. Square,*" (*Bristol*). Write to the Secretary, 16, Grosvenor-street, for a form.

"*W. C.*" Thanks. We shall hope to see some results of the trip.

"*W. B.*" The drawing is scarcely precise enough for our purpose. We are seeking some engraved view of the church by which to alter it.

"*Mr. C.*" We are obliged, and will endeavour, notwithstanding the distance, to attend.

"*Blackburn Exchange Buildings.*" The decision of the Committee in this competition is asked for by several.

"*G. H.*" (*St. James's-place*), shall hear from us.

"*A. B. C.*" You must give notice to the district surveyor.

Next week.—Mr. Warrington,

*** The length to which the article on "Kitchen Arrangements" extends, forces us to postpone several articles.

Received.—"Original Subscribers." Beckmann's "History of Inventions," translated by Johnston, forming part of "Bohn's Standard Library." (Bohn, York-street, Covent Garden). An admirable series of surpassing cheapness. "Bidder's Table," shewing the contents of excavations, to facilitate the estimating of public works. (Maynard, Earl's-court, Cranbourne-street, London). "Patent Journal," No. VII.

ADVERTISEMENTS.

JEPHSON GARDENS.—A Premium of Twenty-five Pounds will be awarded by the Trustees of these Gardens to the person who shall produce the best set of PLANS, accompanied with a specification for laying them out. A Premium of Ten Pounds will be awarded for the second best plan. The ground consists of about eleven acres of land, which it is intended to convert into an ornamental garden and pleasure-ground. The plans upon which the premiums are awarded, will become the property of the trustees. All plans must be accompanied with an estimate of the probable cost.

A lithographic ground-plan may be seen at the office of Mr. OWEN WHITE, Honorary Secretary, Lower Parade, Leamington; of whom, also, further particulars may be obtained. The plans to be delivered to the secretary on or before Saturday, the 15th day of August, 1846.—By order,

OWEN WHITE, Honorary Secretary.

Leamington, June 25, 1846.

TO BUILDERS, PAINTERS, DECORATORS, AND OTHERS.

MESSRS. WOOD AND COMPANY, Grainers and Writers to the Trade only, by contract, measure, or otherwise.

62, Waterloo Bridge-road. All letters post paid.

N.B. Workmen sent to any part of the kingdom.

*** An Apprentice wanted.

TO DECORATORS, UPHOLDERS, PAPER-HANGERS, &c.

MESSRS. HINCHLIFF and Company avail themselves of the earliest opportunity to acquaint their Friends and the Trade that they have, in compliance with their wish, opened a spacious warehouse at 123, Wardour-street, Oxford-street, where they will always have ready a large stock of every description of style and pattern at the lowest prices possible; they will also have a selection of the most splendid decorations of French and other designs.

ARCHITECTURAL ENRICHMENTS.—BIELEFELD'S improved PAPIER MACHE, which has been almost universally adopted for architectural decorations, has been patronised by her Majesty, by the Hon. Commissioners of Board of Works, by the highest of the Nobility and Gentry, and by the most eminent architects of the day. It has been used at the Royal Palaces, at the present House of Lords, at Drayton Manor, the new Conservative Club House, &c., also at the British Museum, and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier mache ornaments with a tariff of prices, price 1*l.* Works, 15, Wellington-street, North, Strand.

TO OWNERS of HOUSES and Landed Property.—It is important to those who wish to dispose of property to know that Messrs. BECKWITH and SALMON have a system of business peculiar to themselves, by which they affect the speedy sale of every description of property by PRIVATE CONTRACT, and that without any risk to their clients, as they make no charge whatever until a sale is effected; and this they also carry out in cases where it may be deemed necessary to submit property to public auction. The immense sales of property effected by Beckwith and Salmon have given the utmost satisfaction to their patrons, and, at the same time, caused the envy of some of the lower grade of agents, who have resorted to the mean subterfuge of copying the language of their advertisements, in order to catch the unwary, among which stands the most prominent, the words "Quick Disposal of House Property," &c. It is deemed necessary to give this caution, in order that persons may not be misled.

BECKWITH and SALMON, Auctioneers, Land-agents, and Surveyors, 25, Bucklersbury.

ORNAMENTAL IRON STAIRCASE TO BE DISPOSED OF at a great sacrifice, having been recently made for a gentleman's mansion, and not now required, consisting of twenty-nine steps fitted with ornamental cast-iron heads, and risers full three-eighths in thickness, perforated with quatrefoils in panels, moulded nosings, and open bracket ends, framed on wrought iron carriages of 3 inches by 1 inch. The plan is formed of twenty-two flyers framed in one piece, three winders in quarter space, turning to the left, and four flyers above, measuring 15 feet in height (but being formed in two parts it may be lowered) and 3 feet wide, with 9 inch tread of steps, and risers of 8 inches. This staircase is well adapted for any situation where elegance, space, and light, are desirable, as both ends are framed to shew, and may be put up in a central situation, and suitable in a showroom, warehouse, or any out-door purpose, such as for descending from a drawing room to pleasure-grounds, &c. &c.—Apply to PIERCE and KOLLE, Stove Grate Manufacturers, 5, Jermyn-street, Regent-street.

ROYAL POLYTECHNIC INSTITUTION.—A new and interesting Lecture by Dr. RYAN, on the Phenomena and Effects of Heat and Cold, at half-past three daily, and on the Evenings of Mondays, Wednesdays, and Fridays, at nine o'clock. Prof. Bachhoffner's Lectures on Natural Philosophy, with brilliant experiments, daily. Macintoshe's Revolving Engine, Coleman's Patent Locomotive Engine for ascending and descending inclined planes, Farrell's Archimedean Railway, the Atmospheric Railway, all in action. Hallette's Atmospheric Railway Valve. The Opaque Microscope. The Oxy-hydrogen Microscope, exhibiting a fine Collection of Living Objects. A beautiful Picture of the Chapel in the Convent of St. Catherine, near Jerusalem, by Mr. Charles Smith, is one of the series of Dissolving Views just introduced.—Admission, 1s.; Schools, Half-price.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—Wyatt, Parker, and Co., Agents. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

JOHN GOODWIN, Manufacturer of Blue terro-metallic, plain, and ornamental roofing tiles; flooring tiles or quarries (square, octagon, and hexagon shapes, of different sizes); hip and valley tiles; plain, roll-topt, and rebated joint ridges; ridges with vertical ornaments at top, such as fleur-de-lis, trefoil, vandykes, &c.; barn floor bricks, sough grids, channel bricks, malt kiln quarries, wall coping, building and flooring bricks; also various kinds of pipes for the conveyance of water, namely, cone-shaped pipes 20 in. long, and 5, 4½, and 3 in. mean diameter; plain cylindrical shaped pipes, either 18 in. or 24 in. long, and 12, 9, 6, 4, 3, and 2 in. diameter; and socket pipes 24 in. long, of 16, 12, 10, 9, 8, 6, 5, 4, and 3 in. diameter. At the Lodge Tileworks, near Stoke-upon-Trent, Staffordshire Potteries, from whence goods may be conveyed by canal to London, Bristol, Hull, Liverpool, Manchester, and most other parts of the Kingdom.

RAILROAD DRAUGHTSMEN, SURVEYORS, BUILDERS, &c.

CURVES made of good seasoned wood from one quarter of an inch radius to twelve feet and upwards. Warranted perfectly accurate, and the best in London. Likewise surveyor's and architect's box and ivory drawing scales, tee squares, angles, parallel rules, marquois scales, and every description of English and foreign rules and scales made to order on the shortest notice at GEO. MANDER, late J. ASTON, 25, Old Compton-street, Soho, London. Established upwards of fifty years.

SIR WILLIAM BURNETT'S PATENT for the Preservation of Timber, Canvas, Cordage, Cotton, Woollen, &c., from Decay.

TESTIMONIALS.

From THOMAS GRAHAM, Esq., M.A., F.R.S., L. and E., Professor of Chemistry, University College, London.

"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.

"The wood appears to be fully and deeply penetrated by the metallic salt; I have found it in the centre of a large prepared paving block.

"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the crystallizable salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.

"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Toplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotised principles it contains, by entering into chemical combination with them.

(Signed) "THOMAS GRAHAM."

"University College, 25th October, 1845.

From Professors BRANDE and COOPER.

"London, 4th November, 1845.

"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.

"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.

"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.

"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.—(Signed) "WILLIAM THOMAS BRANDE,

"JOHN THOMAS COOPER."

"To Sir William Burnett, K.C.H., F.R.S., &c. &c."

Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 53, King William-street, London-bridge.

PREPARED FLOORING BOARDS.

AT REDUCED PRICES.

ALWAYS ON SALE, a LARGE ASSORTMENT of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¼ inch to 1¼ inch thick. Rough Boarding for Flats.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

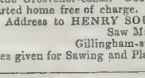
Apply at W. CLEAVE'S Timber Yard, Smith-street, Westminster.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, at Old-Barge-Wharf, Upper Ground-street, Blackfriars, and at Hy. Castle's, Ship-yard, Millbank-street, Westminster, a large, very general, and well-seasoned stock of all kinds of Prepared Floor and Match Boarding, planed to a parallel breadth and thickness, fit for immediate use; also a great variety of machine-prepared mouldings, very accurately finished.

A. R., in calling the attention of builders and consumers, confidently presumes on being able to supply them on such terms as will ensure and merit their favours, &c.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Pantiles.

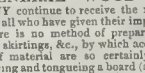
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TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
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TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.

THE GENERAL WOOD CUTTING COMPANY continue to receive the most satisfactory assurances from all who have given their improved machinery a trial, that there is no method of preparing floor-boards, matched linings, skirtings, &c., by which accuracy, dispatch, and economy of materials are so certainly obtained. In shooting, or grooving and tonguеing a board (although curved), the machine follows the edge, removing no more than the skin of the wood, and by the use of a peculiar saw for deep cutting, the board comes off with a perfect surface, thus obviating the necessity of reducing its thickness in order to plane out the hollows. The Company being neither builders nor timber merchants, unconnected with any trade but that of sawing and planing, and depending solely on the public for a moderate interest on their capital, are determined, by an assiduous attention to the interests of their customers, both as regards workmanship and general business arrangements, to merit a continuance of their support.

PAVING, 2s. 9d. PER SQUARE YARD Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27s. 6d. per ton.

TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorized CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced. I. FARRELL, Secretary.

Stangate, near Westminster Bridge, Jan., 1845. Seyssel Asphalte Company.

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

RAIN WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from 1¼ in. to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, and No. 5, Bankside, Southwark.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

STAINED GLASS, Manufactured in the style of the middle ages, for church windows and Gothic edifices, by JAMES ALEX. FORREST, 19, Old Haymarket, Liverpool. Designs given free, where the work is executed.

STAINED, PAINTED, AND EMBOSSED GLASS.

GEORGE HOADLEY begs to inform his Friends and the Public, that he can supply ornamental embossed Glass from 1s. 6d. per foot super., and borders from 8d. per foot run. Embossed borders in the most splendid colours on view. Having been established 25 years, can give references to numerous works.

6, St. James's-place, Hampstead-road.—Terms, Cash only.

BRITISH and FOREIGN SHEET GLASS for Horticultural purposes, &c., may be had at JAMES BROMLEY'S, 315, Oxford-street, London, at the following reduced prices:—

In crates, containing about 260 feet, of coarse 13 oz., at 4½d. per foot, or fourth quality, 5d. per foot; ditto, 16 oz. coarse, 5½d.; ditto, fourth quality, 6d.; or cut to any size not exceeding 40 inches long by 10 inches wide at 2d. per foot extra. Also Microscopical Glass, French Shades, Plate and Crown Window Glass.—A discount to the trade.

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The Builder.

No. CLXXXI.

SATURDAY, JULY 25, 1846.

A FEW weeks ago we referred to a paper, on the arrangement of Lunatic Asylums, read by Mr. Charles Fowler, at the Institute of Architects, on the occasion of his presenting plans and views of the Lunatic Asylum recently erected by him for the county of Devon,—and promised our readers the information it contained, at greater length than was then practicable. We proceed now to fulfil that pledge.

Plans for the Devon Asylum were obtained by competition; and in commencing his remarks, Mr. Fowler gave an account of the course that was pursued in making the selection, which should be recorded.

The magistrates called in the assistance of an eminent architect to examine the plans, with a view to set before the committee in the clearest light their several merits and pretensions. To effect this, he first selected six out of the large number submitted, as being the most worthy of attention; and of these a tabular statement was prepared, shewing their respective contents, in regard to *area* and *accommodation*, in separate columns, under more than twenty different heads, thus bringing the whole into one view, by a close and obvious comparison, so far as might be expressed by *figures*. The result was not a little surprising. Taking the most prominent or tangible points in the table, viz., cubical area of building and estimated cost, it was found the first ranged from 4,325,000 to 1,404,000 cubic feet, and the estimates from 49,500*l.* to 20,000*l.*; but the most remarkable circumstance was, that the *largest quantity* of building was associated with one of the *lowest estimates:* so that dividing in each case the amount of expense by the cubic quantity, it gave a price ranging from 1¼d. to 6d. per foot! Besides this tabular exposé, the architect reported fully upon the respective merits, in regard to arrangement, construction, and the various other considerations, which cannot be expressed by figures, so as to afford the committee the means of forming a competent judgment on the several plans, but not recommending any one in particular. Upon this the committee made their adjudication (*not in favour of the lowest estimate*). The advantage of this course appears to be the preventing the delusion which too often is caused on those occasions, whether intentional or otherwise: it must be evident that this examination could not be effected by the committee or their clerk, since it requires considerable labour and professional acumen; besides that, it is only by means of calculations, and remarks certified on *professional responsibility*, that a solid ground can be obtained upon which the committee may found their judgment; and further, it will be seen, that this course affords a great protection against the injustice that may otherwise be committed by ignorance or design. Thus the proceeding is rendered analogous to the proper course of justice, as administered in the courts, viz., founding the decision upon a thorough investigation of the evidence adduced.

Mr. Fowler then proceeded to describe the construction of the building, as being rather beyond the ordinary scale of solidity, and nearly all *fire-proof*. The walls are of brick, made on the spot, with footings and basements of the coarse sand-stone, from a quarry close at hand. The following abstract of quantities will further serve to shew the nature of the materials employed, viz., upwards of 12,000 cubic feet of granite, in piers, plinths, pavements, stairs, string courses, &c.; 16,100 superficial feet of slate slabs, in cisterns, floors, flat roofs, &c.; 4,170 yards of tiles and cement, in three courses, in flooring and terrace roofs; 2,600 yards of asphalte flooring; 886 external arches, turned with *moulded* bricks, &c. &c.

The expense of the building was within the estimate, and the total outlay much less than in any former instance of this kind, as was shewn by the average cost at per patient, as nearly as could be ascertained, exclusive of land, viz.—

Devon	£115
Surrey	173
Hanwell	162
Maidstone	183
Lincoln (with land)	240
Irish asylums (average)	183

The number of patients provided for is 450. The outlay will be defrayed by a county rate of 1*d. per pound*, on a low rental spread over a period of 14 years.

With reference to the form and arrangement of the building, diagrams, or block plans on the same scale, were exhibited to illustrate the various forms adopted in some of the principal asylums, viz., Hanwell, Bodmin, Wakefield, and those erected by authority of Parliament in Ireland, which are uniform. Engravings of them are annexed, and may afford valuable hints in the arrangement of buildings for other purposes.*

We give also Mr. Fowler's own plan, on the same scale.

With regard to the distribution and arrangement of public buildings, there are some principles common to all those in which a great number of inmates are to be accommodated and managed with order, discipline, and economy, such as hospitals, prisons, workhouses, lunatic asylums, &c, Among the principal objects to be attained are, classification, supervision, light, ventilation, easy communication throughout, not interfering with the distinctness of the respective classes, or the several departments of management, and the following are Mr. Fowler's observations on the subject in his own words:—

"To effect these combined objects by means of any symmetrical arrangement, the considerations of form and distribution become of primary importance; and it may be observed, that in abandoning symmetry to meet some special requirement, it generally happens that the advantage aimed at is more than counterbalanced by other consequences.

The first idea that naturally presents itself is, to place the seat of government and administration in the centre, and to bring each separate portion, or department, into as easy a communication with it as may be compatible with the requisite distinctness or classification. Hence have arisen the various radiating plans, in most of which directness of supervision, and facility of inspection, have been obtained by the sacrifice, more or less, of separateness, light, and ventilation, objects of such vital importance to the welfare of the inmates, that no other considerations can justify their being sacrificed or interfered with. Besides this, it frequently results from radiating plans, where the centre is closely connected with the wings, or approximates nearly to them, that the consequent obliquity of the lines and angles creates great confusion in the forms and details of the plan, and is thus detrimental to convenience and construction.

See page 354.

The desideratum, therefore, is to obtain the advantages without the sacrifices alluded to, so as to possess concentration without confusion or obscurity. This has been attempted in the instance now adduced (the Devon Asylum), by the introduction of a large semi-circle, embracing within it all the administrative departments, and connected externally with the several radiating buildings, for the separate classes of inmates. The chord of the semi-circle being 264 feet in length, the subdivisions of this range of buildings have each so small a degree, either of curvature or obliquity, as not to detract from the convenience, or interfere with the construction; on the contrary, the outward bend of the front walls of the day rooms gives them the advantage of a more open and cheerful aspect. It will be seen by the plan, that the form and arrangement of the airing-yards, resulting from the radiating figure, are every way advantageous, being spacious, opening outwards to the fields, with every variety of aspect, and with the windows of the circular range looking directly and unobstructedly into the open country. The governor's house, being in the centre of the whole establishment, enables him by means of the circular corridor, to visit each part promptly and directly, without interfering with any other; the same applies to all the officers and attendants. Also the central position of the kitchen and its accessories, whilst it is thus kept quite distinct, and within the surveillance of the governor, is so near to the day rooms (which are all in the semi-circle), that the food can be distributed with the utmost promptitude and facility, to the great comfort of the inmates, and with the least possible labour to the attendants. A striking instance of the reverse of this may be observed at the great establishment at Hanwell.

Before taking a comparative view of the radiating with the rectangular and parallel plans, it may be desirable to advert to some instances of the former, to which objections have justly been made, on grounds that have been avoided in the Devon Asylum; and it is therefore important to point out the distinction.

The district asylums erected under the authority of Parliament in Ireland, form a sort of middle class, partaking of the radiating principle, so far as having oblique buildings mixed with rectangular buildings (see plan); but from the manner in which the former are connected with the centre and each other, they serve to shew the disadvantages of too close concentration, by the waste of room, and, consequently, of expense. One proof of this is the high average rate of cost of these asylums in proportion to the number of patients, although accompanied with a low average or scale of accommodation.

The asylum at Bodmin furnishes perhaps, the most striking instance of the disadvantages that may be incurred by the radiating principle; for there several wings being directly connected with the centre, they are brought so closely together, as to deprive the central parts of any proper proportion of light and air; whilst the centre building, which was designed for the superintendent's residence, is cut up entirely into passage rooms, so deficient in light and convenience, as to be of scarcely any value for domestic purposes. These obvious evils have been adverted to, in one of the reports of the Commissioners of Lunacy, and a sweeping inference thence drawn against all radiating plans, including the Devon Asylum; with a hint in admonition, to architects, to avoid that arrangement in the plans that may be made for the erection of future asylums.

After what has been stated, it will be easy to see the marked distinction between the two plans, thus so summarily associated and condemned; and it may be added, that having been strongly impressed with the objections incurred at Bodmin, I was particularly studious to avoid them in the Devon Asylum."

We considered at the time when we first met with this hasty condemnation of the Devon Asylum, conveyed in a note, by a side wind, as it were, that Mr. Fowler had been ill-treated. Gentlemen commissioners,—remembering that an opinion emanating from such bodies, however little considered and worthless it may be, has weight, and when printed is spread far and wide and long obtains,—should be well informed before they

condemn, or they may commit great injustice. So far as we can learn, the Devon Asylum is found to fulfil all its purposes admirably well, and to entitle its architect to praise.

We must allow Mr. Fowler to continue his remarks :—

"With regard to the facility of inspection, and indeed all duties and proceedings requiring the passing through the several buildings, galleries, passages, &c., it is of great importance to consider the result of different forms and dispositions of plan ; which naturally leads to a comparison in that respect of the radiating form, and the rectangular plans of some of the principal establishments previously erected. At Hanwell, which is the largest and of the E form, in passing from the centre to the extreme wings, it is necessary to go through the whole range of the interjacent buildings, being about 750 feet in length; and if occasion should render it necessary to go from one extremity to the other, the distance is more than doubled; but with the alternative of crossing the open area 400 feet wide, which at night or in bad weather, must be very objectionable. In a *continuous* inspection or passing through the entire range, the length of line to be passed over will be the same in every case, presuming there is no doubling, as it will simply consist of the aggregate length of the buildings; but on the approach to each separate portion, the distance is increased in each case by the addition of the intermediate portions to be passed through ; which, besides the loss of time, involves many other serious objections, viz., the disturbance of the inmates, the increased time occupied in the transmission of food and other supplies, the interference with the duties of the attendants, and the discipline of the patients under their care &c.

The kitchen at Hanwell is more than 1,000 feet distant from the day-rooms in the west wing, and it is consequently found desirable to send the dinners packed into a cart drawn by a horse, to save the inconvenience that must otherwise be incurred by passing through the intermediate galleries, corridors, &c.

Now in the Devon Asylum, by the semi-circular arrangement, the dinners are separately delivered at the several day rooms by the shortest possible course, and therefore with the greatest degree of ease to the attendants and comfort to the patients; and the separate access to each wing obtained through the circular corridor, as the means of preventing any waste of time in the transit. This being a matter of continual occurrence, greatly affects the facility and efficient working and discipline of the establishment.

In the arrangement of the airing-grounds, it will be seen, that the plan in question has a great advantage over the rectangular form, as in the latter case the endeavour to concentrate leads to the adoption of narrow, oblique forms partly disconnected from the buildings, and consequently inconvenient for the patients in passing to and from.

The H form is preferable to the E, simply because the objection of passing through one part to reach another, is in this case considerably diminished. It must be obvious, that where the central range meets the two side ranges, you have two points of radiation, from which each of the contiguous parts may be separately approached ; but with some sacrifice of the central or intersecting portion, which forms the common access. This has been judiciously managed in the plan of the Wakefield Asylum, and copied in that at Hanwell, by forming a nucleus of day rooms around a central staircase and corridor, but this arrangement is not compatible with economy either of space or construction."

Mr. Fowler's sensible observations will suggest to our younger readers what it is very desirable they should be fully impressed with, namely, the importance of a good plan and distribution. Whether in designing dwelling houses or public buildings—excepting those which are purely ornamental—the first thing to be attended to is to afford the conveniences and the accommodation required, in the best manner and without wasteful expenditure. In respect of this latter point, a good distribution makes a vast difference, and cannot be too carefully studied. The elevation should follow the plan, not precede it ; and in nine cases out of ten, moreover, this course will be found to lead to the composition of better elevations than the contrary, having more variety, novelty, and character. Consider well the purposes of the building,—the wants to be supplied ; provide for these in the best possible manner ; then employ taste in the fitting adornment of the structure so produced, and in the expression of its purpose externally, and the result can scarcely fail to be satisfactory.

LEAVES FROM AN ARCHITECT'S DIARY.

No. III.

It would not be amiss for those of us, who are devoted to the Gothic style exclusively, sometimes to call to recollection what has befallen other fashions of architecture. When St. Pancras Church was built, we were fully sensible of the merits of Grecian architecture. An architect of great ability,* but whose name is unknown to the present generation, visited the Athenian Acropolis, it is said, at the sole expense of his clients, expressly to glean the materials of his work, at what was then deemed the fountain of art. He made himself acquainted with every detail of the remarkable structure, which he had chosen as the foundation of his design, and he acquired the facility of designing Grecian ornament. He returned to England, and built a church, which people went to see, and which those who were able to judge, lauded as a work of art scarcely inferior to the examples from which it had been studied. It must be admitted, that some of this praise exceeded the merit of the work itself, and was not always referable to sound principles. We were copyists then in Grecian, just as we are now in Gothic ; our object was to design something that might have been of the age of Pericles, as now it is to mimic the churches of the thirteenth century. To consider the purpose of the building, and then to carry out a design, which might express that purpose, *was* not the course of proceeding, nor is it now ; the end sought was a mistaken one, and yet that end was not attained. Yet, with some of the faults here alluded to, St. Pancras Church has many parts of great beauty. It has a fine portico and three noble doorways, much enriched, and shewing admirable workmanship. All the ornaments about the building are beautiful, and have been drawn and designed with great skill. This is not confined to such as are copied from the Athenian building, but is even more remarkable in those which are original. Such ornaments are those of the clock, of the summit of the tower, and of the sarcophagi beneath the porticoes of Caryatides. They are entirely Greek in character, and therefore are quite distinct from Roman ornament, and still further removed from Gothic ; they are not natural forms, but the forms of nature architecturalized in that manner which clearly marks the Grecian style. But, notwithstanding this, who would now-a-days in passing, care to turn his head to the window of an omnibus to look at St. Pancras church? A Cambridge freshman would most assiduously seek out every *new* church, and print an anonymous critique, in which every thing would be condemned that did not resemble the style of the thirteenth century, but not even an architect, save the writer hereof, and the half dozen of old Phil-hellenists would find anything to admire in St. Pancras Church.

We like to rank works of art by their real merits ; we cannot understand why, after an edifice has been held up to fame as the finest of its class, it should, unless justly so, at once sink into insignificance. It does, indeed, betoken "something rotten in the state" of architectural criticism, something of unstable foundation in our principles. The sooner we set about discovering what are real principles of criticism the better, or fashion after fashion will succeed each other for years to come, much as they have done for years past. Gothic architecture may be the best fitted for ecclesiastical purposes ; we believe it is ; but why should we shut our eyes to what is also beautiful, though differently expressed? If we *would* advance the art, we must look for information from all sources, and the more varied the mode of expression in the work from which we learn, the greater will be the semblance of originality in our own. An architect need violate no principle of pointed architecture, and yet he may gain ideas from every style ; he may infuse into a new building beauties which the architects of old did not dream of, but of which they would have availed themselves, had theirs been an age of investigation like ours. At no previous time have the multitude of styles been so well explained ; every period in the history of architecture, every local peculiarity, finds its delineator ; and of all these materials are we to make nothing whatever? Nothing so far have we done but copy them ; every fresh discovery is the herald of a fresh fashion, and one day we may forget the architecture of the middle ages, and copy the rude shapes, and the monsters of Chiapas and Yucatan. Whatever style may become fixed in England, we should ascribe their proper value to others. Because we study every stone in York or Salisbury, we should not forget St. Paul's Cathedral, still needing careful delineation ; we should be open to impressions of beauty where beauty is really to be found, practise what style we may. Therefore we confess to a pleasure in bringing to light any building, which has been allowed to fall under implied censure ; we revel amongst old staircases, and bits of iron railing, just because no one else thinks of noticing them ; and we have said so much about St. Pancras Church, not because we think it a *very* fine work of art, but because it has beauties, which escape the eye of ecclesiological societies and antiquarian associations.

— Perhaps we should offend the half dozen above mentioned, did we find fault with any important detail of Grecian architecture. Yet we risk their opposition, in asserting that the angular capital of the Ionic order is an artifice, unworthy of the style in which it was used. It seems to us nothing more than a bungling way of overcoming a difficulty, a difficulty which, although otherwise it might restrict the use of the order to the portico *in antis*, it is essential should be overcome by some means which shall not be apparent to every one. In no style have so many artifices been resorted to, to overcome difficulties, optical and constructive, as in the Grecian. Most of these are remarkably ingenious, and accomplish the object, whilst the artifice itself is concealed. But not so in the case of the angular capital ; the artifice and the difficulty which led to it are both apparent ; they strike the eye even before it has taken notice of the beautiful forms of the other volutes. It is probable that this difficulty led to the disuse of the Ionic order amongst the Romans, and to the substitution of angular volutes in all capitals by the later Italians.

— Our architecture is strikingly inferior to that of any preceding period in certain minutiæ. We sometimes labour to produce a beautiful design, and for want of attention to the position of the edifice, or to the arrangement of the steps or approaches, the front is wanting in dignity, and disappoints expectation. The cause of the failure is much more simple than many suppose. In comparing the plans of English buildings with those of Italy, we often omit to consider the steps, the arrangement of the paving, the posts which line the footway, the railings, and many other points which architects in England do not trouble themselves much about, but which are probably quite as important in the general effect as any other adjuncts of the design. In the Italian palaces all these points are most carefully treated ; sometimes there is a broad pavement in front to give importance to the building ; sometimes there are pedestals or posts surrounding it ; sometimes the steps extend the whole width of the front ; in other cases they are grouped and arranged with great skill at the entrance. In no case are the buildings surrounded by lofty railings, such as in England quite destroy the effect, however open they may be. For the eye begins its examination at the top of the railings, therefore one most important part of the design, the basement, on the effective treatment of which every thing else depends, might just as well be a plain surface. So that, in such buildings as *have* had rather careful consideration in the

* Mr. Inwood.

steps and approaches, the whole is rendered of no use by the railings. The steps to the western portico of St. Paul's Cathedral are arranged with great skill, but all is concealed by the opaque screens. The portico of the London University is quite sufficient to silence the mob, who judged of Wilkins by the National Gallery; the former has a fine flight of steps, whilst the deficiency of the latter in this particular, is the principal cause of its meanness. But you cannot see the whole of the steps to the first, unless you "tip-toe" over the pailings, or go within the privileged inclosure. Few architects give themselves the trouble to consider how much their buildings are injured by railings, which cannot be looked over. For you should not be expected to stop and pick out some eyelet hole, where you fancy there may be a favourable view; and if you do not stop, the railings run into each other like the spokes of a wheel in motion, so that you have a most impenetrable screen before you. It makes comparatively little difference whether the rails are massive or slender. In St. Paul's Cathedral two beautiful doorways to the vaults might just as well be out of the building; and we dare say, that many persons have examined the whole of the festoons and other enrichments, without discovering the doorways. When some defence is imperative, it is best, if boldly made a feature in the design, as in the balustrades to the Reform and Travellers' Clubs. Few buildings in towns have the fortunate advantage of ground descending from them, but much may be done to obviate this deficiency. If the building is not to be railed round, there is generally sufficient scope for some of the adjuncts alluded to. Either the whole front can be raised upon steps, and a massive character given to the basement, or the footway can be bounded by pedestals; sometimes the doorway and its steps can be slightly elevated, and in all cases much more may be attempted than is now thought of. We have only carefully to examine the palaces and churches of Italy, as above mentioned, to comprehend the value of that for which we contend. In fact, the success of a design depends greatly upon what, taken by themselves, may be trifles.—If it be argued, that we are compelled to adopt railings, it may at once be answered, that they are required only by the want in other places of certain conveniences, in which London is still shamefully deficient, the necessity for which has been repeatedly urged, yet is very tardily supplied.

WATER—HOUSE SUPPLY—DRAINAGE.*

The Centre of Pressure, in a surface pressed by a fluid, is a point at which a force equal to the pressure, and directly opposed to it, may be applied so as to balance or counteract it. If we suppose the bottom of a square cistern to move up and down water-tight, the point at which an upright support will apply so as to balance it, and admit no tendency to turn over upon it, will obviously be at the intersection of its two diagonals. In a rectilinear side of a cistern it is situated at two-thirds down midway in the length,—in a vertical triangular side, the two slopes of which are equal, it is three-fourths down from the vertex,—and in a triangular side with only one slope, it is in a horizontal line with three-fourths down the vertical edge, but three-eighths of the base inwards from it. Thus, in case of danger, a single prop can be brought to bear with effect, where much misapplied strength might be no better than none—perchance worse.

The discharge from cisterns, as we have stated, is rendered more or less efficient according to the height of the head of water above the orifice: this would be demonstrated by making several outlets at different heights in the side, when the uppermost jet would be languid compared with the impetuosity of the lowest. Jets of this kind obey the laws which govern the flight of solid projectiles,—describing a curvilinear motion of the parabolic order, proportional to the discharging force. The velocity of the discharge is equal to that acquired by a heavy body in falling through the height of the water above the centre of the aperture; it is, therefore, as the square root of that height, or, inversely, the height is as the square of the velocity. This proposition has been confirmed by experiments; the difference between the theoretical and real discharges, occasioned by the resistance of the air, by friction, and by the oblique motion in the rush towards the orifice, by which the particles impede each other's descent, being altogether inconsiderable. This, however, is supposing that the most favourable form of outlet is afforded; and which is ascertained to be a round hole at the bottom of the vessel, continued outward tubularly and horizontally to an extent not less than twice, or exceeding four times, its diameter, and terminating in a trumpet-shaped mouth, externally as well as internally.

When water issues through a hole in a thin plate, the stream contracts at a small distance out from the hole, is diminished accordingly, and only there acquires its natural velocity, and with a screw-like motion, which is caused by the contending influence of the descending columns. It is also found, that with a tube which, instead of being flush with the inside of the vessel, enters it to some distance, the flow of water is even less than with a simple hole without any tube; likewise that the discharge through a horizontal tube whose length does not exceed its diameter, is the same as that through a simple orifice. These phenomena will be understood by considering the effect, at the point of emission, of conflicting currents being met by interruptions; which, with their own inertia, must turn them in opposition to the descent of the more perpendicular columns, rather than facilitate their escape.

But the orifice must also be of favourable dimensions; for the friction in small tubes is very considerable,—so great, indeed, is it in one of an inch bore, that one of twice the capacity will deliver five times as much water; thus a great gain in transmission is secured by increasing the capacity of pipes, and thereby augmenting the proportion which the column in motion bears to the nearly quiescent cylinder which surrounds it, in contact with the pipe. It should be borne in mind, that the conditions most favourable for pipes are their being perfectly smooth, equal, and straight; and therefore that these conditions ought, as far as possible, to be complied with; for any eddies or reverberations formed within them will as effectually impede the progress of the water as the most solid obstacles; and thus wooden pipes will offer more obstructions than leaden ones. To compensate for retardation of the varied kinds referred to, it is not unusual to allow an addition of as much as one-third to the sectional area. The rational conclusion deduced regarding the great increase of pressure on pipes from the altitude of the column of water contained in them is, that the strength of metal should be increased downwards; and that when it is every where equal, and strong enough below, it is superfluously so above. The same reasoning applies to cisterns.

CAST-IRON PIPES are of two descriptions, socket and flanged; above 4 inch, they are all cast 9 feet long; under, down to 1½ inch, usually 6 feet; and 1¼ inch, 4½ feet long; above, say 4 inch, they are usually sold by the ton, those below by the yard, excluding sockets. As to casting, many are content with its being done on a sloping bench, whilst others insist on its being perpendicular, and with a head of metal above the top of the pipe; it is usual, however, to run the metal directly from the blast-furnace, and not from the cupola as formerly. They are generally proved by hydraulic pressure equal to a column of water 250 feet high, and in warm weather it is desirable to use the water warm.* Practice enables a skilful prover to tell by the ring of a pipe, with a tap of a hammer, whether it is faulty, either from being cracked or deficient in thickness. From 14 to 15 inches in diameter is generally sufficient to supply a population of from 70 to 100,000.

Street pipes or mains should be laid in as straight a course as possible, their inclination also uniform, and if possible not exceeding 1 in 100; their depth below the surface of the ground should not be less than 18 inches, to guard against frost and casual disturbance by street repairs. Where descending mains meet and form an angle, syphon-pipes or receivers should be placed to collect the deposition of mud, &c. *Mains* and *sub-mains* are any leading pipes from 4 to 18 inches in diameter; smaller are *service-pipes*.

In joining flange pipes, it is usual to introduce between the flanges a wease, or washer of yarn or sheet-lead, smeared with red or white lead, which, on the flanges being brought tightly together with the screw-bolts, renders the junction perfect. For socket-pipes, the most usual mode of joining is with molten lead; a mixture of cast-iron borings and sal-ammoniac is sometimes used; but perhaps the best, not only for economy, but the quality of the joint, is an old method still followed, which consists in the use of wooden wedges, made with curved surfaces to fit the interior of the socket and exterior of the spigot ends of the pipes. Lead and iron cement being both less elastic than wood, are more liable to be blown out by a force of water; and in the case of a defect in a joint, the iron one has the objection that it cannot be beaten up like a lead one, or spiled up like one of wood, but must be made entirely afresh. In making lead joints, some gasket is first driven in tight all round, to prevent the melted lead from running into the pipe. The following have been found to be the relative costs of the three last-named methods:—

Lead	1,778,023
Iron	1,142,302
Wood	582,304

In vol. iii., p. 392, of THE BUILDER, will be found some very interesting particulars respecting the deleterious effects of water containing carbonic acid, passing through lead pipes: cisterns and pipes composed of lead, and usually so innocuous to health, it would appear, are rendered dangerous as the vehicles of water so impregnated,—the acid being sufficiently powerful to dissolve portions of the lead, in passing over its surface, to the amount of one and one-third grain in the imperial gallon: this argues in favour of the Valentia-slate cisterns which have come into use of late years.

JAMES WYLSON.

* Continued from page 327, *ante*.—ERRATUM: page 327, first column, last paragraph, for "635" read "62·5."

* Cast-iron pipes of the following calibres have been subjected to a pressure equal to a column of water 733 feet high without bursting:—
18 inch pipe, ⅜ inch thick barely.
5 inch pipe, ⅜ inch thick.
and 3 inch pipe, ⅜ inch thick.

AWARDS OF OFFICIAL REFEREES.

POSITION OF STEAM PIPES.

With regard to a certain building of the fourth-rate of the public building class, situate on the ground of the New River Company, in rear of the west side of George-street, Euston-square, in the parish of St. Pancras, in the county of Middlesex, and in the district of St. Pancras within the limits of the Metropolitan Buildings Act, 7 & 8 Vict., cap. 84.

The district-surveyor said:—"Whereas Mr. Thomas Harris, in fitting up the said building for the purpose for which it was erected, namely, as public baths and wash-houses, has done certain matters or things contrary to the provisions of the said Act, namely, constructed certain metal pipes for the conveyance of steam, the position of which pipes is contiguous to wooden partitions and other combustible material, contrary to schedule F of the said Act."

A certificate from two engineers, to the effect that from the arrangements made, no injury could arise from the contact of the timber with the steam pipes, was put in.

The referees awarded, "that inasmuch as the pipes in question for conveying steam, are placed within fourteen inches from woodwork, such pipes are contrary to the said Act; but inasmuch as the woodwork is not such as to endanger the rest of the building if fire were communicated to it from the said pipes, and inasmuch, moreover, as the building is one in which the risk of fire is very small, and having regard to the above-mentioned certificate, we make no direction thereon."

STAIRCASES TO PUBLIC BUILDINGS.

Amongst other alterations at the Sadler's Wells theatre, it was proposed to remove a wooden staircase leading to the boxes, and place the same elsewhere. Doubts being entertained whether or not it should be reconstructed fire-proof, in consequence of the removal, application was made to the referees, who determined that the removal of the staircase in question, and its reestablishment as proposed, will not be contrary to the Act.

PROJECTIONS FROM FACE WALLS.

Mr. Preston, of Charles-street, Berkeley-square, had fixed a small metal conservatory to the centre window of the first floor, in front, on the original stone balcony, coeval with the house. The balcony overhangs the footway about six inches, the conservatory the same, and the district surveyor objected to it on that ground. The referees determined, "that notwithstanding that the said balcony overhangs the public way, the conservatory in question may *not* be projected upon it to such extent as to overhang the public way."

CLASS OR RATE OF CLASS OF POORHOUSES.

With regard to a poor-house proposed to be erected in a field adjoining the Harrow road, in the parish of Paddington, a question arose as to the class, or rate of class, such a building should be assigned to. The district surveyor thought that a poor-house belongs to the third, or public building class. Mr. Foden, architect, contended that it should come under the denomination of a dwelling-house, and that, in the case in question, as the building would be more than 30 feet from any adjoining ground not in the same occupation, it was not liable in respect of its dimensions and materials, to the rules of the Act.

The referees determined "that the building in question, that is to say 'a poor-house' is to be deemed to be of the third or public building class, and to be subject to all the provisions, rules, and directions of the first mentioned Act in respect of buildings of such class."

RAISING FENCES.

Separating certain premises in Poplar, belonging to Messrs. Roope and Furse, from premises belonging to Mr. Duncan, was a wooden fence four feet six inches high, standing within four feet of the windows of a manufactory belonging to Messrs. Roope. Mr. Duncan to assert his right to build up to the fence, took it down (without giving notice to Messrs. R.) and re-formed it fifteen feet high. Messrs. Roope objected on the following grounds:—

"1st. That it was not lawful for the said Andrew Duncan either to raise, or pull down and rebuild, the said fence, without giving to the said Messrs. Roope and Furse one month's previous notice of such his intention.

2ndly. That no structure bounding or parting the ground belonging to different owners, may be carried up to a greater height than 9 feet from the ground on either side of such structure, unless one of the owners of such structure desire to raise the same so as to screen from view any offensive object or neighbourhood, and that then such structure may be raised only on the authority of the official referees, and moreover not so as to obstruct the free circulation of the air, or to injure the property adjoining to or in the neighbourhood of such structure, and that inasmuch as the said Andrew Duncan has raised or rebuilt the the said fence without reference to these terms and to a height of 15 feet, the same is contrary to the said Act.

3rdly. Although not expressly stated in the same Act, that the said fence may not be raised or rebuilt in any other material than bricks or stone, and that inasmuch as the said Andrew Duncan has raised or rebuilt the same in wood, it is in this respect also contrary to the said Act.

And lastly. That by so raising or rebuilding the said fence, to the height described and shewn in the said drawing, the said Andrew Duncan has completely obstructed the circulation of the air to the said manufactory, to the injury thereof."

The award was, "That the said Andrew Duncan, as building owner, was not entitled to raise the said fence without the consent of the said Messrs. Roope and Furse, the adjoining owners, or without giving them one month's previous notice of his intention so to do, nor to raise the said fence to a greater height from the ground than nine feet, without the authority of the official referees.

And further, that the said Andrew Duncan has, by raising the said fence in the manner shewn, contravened the provisions, rules, and directions of the said Act, and we do hereby award and direct that the said Andrew Duncan do at his own cost and expense forthwith take down and make good the same, so that no part thereof shall be of a greater height than four feet and six inches from the ground on either side thereof."

THE LORD MAYOR OF LONDON'S PUBLIC DINNER

TO THE PRESIDENTS AND MEMBERS OF THE ROYAL AND OTHER DISTINGUISHED SCIENTIFIC AND LITERARY INSTITUTIONS, JULY 10, 1846.

It may be safely said, that the spacious Mansion House of the city of London never before received and gratified such an assemblage of talented men as on the above occasion. Representatives from our old and new universities, from all the scientific and literary societies of the metropolis, from the senate, from the courts of law, from the artist's studio, and from the author's library, were assembled not merely to gratify themselves, but to compliment the generous host, and honour the union of science and literature. The scene was exhilarating and interesting in a preeminent degree, and seemed to impress every participant with feelings of admiration and exultation. The presence of a distinguished literary and diplomatic foreigner (Chevalier Bunsen) gave additional interest to the occasion; for that gentleman represents a learned and scientific monarch, whose patronage of English art and letters confers and reflects honour on the receiver and the giver.

This festival may be regarded as an advent in civic history—as an epoch in the annals of English literature and science; and as such entitled to be fully and faithfully recorded. It is an important novelty, and therefore worthy of especial note and applause. Lord Mayors' "feasts and festivals" have long been held in high esteem by civic gourmands, and have, indeed, from time immemorial, attained the highest degree of celebrity with all lovers of good living—persons who prefer the belly to the brain, and whose chief pleasures are more corporeal than mental. But these meetings have been seldom graced by the company of men of literature and science, who, though hitherto unpatronized by the court, the state, and the city, can nevertheless eat, and drink, and enjoy, and appreciate corporeal, as well as mental food. The Lord Mayor, therefore, who has ventured thus to compliment them, and to bring those labourers by lamp-light into open day and sunshine, has achieved a conquest over prejudice and fashion which cannot fail to be long remembered, whilst its beneficial influence must soon be manifest.

It is unnecessary to make any comments here on the attributes and qualities of genius and talent, or to shew wherein they have contributed to the wealth of nations; to the honour of human nature; to the advancement of civilization; and to the dignity of man. The noble axiom of Bacon, that "knowledge is power," has never been more amply and forcibly illustrated than in our own times. The sciences of chemistry, astronomy, and geology, profoundly as they are now studied and elucidated, have jointly and severally produced great and important effects, even on the commonest and most practical purposes of every-day life: whilst the application of steam-power to obtain rapidity of travelling, by land and water, surpasses all the miracles of science of former days. This is indeed the most marked phenomenon of the age, and of the world; a result of science which, though we now behold it daily as the most ordinary and familiar occurrence, neither Sir Isaac Newton, the Marquis of Worcester, nor even James Watt, could have anticipated, and which would have been deemed incredible only a few years back. Not only has this marvellous power wrought various revolutions in the outward and visible state of things, but it has operated powerfully, almost magically, on the inward and invisible mind of man. It has given him a momentum, —an impulse to move onward, with a velocity and force which is irresistible, and which must not only outstrip all the old and tardy movements of the cold, the calculating, and the plodding, but rouse to action and energy all the latent powers of genius and talent.

To men who have brought about some of these great and glorious objects, and to others who have either directly or indirectly co-operated with them in advancing science, in disseminating useful knowledge, in correcting error and prejudice, and in advocating the civilization and refinement of their species, the Right Hon. John Johnson, the present Lord Mayor of London, has paid a civic compliment, by assembling them at his festive board on the day above referred to; let that day and that event be duly calendared, not only in the civic annals of the metropolis, but in the memories and hearts of all English professors of literature, science, and art. Let them take a hint from the event, and co operate by union, in a club, an institute or a society, to show to the world and to each other, that authors, with men of science and artists, have mutual and collective, as they have personal and separate sympathies and interest. As union is strength, as the literary profession is now become not merely a large but an influential power in the state and country, let it assert and maintain its station and its respectability; let it show to monarchs and statesmen, that it is entitled to distinction and to honours proportioned to its integrity of principle, and dignity of talent. It has the weapon of conquest in its own hand, which, if properly wielded, cannot fail to subdue all the enemies of sound sense and good taste.

In furtherance of the opinions and feelings here expressed, the following remarks are quoted from the *Athenæum* of July 4th, and the *Daily News* of July 3rd and 11th. The first says,—"If there be a country which, more than all others, should confer its highest honours on literature and science, it is surely England, which in the name of the first shines to the uttermost places of the world, and by means of the last travels to them and enriches herself with their bounties. This worthy thought of the present Lord Mayor is the beginning of such an end. It is greatly to the honour of this dignitary to have thus taken the initiation in the recognition of literature and science as a distinct body, as a corporate existence in the state. This is a very different thing from the entertainment to *individuals*, however distinguished in the several intellectual walks, it is the entertainment of literature and science themselves as powers, represented by their official ministers. The idea is a noble one, and the city from whence it comes is itself honoured by it in the person of its mayor. Seeing the incalculable effect these things have had on all the forms of human existence, and all the arrangements of modern society, the immense influence they exercise, and the conspicuous manner in which they are recognized by the nations around us, it may be wondered at that this sort of dignified personality has not been long since assigned them; and without the slightest derogation to the enlightened city which has thus led the way in "doing the honours" to the great civilized principles, we may be allowed further to wonder that such an example should have *had* to come from the *east*. It will spread, however. The fact is, that science and literature have an interest in being honoured in their generation, while the society in which they exist has a greater that they should be so."

The *Daily News* has the following appropriate remarks:—

"Without undervaluing the rare as high qualities of the Keplers and Newtons, the Shakespeares and Bacons, it is to the gregarious workings of many intellects that we are mainly indebted for our treasures of science and literature. We hail with joy the disposition evinced by the magnates of the east to express the respect they feel for intellectual pursuits, and the interest they take in those who are engaged in them. It is to be hoped the example will not be altogether lost upon the magnates of the west. In sober sadness, a noble opportunity is offered to the new ministers to vindicate the intellectual character of the British government. Never was the national mind in a temper so auspicious to the efforts of rulers ambitious of imparting that finishing grace to the national character which the promotion of liberal arts and literature alone can impart. If Lord John Russell is ambitious of impressing a character of proud originality on his administration, he cannot choose better than here. Let him stand forward as the patron and encourager, not so much of individual professors, as of art, science, and literature, in the aggregate. Less has been done for them by government in England than in any country in Europe. The new administration would deserve well of their country were they to grapple with the task."

Commending these observations to attention

in the quarter to which they apply, we have only to add, that the Lord Mayor's entertainment, on the 10th instant, was conducted with an abundant display of civic hospitality. The guests were nearly 200 in number, comprising the presidents of the Royal Society; the Geographical Society; the College of Physicians; the Entymological, Botanical, Linnæan, and Numismatic Societies; the leading professors of science and literature at Oxford and Cambridge, as well as those of University College, and King's College, London. J. B.

THE PAINTED WINDOW IN ST. JAMES'S.

"We learn that the committee have sent special instructions to Mr. Wailes that he is to take out of his design *every thing Gothic*. As well might you tell a man who brought you a French book when you wanted an English one, to take out of it every thing French. The window is essentially Gothic,—*wholly* Gothic, and no alteration can possibly fit it for St. James's Church. Can nothing be done to induce the committee still further to modify their original determination, and so avoid the lasting annoyance they will otherwise lay up for themselves? They *know* they are in error, yet fear to retrace their steps."—Vide BUILDER, Vol. III., No. 136.

The preceding quotation, Mr. Builder, is, I believe, your parting remonstrance and advice, and excellent advice withal to the committee last year, when there was yet time for them to have retrieved their error. On entering again upon this subject, which I am induced to do from your notice of the window being erected, I will no further advert to the decision of the committee, upon a design which they were evidently shamed out of (by you and your correspondents), and in direct and open violation of their own specified conditions* than to state, that it was a direct breach of integrity in a *mis-called competition* in the selection of a design which could by no possibility be adopted, and, consequently, was without a claim; conduct which none but a body of individuals could be found to exhibit, and which would be considered a breach of honour and a disgrace to any private gentleman so acting in his individual capacity.

Your notice of the work itself induced me to visit the church to ascertain how far, as you say, it is "less obtrusively objectionable;" and so struck was I at the metamorphosis from the former design, that, notwithstanding my reverence for the place, I had great difficulty in restraining myself from cachinnation at the way in which your excellent advice was adopted. So utterly unfit is this work still for St. James's Church, that it is a great shame it should ever have been placed there, and a much greater one to let it remain.

In your Vol. III., No. 133, you state:—"Feeling, however, strongly on the subject, and knowing full well that if this wrong step be taken it may be the prelude to many others, &c." However much I might have sympathized with you in this feeling, there is now happily no cause for the apprehension of that, excepting, perhaps, from the negative wisdom of the same committee. For I fearlessly state, that there is not a single artistic feeling in the whole window. The Mosaic part, which occupies nearly the whole of its space, is composed of a monstrously wide and uncalled-for border—properly stated, apparently by themselves, in the *Morning Post*,† thus:—"From the great width of the *Romanesque Mosaic* border, there is small space left for the paintings." Sir, this said Romanesque Mosaic border is the veriest glazier's-shopified fripery ever exhibited, and the artist must have had a kaleidoscope in his eye during the whole time of its execution. Is this Byzantine? Is this Romanesque? I designate it the Berlin wool style, and of which there are many better examples a few doors from thence; this, too, containing attributes, emblems, and minute figures of the most meagre description. As for the "pictures," if they are to be so considered, they are an effort at drawing without arriving at it; they are imagined conventionally, and have, accordingly, the vilest blue back-ground, having neither connection, nor union, nor harmony with the grand Berlin wool border.

What an anomaly is this window with the interior, which is beautiful even in its tears, for grievous is the inroad upon its charming symmetry. Truly, Sir, despite our ecclesiological, archæological, and architectural societies, together with your own efforts to obtain propriety, and the march of intellect into the bargain, we are doing strange things, blaming our too puritanical ancestors, correcting and removing churchwardenisms, and in the very same breath Gothicising Italian, and Italianizing Gothic, thereby leaving similar bequests and blunders to *our* successors, entailed through the ignorance or incompetency of those entrusted with the care of our public buildings. Surely those entrusted with the carrying out of our public works ought to take care, that they do not place works and examples before the misinformed and uninitiated which may not be studied and followed. This is the great and lamentable sin of the window in question.

What a glorious opportunity was here, an interior beautiful and eloquent in taste and elegance, a window so charmingly constructed for an expansive idea, that it would have inspired an Angelo, a Raffaelle, or a Rubens, to a more than ordinary devotion.

It has been stated, as quoted in yours, that "glass from its intractable nature can only be applied in one particular way as an architectural mosaic embellishment." This I beg most strongly to deny, and need only to point to the window of St. Margaret's, Westminster (which puts this work to shame, semi-Gothic though it is), also to the glorious pictorial conceptions in King's College Chapel, Cambridge, to St. Goddard, and St. Patrice, at Rouen; to Lord Salisbury's chapel at Hatfield House, to Lincoln College Chapel, Oxford, &c. &c. &c., some of which are *pictorially* beautiful, and all exhibit a practicability of properly adapting this art (still in its infancy) to high pictorial purposes, and consequently to Italian buildings. Pictures, indeed, may and are being produced, as fine as on canvass, with the advantage of richer colouring, and worthy a place in the Royal Academy, or even the Vatican itself. Mr. Wilmshurst has proved this in a great measure in his picture of the Tournament, some fifteen years since, and which, considering the then position of the art, was a most successful one, and this, be it remembered, not upon the coloured enamel principle, or as it may be termed china painting at large, but uniting ancient mode with *artistic* skill, in the true meaning of the word. Not only this, I have glass in my possession painted during the fifteenth century (continental), which is treated in the highest style of art; a portion of a picture as expansive, or nearly so, as the window now in question. In conclusion, I beg to ask, how did our decorators manage at the time of the erection of these structures? Is not Whitehall and the dome of St. Paul's an answer? How are our brethren abroad managing similar matters? Those who have seen the beautiful works of Overbeck and Henri Hesse, in the Bavarian chapel at Munich, will be well able to answer,—"as Inigo Jones and Sir C. Wren would have advised, as Rubens would have done." No Romanesque, no Mosaic there. In short, the idea of Moresco Byzantine, or Romanesque, with pure Greek, or Italian, is, in my opinion, too absurd to deserve an argumentation upon the subject. And, Sir, with a view to impede the wild progress of this wilder notion, from a love of consistency in art, together with a hope that I may at least provoke a discussion upon it, and consequently a consideration of the question ere other repetitions of this *mistake* take place, I raise this my voice, and protest against it; and thus on my reputability, experience, and judgment, upon principle and in practice, I pronounce on this work in question its utter condemnation.—I am, Sir, &c.

WILLIAM WARRINGTON.

42, Berkeley-street West,
Hyde-park-square, July 15, 1846.

* Vide BUILDER, Vol. III, No. 134.
† *Morning Post*, July 6, 1846.

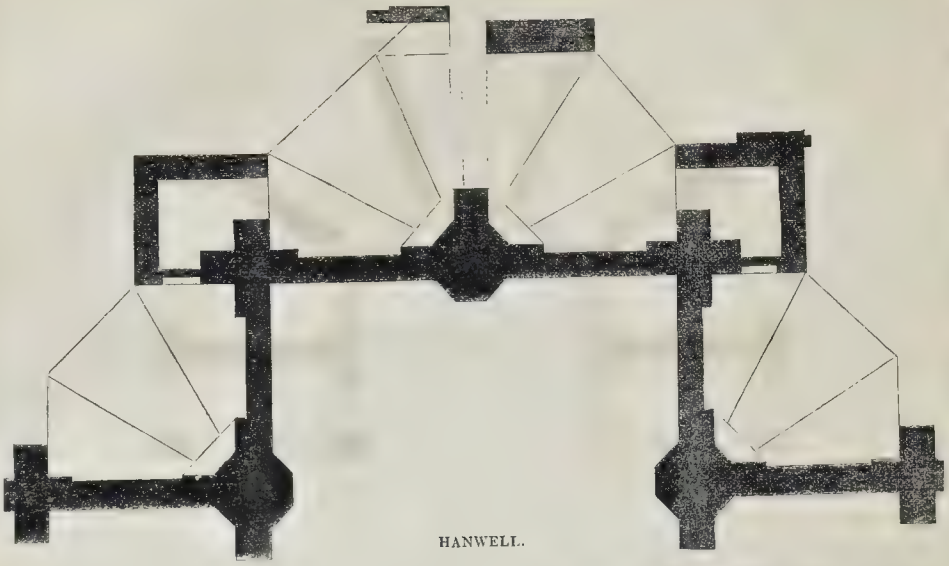
TOPOGRAPHERS' LANDMARKS.—The old half-way house in the Kensington road, which for long years has stood between the pathway and the road, looking as if it had straggled there by accident and couldn't budge farther, is going—nay, gone. The builder of Ennismore gardens, a pile of houses about to rise opposite to the building alluded to, has purchased it, and will form a handsome entrance to the park in its place. Honest waggoners, who inherit traditions of this ancient resting-place from dead and gone grandfathers, shake their heads and say things are coming to an end.

PROVINCIAL NEWS.

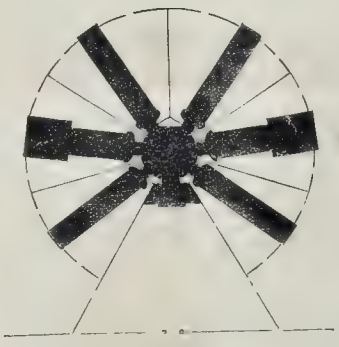
AT Liverpool, the banquet to Prince Albert, the preparations for the ceremonies at the Sailors' Home and the Albert Docks, and the series of conflagrations elsewhere noticed, were the chief subjects of interest in course of last week. A dissension has unfortunately arisen in the sub-committee of the council regarding certain invitations to the banquet. As for the prince himself, he appears to have been as liberally as graciously pleased to say, that he wished to see "everybody" there; but the mayor and others are understood to have objected to somebody—the Roman Catholic bishops, it appears—being invited, in general accordance with the prince's desire. It is now regretted, that the tickets of admission to view the ceremony of the stone-laying, the opening of the Albert Docks, and the déjeuner, were not *sold*, as 5,000*l.* to 6,000*l.* might have been thus raised for distribution amongst the charities, or for the erection of the Sailors' Home itself. A list of the contributors to the latter institution, printed on vellum, is to be deposited with the current coins in the glass jar to be placed under the foundation stone. It is said that her Majesty the Queen will go round in the royal yacht, the *Victoria and Albert*, and accompany her royal spouse to Scotland. The place appropriated for the déjeuner is a first-floor room of one of the extensive new warehouses attached to the Albert Docks. These buildings are erected on brick arches; the bearings being supported with iron beams, and the whole fire-proof, and destitute of timber throughout. The room itself is 99 feet long by 88 feet wide, and is provided with seats for about 720. The beams, arch, walls, &c., are painted for the occasion. The floor and a staircase are to be covered with crimson cloth, and the side walls are to be draped in flutings of alternate blue, white, and pink. The preparations at the site of the Sailors' Home are in rapid progress. Galleries are in course of erection round the sides of the excavation. The dock is to be opened by the Prince and his suite in the royal yacht, the *Fairy*, and strong stages, in the form of an amphitheatre, are being fitted up along the sheds of the whole pile of warehouses on the south and west. On Tuesday last week the foundation-stone of St. Simon's parish church was laid on the site of the old church in Gloucester-street by the Rev. Rector Brooks. Mr. Hay is the architect.——The Oxford town council have appointed a committee to provide suitable bathing places for the public, free of charge. One such place has been already obtained.——The Sheffield merchants, it is said, have lately been called on by the agent of a German manufacturer with patterns of various sorts of cutlery, as well as of saws, files, and edge tools; and the price and quality of some of the articles are such as actually to command a sale!——The foundation-stone of the new church to be erected at Bishop's Sutton has been laid. The cost (including school-room) is estimated at 2,200*l.*, of which, 1,300*l.* have been already subscribed.——The parish church of St. Mary, Kidderminster, is to be restored and improved at a cost of 2,000*l.* subscribed by the patron and the neighbouring clergy, and 700*l.* by the inhabitants.——The Earl of Ellesmere has deferred the re-erection of his ancient town mansion, Bridgewater-house, until next spring, owing, it is said, to a pending law-suit between the earl and the parish relative to some ground required for the site.——On Sunday week Sutton Drawbridge was literally wrenched out of its place, and pulled down by the rigging of a Wisbech brig while passing through. The mass (about sixteen tons weight) broke away the vessel's stern, and destroyed her boat.——The citizens of Glasgow have been presented by Mr. Campbell, of Tillichewan, with a right of access to the Botanic Gardens during the five days of the city fair, purchased by him for 500*l.* paid to the Botanic Institution.

FALL OF A CHURCH.—A few days since the roof and a great portion of the walls of the church of Haute-Rivoire (Rhône) fell in with a great crash. The damage is so considerable, that the whole building must be re-erected. The edifice was lately built, and the inhabitants of the commune were so dissatisfied with the work, that they refused to pay for it. The matter was brought before the courts of law, and given against them.

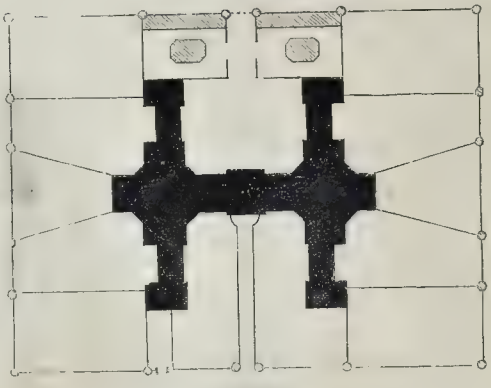
PLANS OF LUNATIC ASYLUMS.*



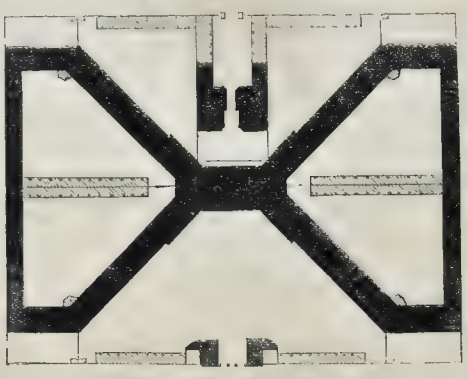
HANWELL.



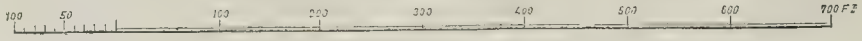
BODMIN.



WAKEFIELD



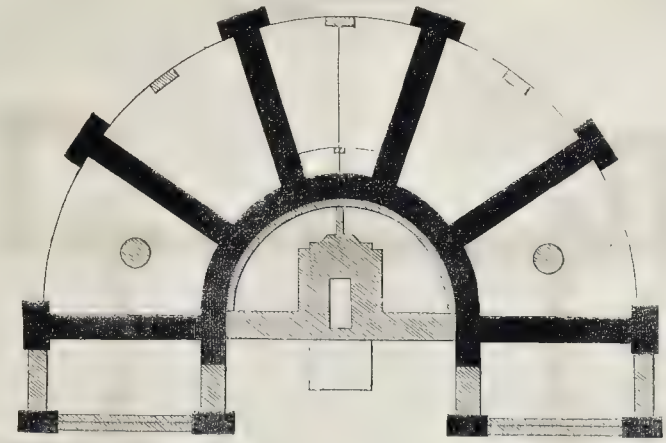
DISTRICT LUNATIC ASYLUMS IN IRELAND.



* See p. 349, in the present number.

DEVON PAUPER LUNATIC ASYLUM.*

MR. C. FOWLER, ARCHITECT.



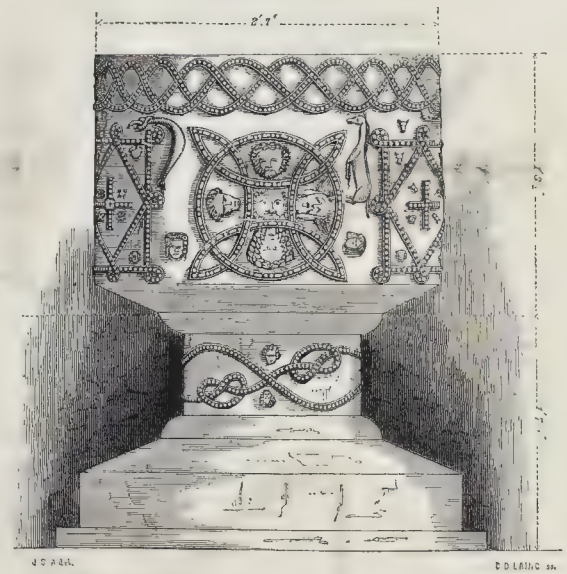
THE WANDERINGS OF A CHURCH FONT.

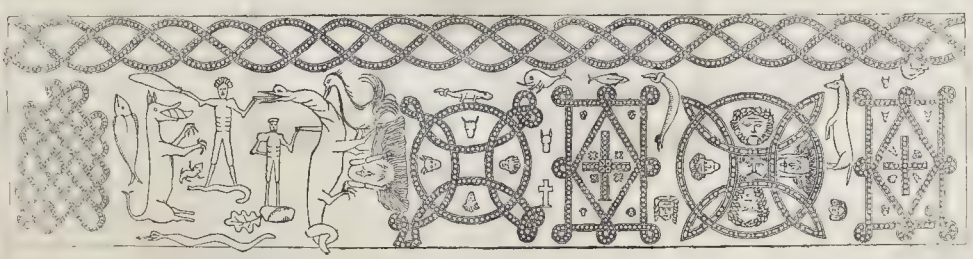
SIR,—I herewith inclose you a drawing of a font lately fixed in the church of St. John the Baptist, at Stone, in Buckinghamshire, which may probably interest yourself and readers. This font first came under my notice while engaged in restoring the Norman church, above named, for the excellent vicar (the Rev. J. B. Reade, M.A., F.R.S.), whose good taste readily seconded my suggestion for displacing the modern composition enormity, which then defaced the church, and which had been a few years before substituted for the original font by some zealous whitewash-loving churchwardens, who, after having besmeared the walls and *nicely painted the oak pews*, described the church facetiously enough as "repaired and beautified" under their jurisdiction. Upon fixing this neat-looking piece of cement, the original was of course—"more consuetudine" forthwith devoted to the economical purposes of a hog trough, and has since become irrecoverably lost.

The font to which the drawing refers originally stood in the parish church of Hampstead Norris, in Berkshire, about 15 miles from Reading, and is still well remembered by many of the older inhabitants. This church, dedicated to St. Mary, is of very ancient character, although from the many alterations and additions to which it has from time to time been subjected, it displays in different parts almost every variety of style in gothic architecture. The door-way, with semi-circular arch, decorated with the chevron and other Norman mouldings, together with other portions of the building, would at once determine its original

* See p. 349, in the present number.

NORMAN RELIC.





SCULPTURE ROUND THE FONT.

style, and there can be little doubt that the font is of coeval date.

About 80 years since, the family of the Mathews, resident in the parish, originally members of the Society of Friends, having conformed to the Church of England, presented on the occasion a new (the present) font, which bears an inscription with date 1767. The original font was consequently removed, and laid for many years neglected in the church yard, till it was again removed into a neighbouring farm-yard, where it was first used as a stepping-stone for mounting horses, and subsequently as a water-trough. A few years afterwards, one of the family leaving for London, had it conveyed thither, and erected in his garden at Kennington; thence it followed this gentleman to a villa about six miles from London on the road to Croydon, and it was here it first came into the possession of Mr. Y. Akerman, F.S.A., to whom it was traced by Mr. William Hewett, Jun., of Reading, who has kindly obliged me with this information of its *progresses*. Mr. Akerman having offered it to the Rev. J. B. Reade, I called to examine it, and of course reported on its eligibility for St. John's, a church of equal interest and similar antiquity, where it is now safely sheltered, having in its journey to Buckinghamshire by railway completed, I trust, its last pilgrimage. When it first came into our hands it exhibited only the faintest signs of the elaborate sculpture with which it was adorned; nor was it without considerable trouble, in the hands of a very excellent workman, that the whole was accurately restored. The result, however, has, I think, amply repaid both the trouble and expense.

Although I have submitted it to many antiquarian friends (since which Mr. Reade has presented a model of it to one of the societies), I have never yet been able to obtain a satisfactory solution of the symbolical sculpture with which it is so profusely decorated, and I shall feel much indebted to any of your readers who can throw any light on the matter for my information. I should observe, that the upper portion, viz. the basin itself, above the dotted lines, is the part referred to in the foregoing observations; the base is entirely new.

The tale that the history of this font discloses is, I regret to say, too common; indeed, the fact of its preservation, under any circumstances, is rather an exception to the general rule than otherwise. The mis-directed zeal of parishioners, added to the barbaric restorations and periodical cleansings of an ignorant set of men, most extraordinarily mis-called "*Church wardens*," have almost completed the destruction of what the frenzy of the Puritan Iconoclast has spared.

The clergy, too, unlike their great freemason predecessors, have not sufficiently used their influence in staying these abominations,—in many instances from their own want of antiquarian information, but frequently from polite deference to influential parishioners, who think the service of an architect would cause a useless increase of their church-rates. I could name a reverend gentleman, whose garden is now graced with the base of an old early English font for a sun-dial; the basin, containing a fine aloe, next the entrance, and the smaller stones with divers flints, decorating the borders of a flower-bed. His church, a good specimen of decorated English, has a small mahogany slab next the vestry, for the convenient position of a three-penny piece of grey pottery.

With apologies for this long trespass on your space, I am, Sir, &c., Jos. S. Ancona.

11, Beaufort-buildings, Strand,

Growing Willows in Spontaneous Combustion.—This extraordinary phenomenon is said to have been recently exhibited on the banks of the Cam, where one fine willow is spoken of as pouring forth clouds of smoke from its half-burned stem, while yet in the full vigour of robust vegetable health. Its very foliage, though full of sap, was charred, and its whole substance at length burnt like tinder to the core. In cases of spontaneous animal combustion, one can see the possibility, at least, of the body of drunkards being full of inflammable fluids, ready to take fire like phosphorus on the slightest occasion; but how can so singular a phenomenon as this be explained? The fluids and solids of trees such as these ought to be submitted to chemical analysis.

FOREIGN ARCHITECTURAL AND COLLATERAL INTELLIGENCE.

Transactions of the Archæological Society of Rome.—The last volume of the *Monumenti inediti* and *Annali* of that society presents a rich harvest of antiquarian research. It contains, amongst others, observations on the head of a Juno, found near Castellamare, which, besides the merit of purest Greek workmanship, presents that goddess in a youthfully virginal character, while the statues hitherto known exhibited her at a more mature age. Mr. Hettner remarks, that it belongs to that *class* of Juno statues, where she is personifying the goddess of *nature*, discernible by the stellated Ægis, or sea-monsters, in her train; in opposition to those representations where her *psychic* attributes are more put in relief. In this respect her name *Tritogeneia* is especially adapted.—The splendid bronze-group from Pompeii, Hercules with the stag, which is now the chief ornament of the Palermo Museum, is represented in this volume on a larger scale than has been hitherto done, shewing how beautifully it was adapted to the architecture of the fountain, of which it formed once the ornament.—Amongst the relievos, those of the Harpy monument of Xanthus, of the British Museum, are very interesting. The text of Mr. Braun analyzes the single scenes of the sculptures, and by a guarded comparison with Greek works, endeavours to elucidate them, as our deficient knowledge of Lycian art and mythology has left hitherto the whole enigmatic. Mr. B. thinks that the anterior part of the monument, where a mourning woman, and opposite to her a virgin, are to be seen, towards whom three other female figures, in the shape of Grecian *Horæ*, are approaching — points to the mythe of Ceres and Proserpine, and therefore to the old eastern belief of a continuance of *existence* after death. The other sides of the sarcophagus would then represent the different stadia of human life, and the harpy-shaped females with the nude children, would be a type of the constant threatening of *death* amidst the paths of life!—C. Cavedoni has furnished the representation of a glass vessel of the museum of Modena, with the name of the maker, *Ennion*, and added some remarks on the manufactory of glass in Egypt and Phœnicia, with several names of glass artists discovered by Mr. C. —[These Annals were hitherto published at Rome, but for some reason or other, that for next year will appear in Paris.]

The Ancient Castle of the Isle of Chios (Kos).—As this venerable structure has, of late, been nearly blown up by the vandalism of some Turk artillerymen, a retrospect of its antiquities may be interesting. The northern point of the Isle of Kos (the ancient Scandaria), forms a sandy triangular tongue of land, only distant three miles from the adjacent Asiatic shore. On the inner, south-west corner of the bay lies the modern city, situate on the ruins of the old. It possessed once an artificially constructed harbour, and on its east side a stone jetty, protecting it against the surf and the waves of the open sea. On this *dyke*, the Knights of St. John had constructed in the fourteenth century a fortified castle. It was separated from the city by a broad ditch, by which, formerly, the water of the sea circulated through the basin of the harbour; now all dry and *sanded* over. One bridge only was laid across it. Near this bridge is a sort of open square, and in its middle the gigantic Platanus, under which (according to popular tradition) Hippocrates composed his aphorisms. It is strange and worthy of observation, that while the venerable branches of this huge vegetable have been, in subsequent periods, supported by marble pillars, the fibres and filaments of the bark have thus overgrown the upper part of these pillars, that during heavy gales, they are *uplifted* by several inches from the ground—a strange sample of the mechanical action of crude nature. South of this place is the modern city, of miserable appearance, built of the blocks of the ancient knight-structures, with some ruins of churches and other public buildings of those times. It can, however, not be compared with Rhodes, where all architectural splendour had been lavished around the seat of the grand master and chapter of the order. The castle above alluded to, formed an oblong square of great extent, the outer walls of which were built of antique blocks, and about 30 or 40 feet high. The entrance to the castle was never permitted to any stranger by the Turkish authorities; but persons who had been there, say, that a beautiful chapel of St. John the Baptist, of Gothic architecture, besides other knight-structures, many antique statues, basso-relievos, and busts, were to be met with. This is the more probable, as even on the outer side of the south-east part of the exterior wall of the castle, four pieces of the frieze of a temple with Dionysian representations—of the very best period of Greek art, are to be seen, although somewhat mutilated, and bedaubed with a thick white-wash. This bids fair for the existence of other art-remains in the interior of the building—the more plausible, as the knights had placed in their fortress of St. Petros at Budsun (Halicarnassus), the frieze slabs of the mausoleum. (The present destruction of the castle, *has*, no doubt, laid it open even to Turkish suspicion and ignorance, and we would invite such of our readers, as are strolling through the Grecian Isles—or such as *could* and *ought*, to take advantage of a rare opportunity, to do something *novel*, at a cheap outlay!)

The Chinese Collection—made during the late visit of the French embassy in that country, consisting of 400 specimens of great interest in the departments of arts, sciences, and manufactures, is exhibited now in one of the halls of the Secretaries of State for Commerce at Paris.

The Isthmus of Panama line of railway—is to be begun in November next, as Mr. Klein, the Chargé d'Affaires (!) of the company, has received every encouragement from the Government of New Grenada. The works will be executed under the superintendence of Mr. Courtines, a French engineer.

The French Academy of the Fine Arts—on the death of their member for the department of architecture, Mr. Vaudoyer, have elected Messrs. Gilbert, Gisors, and Chatillon, from whom the king has to choose one, according to custom.

The Lunatic Asylum of Charenton—has been repairing and enlarging for some time past, under the care of Mr. Gilbert, architect of the Government. The construction of the chapel has been just finished, and its walls are decorated with paintings in encaustic, by Mr. F. Dubois, late one of the recipients of the great prize at Rome.

The Embankment of the Rhine near Strasburg—is proceeding rapidly, as the Government have this year voted 900,000 francs for that purpose. Some new cuts have been begun, while others have been made available for navigation. Between the above city and Lauenburg navigation has been abridged by some miles. The steamers, which up to 1835 required five hours for the above distance, make it now in three. Several swinging bridges are also projected to replace the old ferries.

The Lower House of Bavaria—have voted 24,000 florins (2,000*l.*) as an instalment towards the purchase and transport of the Numismatic collection of the brothers Longo of Messina. It contains some of those unsurpassed gold medals (basso-relievos!) of Agrigentum and Syracuse—patterns of the finest art-taste ever exhibited by man.

Ukase of the Emperor of Russia relating to the Rights of Art Productions.—The following are the chief features of this liberal and encouraging enactment. Painters, sculptors, architects, engravers, dye-sinkers, and all who work in the departments of fine arts, will enjoy, besides the rights inherent in any property, that of art-proprietorship for their *whole life*. It implies the unlimited and exclusive right of multiplying and publishing. After the demise of the artist, this right descends to his heirs, if there be no other provision made during his lifetime. Persons thus put in possession of the author's rights, enjoy them for twenty-five years after his death. This term can be prolonged ten years more under certain conditions. Art productions purchased by government, or made for the imperial palaces, museums, or offices, are property of government. The same applies to art-works made for private individuals, provided the price has been paid, and no provision made to the contrary. Pictures, statues, and other art productions may be sold in execution, but such purchase does *not* imply the above art-proprietorship. J. L——y.

RAILWAY JOTTINGS.

The opinion of one of the Queen's counsel on the law of liability is embodied in the answers to the following questions:—"Are the original subscribers who have lately sold their scrip, still liable to unsatisfied creditors?" Answer: "They are."—"Are they liable for such further call as may be made?" Answer: "This depends upon whether the directors and other subscribers have accepted the purchasers in their place, and so released them."—"Will the Court of Chancery compel the purchasers to indemnify the sellers against their liability to creditors and for calls." Answer: "It will not, unless there were special agreements to that effect."—"The Joint Stock Company Regulation Act, 7 & 8 Vict., c. 110, sec. 26, prohibiting the sale of shares before complete registration—are not such sales, the company being only provisionally registered, illegal? If not, are they not illegal on other grounds?" Answer: "It has been determined that the above section does not apply to railway companies. The circumstance, therefore, of the company being only provisionally registered is immaterial. The sale of railway scrip does not appear to be illegal, notwithstanding there are some dicta in the books favourable to such a transaction. But though the sale be not illegal, yet it will be seen from my answers to the other questions that the result of it is different from what probably most original subscribers have anticipated. A sale of railway scrip in the way usual in the city merely creates the relation of trustee and *cestui que* trust between the original subscriber and purchaser, and by no means relieves the former from responsibility as regards other persons."——A case of railway jobbing by "a great personage," in a transaction connected with one of the Lincolnshire lines of railway has just been partially exposed by the *Stamford Mercury*. A piece of land estimated at 20*l.* an acre, and assessed in all by the company's surveyor at 100*l.*, has formed the ostensible ground for a demand of 30,000*l.*, or 500*l.* an acre. These *conditions* not being complied with, the great personage became hostile to the line, and the third reading in the Lords has been postponed on the alleged ground that the Bill has not the favour of the proprietors and population on the line, and is moreover in some way inconsistent with the Earl of Dalhousie's rules.——The London and Birmingham Company are said to have unavailingly offered 4,000*l.* a year for permission to cross the Blackwall line with their East and West India Dock scheme. A rumour has, probably in consequence of this offer, arisen to the effect that the London and Birmingham, the Eastern Counties, and the Eastern Union, are competitors for the purchase of the Blackwall line. ——A number of houses, mostly new, are about to be cleared away for the extension metropolitan viaduct of the London and South-Western line, from the terminus at Nine Elms to the intended station near the Hungerford Suspension Bridge.——A train of nine carriages, with passengers and a luggage van, is said to have been drawn by "The Stratford" narrow gauge engine, from Bromsgrove to Gloucester at an average speed of fifty-eight miles an hour; the velocity often amounting to sixty-three miles an hour.——Mr. Stephenson has been experimenting extensively and successfully with an iron model of his intended tunnel across the Menai Straits. The model is 20 feet long and 4 feet high.——The Admiralty have finally settled the terms on which the Grand Junction Company are to be allowed to carry their line across the Mersey at Runcorn. As conservators of the river, they require that the bridge, if built on arches, shall have waterway openings of 280 feet in the clear, and a clear headway of 100 feet under the centre of the arches; but if flat girders should be substituted for arches, 250 feet clear between the piers will be sufficient. A turret staircase is to be erected to facilitate the warfing of large vessels through the bridge, and other works are specified, amongst which are the removal of the island between the Castle Rock and the Old Quay Canal, and of a large portion of the rocky shore on the Lancaster side, and part of the Castle Rock on the Cheshire side; with the erection of a curved wall or weir for 2,000 feet eastward, and, if necessary, 800 feet further, in order to give a proper direction to the tidal streams.—— Mr. Walker's Report on the crossing of the Tamar by a bridge or a ferry has been printed by the Commons. As to the bridge, he recommends that it consist of four arches, all of the same size, having 95 feet elevation in the middle openings and 92 feet in the side openings at the high water of neap tides. This will thus provide 100 feet in the centre, and 108 feet at half flood; and "although the bridge," says Mr. Walker, "will not, by these means, be perfectly harmless to the navigation, it will be nearly unobjectionable, provided the railway object be considered for the public good."——The last arch of the Docker Viaduct, on the Lancaster and Carlisle line, has been keyed.—— The two heaviest contracts on the Carlisle, Dumfries, and Glasgow line, between Kilmarnock and Cumnock, are in active progress. They consist of the tunnel through the Skeoch hill or Mossgiel ridge, and the great bridge on the water of Ayr. The tunnel, which is contracted for by Mr. Campbell, of Irvine, is 666 yards long, mostly hard whin-stone. At the summit of the hill it will be 160 feet below the surface. It lies about a quarter of a mile west of Mossgiel, once the residence of Robert Burns. The bridge, which is contracted for by Messrs. Ross and Mitchell, of Edinburgh, passes over the Ayr about a quarter of a mile east of Kingsincleugh, once the residence of the King o' the Cleugh, and near the braes of Ballochmyle. The land on both sides of the river in this classical vicinity, stands about 100 feet below the level of the line, to the rock head, beginning about an eighth of a mile back. The sub-contractors for the banks are Sutherland and Gun. The great arch of the bridge is 185 feet in span, and 190 from the bed of the river to the level of the rails, with a viaduct of three large arches at each end. When finished it is said it will be the greatest mass of arched masonry yet known. Nearly 10,000*l.* worth of timber, mostly American fir, is already used in the uprights, cranes, and combs; and a large quantity is yet wanting to finish the uprights.—— The English mails now reach Edinburgh by the North British Line nearly four hours earlier than before. The time distance between London and Edinburgh is thus already reduced to twenty-three hours, and when the railway communication is unbroken and complete, it will be only fifteen.——Nearly all the cuttings on the Great Southern and Western Irish Railway, to within a few hundred yards of the Carlow terminus, are completed. The bridge across the Dublin-road is a singular work of art. The abutments to two of the opposite acute angles are forty-three degrees, and consequently forty-seven degrees from the right angle or square. The formation of this singularly oblique arch commenced at these opposite angles, and continues on in spiral courses until they meet, when the last spiral courses will form the keystones of the whole arch. The line, it is said, will most probably be opened about the middle of the present month.——The establishment of a low uniform charge for parcels on railway lines in general is much wanted, and without the slightest doubt would be a source of increased revenue to railway proprietors themselves.

TELEGRAPHIC PROGRESS.

The telegraph on the Colchester line of the Eastern Counties Railway has been commenced, that on the Cambridge line having been found most effective. It is to be on the same principle as the other, which it will join at the junction of the two lines at Stratford.——Arrangements are in progress by the Grand Junction for the completion of the telegraph from Manchester to Liverpool, and from Liverpool through the intermediate stations to London. Contracts are about to be entered into.——It has been lately proposed to employ the electricity of the telegraph occasionally to a new purpose, namely, to the resuscitation of the apparently drowned, and of those in apoplectic fits. Dr. Bodin, of Paris, has by recent trials of galvanism restored persons pronounced by the most intelligent medical men perfectly dead; all previous attempts at resuscitation by warmth, friction, carbonate of ammonia, &c., proving ineffectual.——The Grand Duke of Tuscany, has ordered the establishment of electric telegraphs through his estates.—— On the line of telegraph between New York and Baltimore, a singular freak of the lightning is said to have displayed itself to the wondering eyes of these *acute* observers, the Americans. "Three thunder storms," says the *New York Sun*, June 8th, "each thirty to sixty miles apart, were all coming east on the telegraph route about the same time, and every discharge of electricity from either was fully recorded *by the lightning itself* in the telegraph office at Jersey city, Philadelphia, Wilmington, or Baltimore. The wire became altogether unmanageable, and the visitor from the clouds had the field to itself. The letters of Morse's telegraphic alphabet which this natural lightning seemed to be most partial to, were L and T [a curt abbreviation for lightning itself, no doubt], but occasionally it went at the numerals, and dashed off 1's, 50's, 500's, 5,000's, in its own rapid style. We learn that when two or more thunder clouds get into the same vicinity, and discharge their electricity at each other, or receive the fluid from the earth and return it again, or when ground lightning prevails, the effect on the telegraph wires is to produce a strange and original language, which may yet be made intelligible. In fact, each kind of lightning (what! greased lightning also?) speaks for itself, and writes what it says."—— At the British and Foreign Institute lately, a model was exhibited, in action, of a new electric telegraph, of a kind very similar, we remember, to an "American" invention for reporting speeches, long since announced, but treated with the usual incredulity which such inventions have perhaps too often and too indiscriminately met with. By the present invention, "any one writing, by the pressure of ivory keys exactly like those of a pianoforte, each representing a letter or figure, can transmit by means of a single extended wire, to any distance, 600 miles or 5,000 miles, an almost instantaneous message in words that are printed, by a correspondent machine at the other end of the line, as fast as the sentence is spoken." ——A new species of electric current, we may here observe, is said to have been recently discovered by a Dr. S. B. Smith, who has invented an electro magnetic machine, which he calls the torpedo, since it gives off electricity when touched at any part, and acts also with more force than the usual instruments.

ARE ARCHITECTS ONLY TO COPY?

Sir,—In your last number, I observe an extract from "Studies of Ancient Domestic Architecture," headed, "Are Architects only to Copy?" Now I most cordially sympathize with the author, in his lamentation over the present worn-out state of architecture as a Fine Art; yet I would submit it to your judgment, whether the general tone of that extract is calculated to aid in its revival. That architecture has been in a debased state for a long time previous to the late signs of amendment, I think no one will be found to deny; but in this condition, what can we do better than copy, until we regain our former position. It may be humiliating, but can any one who has lost character and reputation, raise himself in a surer or more honourable way, than by humbly retracing his steps? To disdain copying in the present state of architecture, is, in my opinion, to encourage the continuance of that licentiousness and unskilfulness which the late Mr. Bartholomew so deeply deplores in his essay on the "Decline of Excellence in Architecture." Yet I am surprised to find even in that generally able work, he remarks that the Romans, Grecians, and Freemasons, would have "no more reasonably adopted things on the score of antiquity, than the modern mechanician would under a pretence of keeping to primitive purity, refuse to adopt the improvements in steam-engines by James Watt." Will this analogy hold good? There never has been a decline in this branch of practical science since the time of James Watt. On the contrary, improvements have been increasing rapidly, and probably there never will be a decline. Supposing, however, that such should be the case at some future time, would not the surest way to amend be, to place before the student the ancient steam-engine invented by that great man, and afterwards let him study progressively down to the last improvement? Such a study as this would make him master of the subject (scientifically) more

than years of his own inventions. So I believe, the only way to restore architecture to the unfettered state in which it was in its "palmier days," is not only to study well, but also to copy, the works of the ancient architects from the beginning, as has been the wisdom of the societies at our two universities to encourage. The result of this course will prove, whether architecture as a Fine Art really is worn out.—I am, Sir, &c.

Bloomsbury, 18th July, 1846. T. M. W.

COMPLETION OF THE BOOKSELLERS' PROVIDENT RETREAT.

On Tuesday last the retreat erected by the Booksellers' Provident Institution for infirm and decayed members, at Abbot's Langley, Herts, was formally opened, and a breakfast afterwards given in celebration of the event, whereat Sir Edward Bulwer Lytton presided. The Retreat is pleasantly situated adjoining the Birmingham railway, so that by means of a special train about 200 persons were conveyed to the spot, and brought back again in the evening, without fatigue.

The structure, as at present erected under the direction of Mr. W. H. Cooper, consists of seven houses of four rooms each; the centre house projects, and (the rooms being larger) affords accommodation for general meetings of the inmates or the committee. The style is Tudor; the materials used Anston stone and red bricks. Porches to the doors; mullions and labels to the windows; a gable in the centre, at each end, and on each return; and angular buttresses, terminating in small octagonal shafts with ogee caps, form the staple of the design, and demand no particular comment.

Mr. W. Trego was the builder, and the whole cost was about 3,000*l.* The work appears to be well and soundly done; we must, however, take an exception to the very objectionable balancing of long and short stones in the dressings of openings, and to the carving in the label over the centre window.

At the breakfast, the president made one of the most eloquent and admirable addresses we ever listened to, full of wisdom. He justly praised the committee for their well directed efforts to obtain this retreat, which members of the society, if overtaken by misfortune, would avail themselves of, not as charity, but as a right, resulting from the previous exercise of prudence and forethought. Mr. Dickenson, who nobly gave the site, Mr. Longman, Mr. Hodgson, the Rev. Mr. Gee, Vicar of Abbot's Langley, Mr. Jerdan, and others, also addressed the meeting.*

THE ART-UNION QUESTION.

On Wednesday last, in the House of Commons, Mr. Wyse, previous to moving that the House resolve itself into committee on his bill, presented a large number of petitions in its favour, as did Lord Sandon, Mr. Milner Gibson and others. One of the petitions had nearly 3,000 signatures.

The House having resolved itself into committee, Mr. Wyse stated that he intended to introduce such amendments as would obviate the objections entertained to this bill.

Mr. Goulburn said he had not abandoned his objections to the measure, which would give an illegitimate advantage to art, whilst the legislature had prohibited gambling in other articles of utility; but as the bill was to be amended, he would postpone the discussion till the bringing up of the report.

The Attorney-General approved of postponing the discussion till the report, as he hoped to remedy most of the objections to the bill, by giving the Queen in council power to suspend the charter if infringed.

Sir R. H. Inglis objected to the bill, because it applied to pictures a principle which, if applied to knives and scissors, would be called gambling; and because the state had put down lotteries, though it used to derive some benefit from the private vices of the people. It was for its advocates to show why what was immoral in everything else ought to be thought moral when applied to the arts.

Mr. Ewart said these unions were general associations for laudable objects, which could not be obtained by individual means, and the best results to art had followed from them. It was easier to apply epithets than give proofs.

Sir George Grey said that the Attorney-General had gone over the bill, and was of opinion that the alterations which had been made were such as to remove all substantial objections to it.

Colonel Sibthorp would support the bill, and when hon. members talked of gambling, he wanted to know whether the House had not sanctioned railroads, which he deemed a species of gambling, and whether the Corn-Exchange and the Stock-Exchange were not scenes of gambling? Indeed, he could not help thinking sometimes that ministerial arrangements were a matter of gambling.

Mr. Hume observed, that the results produced by these Art-Unions were different from what was called gambling, but he was glad to find that the right hon. gentleman (Mr. Goulburn) had seen the error of his former ways, for he had been one of the greatest supporters of lotteries. (Laughter).

Mr. Newdegate hoped the hon. member for the University of Oxford would not oppose the legalization of Art-Unions, which he knew had in Birmingham facilitated exhibitions and the disposal of the works of young artists, to the great benefit of manufactures.

Sir D. L. Evans thought the time was come when they ought to rectify the former neglect of art, and that this bill would assist in that good object.

The various clauses were then agreed to, with certain verbal amendments, and the report was ordered to be brought up that day, and to be taken into consideration on Wednesday next.

We think the bill may be considered safe, still it is desirable that all members who are friendly to it, should attend on Wednesday.

THE ARCHÆOLOGICAL INSTITUTE AT YORK.

On Tuesday last, the Institute commenced its operations in the ancient city of York, by holding a general meeting in the Festival Concert Room, whereat the Marquis of Northampton resigned the chair to Earl Fitzwilliam.

Lord Northampton said in the course of his address, "No other county could boast so many remains of antiquity, of great beauty and magnificence, as the county of York. He could not but consider that when this Institute had met in the county of York, under the patronage of the venerable archbishop, and under the presidency of the noble Earl Fitzwilliam, that it was impossible that it could be placed in a position liable to any future hazard. He trusted that it would continue to advance the science of archæology, so far as it was possible for an Institute to do it, and that at their present meeting the design of the Institute would simply be to promote the object in view, and not to go out of their way to dispute about matters of no consequence to the study of archæology with other bodies pursuing the same object as themselves. The noble marquis proceeded to enforce the utility of such institutions as this with regard to the preservation of objects of great beauty and antiquity, and spoke in complimentary terms of the kindness and liberality of the Lord Mayor and the corporation of York, and the generous and hospitable spirit in which the members of the Institute had been received.

Other business was transacted, and the members then dispersed in groups to visit the principal buildings in the city.

Papers have been read on the minster by Professor Willis; on the painted glass in York; the Cistercian monasteries of Yorkshire, &c. &c., to which we shall refer hereafter.

British Museum.—On taking a vote in the House of Commons a few days ago, of 45,494*l.* for the new buildings of the British Museum, Mr. Hume asked when the buildings would be finished?—Sir R. Inglis replied, that he had every reason to believe the façade would be finished at Christmas, the carcase of the west wing in the course of the ensuing year, and that the whole of the works would be complete in about three years from the present time.

New Books.

On Staking out Railway Curves. By George Heald.

Of the pamphlet appearing under this title on our advertising page, we have little to notice, except that it contains a very simple and practical description of the methods adopted by the author for the setting or staking out of railway curves.

Mr. Heald is evidently well acquainted with his system, or he would not have written so simply upon the matter; nothing is said but what the subject demands. The formula for obtaining offsets to the curve have the advantage of being easily remembered, and the tables will be found exceedingly valuable by all who may be engaged in that description of work.

A Chart, illustrating the Architecture of Westminster Abbey. By Francis Bedford, Jun. Robinson, 69, Fleet-street.

This is an exceedingly well-drawn and lithographed memento of the Abbey, which may, moreover, have the effect of leading those who examine it, to strive to acquire some knowledge of the changes which occurred in pointed architecture, inasmuch as the Abbey furnishes examples of various epochs, and distinctive character. Those who desire to investigate the Abbey, and obtain some knowledge of its architecture, will find this chart an admirable companion.

Correspondence.

ARCHITECTURAL PREJUDICES.

Mr. Editor,—Give your R, your capital great R, a hearty *bravissimo!* from me. He seems to be quite a Samson Agonistes; is certainly tugging away most formidably at the erroneous opinions and prejudices which beset architecture and the study of it, and which those who teach it encourage either wilfully or ignorantly. Yet while so far his purpose is even alarmingly serious, likely to transform many of our architectural *big-wigs* into so many porcupines, the fellow himself is a wag. Nothing can be more irresistibly droll than his—"That's *archæology, mon cher*, the science of rubbish."—Nay, it is not only droll, but *awfully* droll. That dear orthodox old lady *The Ecclesiologist*, and that very respectable old gentleman "Sylvanus Urban," will pronounce it profane. To me its sauciness is sauce that filleth my gastric region with delight. Pleasant is it to find Dame Archæology, who has of late taken upon her to tutor and *schoolmistress* architecture, has got such a smart rap on the knuckles from a "Young Englander." "Rubbings of brasses,"—what, are they—*rubbish?*—A terrible *rub* that! and from one who must surely be all brass himself. "All sorts of funny old things!" was there ever such impudence! Quite sure I am that a great many respectable old gentlemen will consider it any thing but fun to find the pet objects of their profound pursuits so designated. For my part, I wonder your great R, which doubtless stands for great rogue, did not have a fling at those who would make out architecture to be little more than matter of mathematics, and who lay the greatest stress of all upon the mystic power of certain proportions, converting æsthetics into arithmetic, and extracting beauty out of numbers, after the fashion of the square root.

Well may your correspondent sign himself "R," for many an ah! and oh! too, must his scurviness have extracted from your old-fashioned talkers about architecture. Let him look for *Pug's* visiting him with candle and book, pix and pot of holy water, to exorcise and expel the foul fiend from him. What he must not look for is, any sort of pity from others; certainly not from either the "*Five*" or the "*Three* Orders" men, much less from that "*Two* Orders" man, the great Sir Robert Smirke; neither must he expect it from any of those who, exclusively devoted to one particular style, condemn all the rest as heresies, or as what is totally unworthy their regard. Positively, he has outlawed himself, and will be considered all the more dangerous, because shrewd and witty. Stupidity may be forgiven because harmless; but sense rendered all the sharper by irresistible pleasantry, is too formidable a weapon not to excite general apprehension Budownik.

* An account of Abbot's Langley Church will be found in Vol. III. of The Builder, p. 430, and of King's Langley Church, at p. 12 of The Supplement in same volume. In Vol. II., p. 66, is a view of the remains of King's Langley priory.

WHY PAY AN ARCHITECT?

SIR,—A practical builder has received by post, the inclosed. This is one method of getting sets of plans, with estimates, gratis. As one of your earliest subscribers, it is sent for your use.

July 20, 1846.

Copy.—Inserted in the *Brighton Herald*, and the *Sussex Express*.

"*To Builders.*

"It is intended to build a parsonage house on the Upper Dicker Common, *near Horse-bridge*. Any builders desirous of contracting for the same are requested to send in a plan and estimate (including the usual outbuildings), on or before the 5th of August next, to either the Rev. —— ——, or to the Rev. —— ——, from whom any further particulars may be obtained. The estimate not to exceed 850*l*.

No charge for plans or estimates, or for any other expenses will be allowed, and all communications must be prepaid.

A committee will decide upon the plans, and the approved will be adopted and laid before the Bounty Board for its sanction to proceed with the work."

Miscellanea.

THE SPEAKING AUTOMATON.—Numerous attempts have been made from time to time to produce an instrument capable of imitating, with any degree of accuracy, the tones of the human voice, but until now without success. The difficulty of the task can be rightly estimated only by those who have given attention to it. Great as it is, however, it has been overcome to an extent that could hardly have been expected, by the inventor of an automaton, now exhibiting in the Egyptian Hall, Piccadilly, Mr. Faber, a German, who, according to his own statement, has devoted more than twenty-five years to its construction. By means of bellows, pipes, keys, and stops, it is made to articulate the letters of the alphabet, the numbers, and any sentences the operator pleases. It is unquestionably a great advance on all former attempts in the same direction, and deserves to be visited by all who are in search of novelty, interested in acoustical science, or willing to reward ingenuity and skill.

DESTRUCTION OF BARRACKS AT LOODIANAH.—On the 21st of May, a violent storm of wind destroyed the whole of the barracks of Her Majesty's 50th foot, when eighty-four persons were killed, and 135 wounded. They were ill-built temporary structures, not fitted for their position.

NOTICES OF CONTRACTS.

[We are compelled, by the interference of the Stamp Office, to omit the names of the parties to whom tenders, &c. are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent Garden.]

For the execution of the town drainage of Walsall.

For laying with Yorkshire paving-stone the boys' school-room, the shoemakers' workshop, and an adjoining passage in the Cambridge Union Workhouse.

For ceiling the boys' and girls' school-rooms in the Cambridge Union Workhouse.

For the whole of the iron-work, &c., necessary in the construction and erection of the high level bridge at Newcastle, on the line of the Newcastle and Berwick Railway.

For the execution of all the works necessary for the building of the high level bridge over the Tyne, on the line of the Newcastle and Berwick Railway (extension of time).

For the construction of the viaducts through Newcastle and Gateshead (iron work excepted), on the line of the Newcastle and Berwick Railway (extension of time).

For a slate planing-machine on the most approved principle, for a quarry in North Wales (promptly).

For the construction of a warehouse for the Grand Junction Railway Company, at Liverpool.

For the purchase of all the breeze made on the works of the Commercial Gas Light and Coke Company at Stepney, for twelve months, from August 25.

For the rebuilding of the parish church of Runcorn.

For the execution of the who'e or any part or parts of the various works involved in the rebuilding of the parish church of Runcorn.

For the disposal of a good business in the plumbing, painting, and glazing line, situated at the west end of London.

For the mason work required in the erection of a boundary wall to the West Derby Union Workhouse.

For the bricklayers' work required in the erection of a boundary wall to the West Derby Union Workhouse.

For the sale of a three-horse power steam-engine, with cistern and boiler complete; also two lathes, two copper tanks, &c.

For the erection of a fever hospital in connection with the Mallow Union Workhouse, County of Cork, Ireland.

For building certain additions to the fever hospital attached to the Kantark Union Workhouse, County of Cork.

For the disposal of an ironmonger's business in town.

For lighting the parish of Woodbridge, in the County of Suffolk, with gas.

For the erection of a rod-rolling mill at Middlewood Works, Sheffield.

For all or any of the works required to be done in the erection of the National Schools at Rotherham.

For the erection of a farmhouse (oak, larch, and stone, furnished) in the county of Radnor.

For the disposal of a jobbing smiths' and general ironmongers' business, established for eighty years in Swindon, to which is added an oil, colour, and glass business.

For the works of the Royal Isle of Wight Infirmary.

For the necessary works and buildings for the station at Crediton, on the Exeter and Crediton Railway.

For the execution of the first division of that portion of the Hawick branch of the North British Railway, which commences near Fala-hill Inn, and terminates near Terwoodlee, a length in all of about 14 miles.

For the execution of the second division of that portion of the Hawick branch of the North British Railway which commences near Fala-hill Inn, and terminates near Torwoodlee, a length in all of about 14 miles.

For the execution of the first division of that portion of the Hawick branch of the North British Railway, which commences near the Jedburgh-road and terminates at Hawick, a length in all of about 9¼ miles.

For the execution of the second division of that portion of the Hawick branch of the North British Railway which commences near the Jedburgh-road and terminates at Hawick, a length in all of about 9¼ miles.

For the disposal of the goodwill of the business of an architect and civil engineer at Glasgow, established and successfully carried on for ten years and upwards.

For the erection of considerable additions to a farm-steading in the upper Ward of Lanarkshire.

For the supply of a large quantity of cast-iron rain-water pipes, deliverable in the Thames at London.

For the execution of three portions of the works on the Dunfermline branch of the Edinburgh and Northern Railway.

For the letting, to a lime, cement, and brick merchant, of an extensive wharf and premises in Camden Town, where a large trade in lime and cement has been carried on for many years.

For laying down about 760 superficial feet of flooring in the Okehampton Union Workhouse, either of granite or Yorkshire stone, 3 inch squared, or slate 2 inches squared.

For the disposal of a mahogany shop front at Whitehall, with shutters, bar, and private door.

COMPETITION.

Plans are wanted for a new church to be built near Pennant, in the parish of Bettws, Montgomeryshire.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At Liverpool: an entire cargo of Honduras mahogany.

At Belvoir Castle (Nottingham): 1,500 oak poles.

At Hasels, Sandy, Bedfordshire: a large fall of timber trees of large growth, chiefly elm, oak, chesnut, and walnut.

At Lower Halliford, Middlesex, near Walton Bridge: the building materials of a family mansion.

At Maldon: a large quantity of oak and elm timber trees.

At Oatlands Park, Weybridge, Surrey: the building materials of the mansion.

At Tottenham: a vein of the finest malm brick earth, sufficient to produce 20,000,000 bricks.

At St. Peter's Wharf, Ipswich: an assortment of paints, oils, turpentines, &c.

At Osborne-street, Hull: the building materials of two dwelling houses.

At Covent Garden: a stock of paper-hangings.

At Beeralston, near Tavistock: thirty fathoms of railroad iron, a large quantity of new and old iron and timber, smiths' and carpenters' tools, ladders, pumps, &c., &c.

At the Chunk Iron Works, Birmingham: the goodwill, stock, machinery, and fixtures.

At Garraway's Coffee House, the lease of builder's premises in Sweed's Court, Trinity-lane, City.

At No. 21, corner of the New-road and Gower-street: a stock of finely-finished Italian and French marble chimney-pieces, tablets, &c., &c.

At No. 1, Leonard-street, Curtain-road, Shoreditch: the remaining stock of a bankrupt timber and mahogany merchant.

TO CORRESPONDENTS.

"*A Subscriber.*" If the shed did not exceed 8 feet in height, and half a square in area (say 10 feet by 5 feet), and was detached from any other building, and from ground not in the same occupation, to an extent equal at least to its own height from the ground, then it might be of timber. If larger, it must be 30 feet from ground not in the same occupation, and 8 feet from public way.

"*R.*" Will our correspondent favour us with an address, in confidence, to which we may write.

"*J. K.*" We cannot speak positively without seeing the drawings.

"*A Bricklayer.*" Send your remarks to the patentee.

"*E. O. R.*" Basement, 18 inches; ground-floor and one-pair floor, 14 inches.

"*Subscriber from the beginning.*" You must employ a competent person to do it.

"*Censor.*" We cannot expect all our readers to be pleased with every paper that appears in our columns. The article in question, although open to objections, has much wisdom in it, and cannot be read, in a proper spirit, without advantage.

"*M.*" will perhaps read the preceding.

"*W. W.*" If the work be done in accordance with the specification, and the committee wish it altered, it should be paid for. The question of "indent" can best be decided by a competent person on the spot.

"*G. R. L.*" Pressure of occupations has prevented us from complying. The request shall not be lost sight of.

"*R. W. S.*" We regret that we cannot exactly understand his statement of the case.

Next week.—"Rochester Cathedral," "Steinitz."

Received.—"R. Telford," Patent office, Dublin; "J. A." Epsom; "Rev. J. W. B.," "Archi," "J. W.," Glasgow; "J. P.," "The Messiah," in Vocal Score; No. 1. (Novello, Dean-street, Soho.) A wonderfully cheap edition of an immortal work.

ADVERTISEMENTS.

COLOURED PHOTOGRAPHIC PORTRAITS, by Mr. BEARD (sole Patentee of the Daguerreotype), are taken Daily from Nine to Six, at 85, King William-street, City (where application for licenses should be made), 34, Parliament-street, Westminster, and the Royal Polytechnic Institution, Regent-street.

"The colour is uniform, and so transparent as not to affect the likeness in any degree."—Builder, April 18, 1846.

TO CIVIL ENGINEERS, SURVEYORS, &c.

HENRY POPE, Wholesale Stationer, desires to return his best thanks to the Profession for their support, which has secured to him so large a sale of his mounted drawing papers, and from which he has made arrangements to keep a large stock always on hand, as well as tracing, drawing-papers, and every description of general stationery, which may be had at the wholesale prices.

N.B. Maker of the Metallic, Levelling, and Surveying Field Books, with Patent Pencil. 22, Budge-row, Watling-street, City.

TO BUILDERS, PAINTERS, DECORATORS, AND OTHERS.

MESSRS. WOOD AND COMPANY, Grainers and Writers to the Trade only, by contract, measure, or otherwise.

62, Waterloo Bridge-road. All letters post paid.

N.B. Workmen sent to any part of the kingdom.

*** An Apprentice wanted.

TO BUILDERS, PAINTERS, &c.

C. WILLIAMS, 13, Palace-row, New-road, Imitator of Woods and Marbles, respectfully informs the Building Trade generally, that for the last five years he has been in the employ of Mr. W. HAMMOND, and begs now to solicit the favour of their patronage, trusting that by strict attention and moderate terms he shall secure their future favours.

N.B. Country orders attended to with punctuality.

ARCHITECTURAL ENRICHMENTS.

BIELEFELD'S improved PAPIER MACHE, which has been almost universally adopted for architectural decorations, has been patronised by her Majesty, by the Hon. Commissioners of Board of Works, by the highest of the Nobility and Gentry, and by the most eminent architects of the day. It has been used at the Royal Palaces, at the present House of Lords, at Drayton Manor, the new Conservative Club House, &c., also at the British Museum, and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier mache ornaments with a tariff of prices, price 1*l*. Works, 15, Wellington-street, North, Strand.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

SAMUEL CUNDY begs to inform Architects, &c., that every description of Stone, Marble, and Granite work is executed at the cheapest possible rate. Estimates given for Mason's Work in all its branches. Gothic Work, Tombs, Monuments, &c.

MARBLE WORK for Halls, Dairies, Tables, Columns, Vases, at most reasonable prices.

A large collection of Designs for Mural and other Monuments.

CHIMNEY PIECES from Twelve Shillings upwards.

Depôt for CAEN STONE, &c.

CAEN STONE.

TUCKWELL'S Norway Sufferance Wharf, Greenwich.—Architects and Stone Merchants are informed, that this stone may be procured at the above Wharf in any quantity, in blocks up to 12 tons. The stone, which is exclusively the product of the Allemagne Quarries, and of the very finest quality, is consigned solely to W. TUCKWELL, who is prepared to execute orders to any extent, having a Large Stock always on the Wharf.— Orders received by, and further information with samples may be obtained of Mr. R. A. WITHALL, Surveyor, 80, Cheapside, and of Mr. W. TUCKWELL, at the Wharf.

N.B. Cargoes shipped direct to any Port.

CHEAP PAN FOR WATER CLOSETS, With Trap, in one Piece.

DOULTON and WATTS, Lambeth Pottery, London, Manufacturers of the above in superior glazed STONE WARE, price 7*s.* 6*d.* each. They are of the most durable ware, and are recommended in preference to iron on account of their cleanliness and cheapness. If preferred, they can be had in two parts, the pan at 4*s.* 6*d.*, and the Trap at 3*s.* 6*d.* N.B. Manufacturers of RAIN WATER PIPING for houses.

TO ARCHITECTS, SURVEYORS, BUILDERS, AND PLUMBERS.

BY ROYAL LETTERS PATENT.

J. W. WILKINS'S SILENT WATER-CLOSET.—The peculiar property belonging to this Water-closet is, that it is "Silent," and may be set in any part of the house without communicating sound to any of the surrounding apartments, even if the inclosure is no more than a curtain. The working apparatus may be viewed daily from nine in the morning till six in the evening, at 26, Gower-place, University College, London.

N.B An active Plumber is Wanted as a Partner; or the Patent would be sold.

HAMMERSMITH LEAD WORKS, AND AT READING, BERKS.

C. H. and F. CLARK, Manufacturers of PIPE, PUMP, and SHEET LEAD, beg to inform Plumbers, Builders, and others, they can be supplied at the following prices for net cash:—

Sheet Lead	19*s.* 6*d.*	per cwt.
Pipe	19 6	,,
Genuine White Lead	23 6	,,
Seconds ditto	24 6	,,
Thirds ditto	21 6	,,
Sheet Glass, 13 oz.	3½	per foot.
Ditto 16 oz.	4½	,,

Crate of Crown Glass, 18 tables, 2*l.* 18*s.*

Stained, and every description of fancy Glass, at manufacturer's prices. (Lift Pumps, Closet, and all kinds of Oils, Colours, Varnishes, &c.) and brass work. All articles sold at this establishment warranted of very best quality. Credit given upon satisfactory references.

Old lead bought or exchanged.

June 10th.

FINE ARTS.

By Her Majesty's — Royal Letters Patent.

LORIMIER'S TRANSPARENT PLANES for Perspective Drawing; BENJAMIN WEST, Patentee.

"This Instrument will enable Artists and others to make any Drawing, whether from Nature or Models, in perfectly true perspective, so that a likeness or landscape may be taken in a few minutes absolutely perfect. It is used by her Majesty's Royal Sappers and Miners, Chatham. To Travellers it would be found serviceable, since it can be employed without the knowledge of drawing."—*Art Union.*

Price 18s. and 26s. Apply for Agents to BENJAMIN WEST, 2, St. James's-walk, Clerkenwell.—Sold by BARRITT and Co., 173, Fleet-street, London; GRIFFIN and Co., Glasgow, and by all Fancy Stationers, &c.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

REDUCTION IN THE PRICE OF BUNNETT AND CORPE'S PATENT REVOLVING IRON SHUTTERS.

THE validity of this Patent being completely established, the Patentees have much pleasure in stating that the very extensive demand, and the employment of improved machinery in the manufacture, have given them an opportunity (of which they gratefully avail themselves) of making a considerable reduction in the price of this well-known and tried invention, thereby rendering them the cheapest as well as the best iron shutters in use. Every improvement suggested by practical skill and most extensive application has been adopted, and no effective REVOLVING IRON SHUTTER can be constructed without infringing B. and C.'s patent. The worm and wheel, as patented by them, being the only safe, durable, and efficient mode of raising and lowering such shutters, these shutters can be applied horizontally, either above or below the window, or vertically, as introduced by BUNNETT and CORPE, in some of the largest establishments: they are made with bent or corrugated laths, if required.

BUNNETT and CORPE also manufacture

REVOLVING WOOD SHUTTERS,

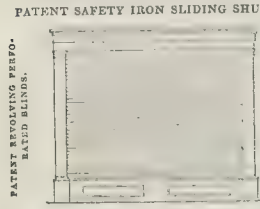
with their patent raising machinery, or with counterbalance weights, and with proper metallic hinges, without which no shutters can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop Fronts fitted in a superior manner with Iron Shutters, Patent Brass or Zinc Sashes, Moulded Engraved Sheet Plates, best Plate Glass, and internal Brass Fittings of all kinds, on the most advantageous terms. Estimates given and contracts taken in Town or Country.—All kinds of metal works executed to any design. Metal Drawing, Rolling, and Stamping for the Trade. OFFICE, 26, LOMBARD-STREET, LONDON. WORKS, at DEPTFORD, KENT.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.

PATENT SAFETY IRON SLIDING SHUTTERS,



The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 115, Old Street, London; or at the Licensees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using BENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licenses Granted.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.

Manufactured by J. B. WHITE and SONS, of Millbank-street, Westminster; and sold at their warehouses—Earl-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Millbank-street, Westminster,

PATENT METALLIC SAND CEMENT,

requiring no colour or paint, and free from cracks and blisters, mixed ready for use at 8s. per cask; 2s. 6d. allowed for each cask returned in good order. 3½ bushels common sand to be added to each cask of Metallic Cement, which will float 14 square yards of stucco.—Apply at the Metallic Cement Wharf, King's-road, Camden New Town.

THE PROJECTED RAILWAYS.

BENSON, LOGAN, and CO.'S PATENT METALLIC SAND CEMENT.—Its merits, as stated in letter to the Proprietors, by James Thomas Knowles, Esq., Architect, Raymond's Buildings, Gray's Inn, are:—

1st.—"The great tenacity with which it adheres to brick, stone, and iron.

2ndly.—"Its freedom (when properly applied) from those cracks and flaws, by which the cements generally used for external stuccoing are so frequently disfigured.

3dly.—"The total absence of the unsightly tint produced by vegetation.

4thly.—"The increased hardness which it acquires from exposure to atmospheric influences.

5thly.—"The great beauty, accuracy, and durability of the mouldings, capitals of columns, crockets, finials, and other architectural enrichments and decorations formed of it, the smallest and most delicate members of which, as well as the sharpest arises, have withstood uninjured the severities of our climate during many winters, and now present the same perfect and highly finished appearance as would be produced by stone carvings carefully executed.

6thly.—"The excellent and agreeable tone of colour which it assumes naturally, and retains without the aid of any colouring or painting.

"And lastly, its extreme hardness and almost entire incompressibility when used as a mortar in the construction of inverted or relieving arches, foundations under important superstructures, and small bearing piers, which have to sustain great weights. For all these purposes it has been extensively used under my directions, and in some cases has been exposed to very severe trials. The results have, however, without one exception, been most satisfactory; and I do not believe that there are any known substances so well adapted for the execution of works, in which the greatest strength and durability are essential."

Price of Metallic Sand at Swansea (place of manufacture), 10s. per ton, or supplied in London at 20s. per ton of twenty-one bushels.

Further information will be given, and specimens shewn, on application to Mr. C. K. DYER, 4, New Broad-street, and at the Metallic Cement Wharf, King's-road (opposite Pratt-street), Camden New Town, London.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

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For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

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In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

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IN THE BUILDING AND DECORATING NEW CHURCHES, where it is desirable to give to the cheaper kind of Woods the appearance of Antique Oak, or to make Deal assume the character of Oak Panelling, whereby the effect of the more costly may be produced by the use of a cheaper material, these Stains will be found more effective than any means hitherto employed.

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The BIRCH WOOD, which has a fine natural grain, with little colour, is particularly suited to the application of these Stains; and the appearance which it assumes after Staining is so near that of the natural wood, that is is only when the grain and colour of the latter is particularly fine that it is preferred. Beech, Birch, Elm, Ash, and other Woods, English and Foreign, receive the Stains and produce various imitations.

For the exposed Timbers of the inside of the ROOFS of CHURCHES, for which north country Timbers and Deals are generally used, by brushing them over with the Stain, which operation is very rapidly, and of course economically, effected, the appearance of an Oaken Roof will be produced. For colouring the backs of the Seats, Pews, the fronts of Galleries, the Pulpit, &c., it is equally advantageous.

Prepared by HENRY STEPHENS, and may be obtained at 54, Stamford-street; at the Office of "The Builder," 2, York-street, Covent-garden, and in Manchester, at CRAKE'S MARBLE WORKS, Garratt-bridge, Davidstreet, at which places specimens of their application may be seen.

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The Builder.

No. CLXXXII.

SATURDAY, AUGUST 1, 1846.

THE frightful differences continually found in builders' estimates, for the same work, have been often brought before our readers, with a view to induce the exercise of greater care, and the application of sounder knowledge, in the preparation of them. We have been blamed in some few quarters, for the publication of these startling discrepancies, but are satisfied that the course is judicious, and must ultimately have a salutary effect, though probably it will be some time first.

We opened tenders this morning, submitted by four respectable tradesmen, for painting a residence. The highest was 320*l.*, the lowest 190*l.*! Not long ago a public advertisement for tenders to erect an Infant School brought us nine; the highest of which was 800*l.*, while the lowest was under 300*l.*

At this moment we have before us ten lists of tenders, forwarded within the last week, all for small matters, and in none of these is the lowest more than half the highest, while in several it is even less.

Look, for example, at the following tenders for certain alterations at the London Mechanics' Institution:—

Langwith	£385 0
Killar	275 10
Higgs	249 17
Saunders	230 0
Parry and Son	208 12
Furnival	206 0
Hawken	193 0
Mason	182 0

Or these, for the erection of a new entrance to the Jews' Burial-ground, in North-street, Whitechapel:—

Evans	£214
Fawcett	144
Kirk	133
Goddard	132
Hickman	109

Or others, four in number, for painting two houses at Tulse Hill, whereof the highest was 225*l.*, the lowest, 108*l.*; and in this case, moreover, *the quantities were supplied* to the parties.

We are not now speaking of large contracts, only occasionally made, wherein differences to the extent of thousands are sometimes found, as shewn in our pages,—but of small matters, of every day occurrence, wherein it would seem to be scarcely possible to make a mistake.

How do the differences arise? They cannot be from the superior facilities possessed by one builder over another—superior skill and greater command of capital—the discrepance is too great to be thus accounted for; but in five cases out of six must be ascribed to ignorance or knavery.

The results are disastrous to all, not excluding the employer, who has bad work instead of good (to say nothing of an occasional law suit); and the architect, who is perpetually at war with the builder, and for six times the due share of trouble and anxiety, is expected to charge his commission on the inadequate amount paid to the contractor.

We would urge builders who are invited to tender, to make no estimates hastily, or on imperfect information; and those who have not had practice in such matters, to obtain proper assistance, or decline entering into it. Excepting under very peculiar circumstances, it is better to do nothing than to toil and throw away money. We are not advocating an extortionate rate of profit, but we maintain that a man should be paid fairly for what he does; and that when he is not, an injustice is committed which extends widely; and that when he himself undertakes to execute work on other terms, he acts dishonestly, as he must either rob his employer, his merchants, or his own family. As regards the ability of our workmen, and the goodness of English workmanship, the system has operated most injuriously, we might almost say fatally.

There is after all, great hope that the sacrifice of the triumphal arch at Hyde-park corner, and the colossal statue of Wellington, may be prevented. Sir Robert Inglis having moved for and obtained copies of the correspondence on this matter, Mr. C. Berkeley proposed on the 24th ult., "that an humble address be presented to her Majesty, praying her Majesty to withdraw her consent to the placing of the statue of the Duke of Wellington upon the archway at the top of Constitution-hill," and laid before the House such clear evidence of the universal feeling which prevails against the proposition, that not a *single* member could be found to back Sir Frederick Trench in his defence of the measure. A letter from Mr. Decimus Burton, the architect of the arch, dated a year ago, says precisely what we said at that same time, had said previously, and have since urged again and again:—

"The Wellington Testimonial is a single equestrian statue of colossal dimensions, viz., about 30 feet high; its weight, exclusive of the plinth, about 40 tons. It would not be a satisfactory surmount for the arch; colossal as it is, the horse, when placed on so huge a pedestal, would present an appearance far too meagre and tall for the situation. Proportion and unity of design are the first and most important elements in a work of art; both of these would be wanting in this instance if such a statue were placed upon the arch. The fact that the monument was not the design of one and the same artist would strike the most casual observer."

Again;—"I am convinced that, in an artistical point of view, it would be inappropriate to place a colossal equestrian statue on a building which is small as a triumphal arch, but huge as a pedestal; and that the result cannot be satisfactory to the sculptor nor to the architect, because both their works must suffer. The relative proportions of the building, and the statue proposed as its surmount, are entirely inharmonious. The statue is about 27 feet high, 22 feet long, and 8 feet wide at the centre;* but it will present no mass below the horse's belly; on the contrary, there will be a large void. The building proposed as its pedestal is 67 feet high, 62 feet long, and 50 feet wide at the centre—dimensions constituting a mass far too heavy to combine, satisfactorily, with a surmount composed of a single equestrian statue." * * "The arch would, I consider, suffer greatly in importance if the colossal statue in question be placed there, because it would become a mere pedestal. The want of proportion in the proposed surmount, compared with the columns and other details of the architecture, would shew that they had been designed by different hands and without reference to each other. Much as I have desired to witness the completion of this building, with surmount statues over the columns, and bas-reliefs on the walls, as originally designed by me, and as approved of by the Lords of the Treasury, yet I would prefer that the building should remain for the present in its forlorn and bare state, rather than a colossal equestrian statue should be placed upon it; and the more so, because I fear that if this appropriation of the building should be decided upon, a proposition would soon be made for removing altogether the façades of columns, the slender proportions of which would appear so incongruous and out of proportion compared with the prodigious dimensions of the statue."

Lord Morpeth said, he partook to the full in the misgivings which had been expressed by other hon. gentlemen, and by his two noble predecessors in the office which he had the honour to fill, and which, he believed he might add, had been backed by very many and competent professional authorities; and, although they found that the consent and authority of the preceding Government had been signified to the persons who wished to erect this statue, to place it in the situation proposed, and that some progress had been made in the actual work, and some expense already incurred, yet he confessed that, even at that moment, he did wish very much that those who represented the subscribers could persuade themselves to accede to the offer made to them by the Government, to procure another site, and, if they did, he would assure them that *no pecuniary difficulty should stand in the way.*†

Sir Frederick Trench laboured to make out a case, but failed entirely: he ventured to say, "It would be an act of great disrespect to the Crown, if her Majesty, after having given her solemn pledge in favour of a particular plan, should be called upon, after the committee had spent a considerable sum of money, to throw all their proceedings over *because certain gentlemen of the House of Commons* chose to condemn it"—as if the only objectors were in the house.

Sir Robert Inglis was obliged to tell the gallant member, "that he believed that, if the opinion of the House were taken *seriatim*, it would be found to be almost unanimously against placing the statue upon the arch. It would be one of the greatest monstrosities in the metropolis." And ultimately, Sir Frederick begged time to communicate the wishes of Government and the House to his colleagues, and obtained it, with the understanding that the works would be entirely stopped, until the committee had signified their assent to the suggestions of the Government, or failing that, until the opinion of the House had been taken upon it.

We have much confidence in Lord Morpeth, and hope soon to communicate the removal of the scaffolding.

DECORATIONS OF BUILDINGS IN FRANCE.

In our foreign article last week, mention was made of the additions to the lunatic asylum at Charenton, now nearly completed. The manner in which the works are done there contrasts singularly with the course followed in England. The object appears to have been, to provide the best accommodation, and to obtain the best effect quite regardless of expense. In the chapel, for example, which takes the shape of a Doric prostyle temple, the decorations are superb, including a profusion of frescos and gildings.

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* If we mistake not, the statue is now larger still.

† Lord Canning, just previously to his removal from office as Chief of the Woods and Forests, wrote to the Duke of Rutland, as chairman of the committee, stating, "that the remonstrances which reach her Majesty's Government against the proposed appropriation of the arch are so many and so strong, the representations of its architect, Mr. Burton, in the same sense, are so earnest, and the opinion of every other eminent architect, artist, or other competent authority who has been consulted on the subject, is so decided, that her Majesty's Government feel called upon not only to make a final effort to induce the subscribers to re-consider the project of placing the statue on the site at present proposed, but to do all that lies in their power to facilitate a change in the design."

PAPERS READ BEFORE THE ARCHÆOLOGICAL INSTITUTE, IN YORK.

STONE FOR BUILDING PURPOSES.

THE Dean of Westminster in the course of an address at the general meeting, remarked on the value of the Archæological Associations in amending largely the future architectural productions of this country, by calling the attention of those who were engaged in the restoration of old churches, and in the construction of new ones, which happily were rising through the length and breadth of the land. The point on which he would briefly touch would be to call attention to two matters connected with architecture—the possession of right taste in the construction of those buildings which were rising, and about to rise, and the possession of right information as to the selection of the most adequate and enduring materials of which those buildings might be constructed. Who was there among them whose lot it had ever been to pass by those once beautiful churches of which they now saw little more than ruins in the town of Coventry? Who was there that did not deplore that those models of ancient taste had been constructed of materials so perishable as the red sandstone in the neighbourhood in which the churches stood? Who was there that had not felt equal regret on seeing what remained of the once beautiful Cathedral of Chester? He would rather turn to those contrary results which had happily arisen, on a most extensive scale, in the case of many of the most beautiful buildings of this country, and point to the firm endurance of that stone which had been used in the construction of the beautiful abbeys of Byland and Rievaulx—a stone which it would have been happy for mankind had it been used also in the construction of the abbey at Whitby—an abbey which had fallen and was still falling into ruin, because it had not been constructed of stone equally imperishable with that of Byland and Rievaulx, but, on the contrary, of perishable sandstone. These were sufficient examples to shew the value of the point to which he hoped, through the medium of the Institute, to call practical attention to all these advantages. Need he, in the city of York, allude to the fact that within the time during which it had been his privilege to be acquainted with this great society, there had been an enormous expenditure of money (thanks to the liberality of the Dean and Chapter of York Cathedral)—in constructing many of the most beautiful portions of the exterior of that magnificent structure with stone which would not have perished had it been the same as that used in the tower? Need he remind many of those then present that the architecture of all countries depended upon the stone being adapted for architectural purposes? Need he remind the noble Marquis of Northampton that the cause of the beauty—the ecclesiastical beauty—of the county of Lincoln, was the fact that one of the best building stones of England was found in the neighbourhood of Stamford? Need he remind those who had been in Normandy of the extreme amount of architectural preservation which had been going on from the time of William the Conqueror up to our own time? There the stroke of every man's chisel was preserved almost indelibly. The reason is the nature of the stone which is so abundantly found in the neighbourhood of Caen, which had been used in many buildings, and which, he rejoiced to say, might now be purchased in London at 1s. 6d. per foot. The noble chairman had alluded to the pecuniary considerations which it was the duty of all societies not to disregard, and which it was especially the duty of an architect to consider well. He rejoiced to announce the fact, upon the authority of Mr. George Stephenson, that with the facilities which railways now afforded to transport the best materials from one extremity of the kingdom to the other, there could now be delivered in London, at a cost of 1s. per foot, that most beautiful stone which is to be found in quarries about five or six miles on the south of Chatsworth, close to the railroad, the price nearly up to the present time having been 2s. per foot. They were aware of the investigation that had been conducted by one who was an oracle in geology, Mr. Wm. Smith, the father of English geology, and the uncle of Professor Phillips, of this city. Many would be aware of that valuable report on stones adapted to the purposes of architecture, which had been printed by the authority of the two Houses of Parliament. It was a most valuable document, and ought to be in the hands of every professor of architecture, and of every builder who is occupied in the preparation of public works. In further illustration of the point to which he had referred, he alluded to the beauty and durability of the Pentelic marble used in the construction of the temple of Peostum, in Italy, the Parthenon at Rome, and the ancient temples of Greece, and concluded by moving the resolution.

HISTORY OF YORK MINSTER.

Professor Willis gave a popular account of the Cathedral at York, sketching its history, and explaining from plans which he had prepared, its various proportions. He stated that the best authority, as a history of the cathedral, was the elaborate work of Mr. Brown, of this city, artist. In it was to be found much information not possessed in any other book, but the fruits of researches among the various documents belonging to the Chapter. The early history of the cathedral carried us back to the conversion of the Saxons to Christianity. In 627, Edwin, the Saxon monarch, with his whole court, were baptized in the city of York, by Paulinus, when a wooden church was erected for the purpose, and afterwards a square stone fabric was raised. This was the first cathedral of York. In 669, this fabric was repaired by Wilfred; but in 741 it was greatly damaged by fire. Archbishop Egbert began the erection of a new church soon afterwards, but that fabric was burnt during the Danish wars. Archbishop Thomas, the first Norman prelate, rebuilt the edifice on a noble scale, on taking possession of the see. The Normans were much more skilful masons, and had more extended ideas than the Saxons, and wherever a Norman bishop came they destroyed the Saxon cathedrals to build one more adapted to their own views. He proceeded to shew that the Saxon artisans were inferior to the Norman in their method and style of building. When Thomas came to the see of York, he found that the city and neighbourhood were ravaged by fire and sword—that the country was in a state of desolation—that the metropolis had been fired—its church partially destroyed—and the cultivation of the soil abandoned. As to the church, he roofed and restored it as well as he could; but after some years, when he found that the country was restored to peace and quietude, he set about erecting a new cathedral. Thomas took possession of the see in 1067. In the year 1154, Archbishop Roger occupied the see, and he set about the construction of a new choir. The ground plan of this edifice Professor Willis explained, and stated its proportions. Archbishop Thomas's church consisted of a nave, of less breadth than the present fabric. It had a transept but no aisles. It had an ache, if not two, also a choir, which had no aisles. Roger took down the east end of this Cathedral, and instead thereof erected a new choir. Professor Willis pointed out that in Roger's time the masons had attained a much higher proficiency than in the time of the former builders of the cathedral, and referred his hearers to several specimens in the crypt. He then proceeded to observe that the Minster was destined to undergo another change. It was found that the fabric was too small, and therefore Archbishop Gray set about the building of new transepts. He commenced with the south transept, which yet remains, forming part of the present fabric, and is in the early English style of architecture. The tomb of this archbishop is within that portion of the building erected by himself. John Le Romaine was Archbishop of York in 1285, and his father was treasurer, and erected the north transept. These transepts are erected in the early English style, and they are very valuable *dated* examples, and therefore of the utmost importance to archæologists. The next thing done was to attack the nave, of Norman architecture, built by Archbishop Thomas. In 1291 the nave was begun to be erected, in its present shape. It is in what is called the decorated style, and is another valuable *dated* specimen. This work was begun in the time of Bishop Romanus; and they were told that Bishop De Melton spent 8,000*l.* in completing it. The present nave is considerably larger than the former one, and Professor Willis gave an interesting description of the probable manner in which the transepts were made to adapt to the new building,—which displayed considerable skill in the engineering of architecture. Having traced the rebuilding of the nave, he observed that the choir still remained as built by Roger, when in 1361 Archbishop Thoresby and the chapter agreed that a new choir should be erected. This was done at twice, as the character of the building indicated.

Mr. Brown, of York, then addressed the section at considerable length. He observed, that in his opinion the Saxon cathedral had been much more elegant than Professor Willis supposed; he also differed with him as to the existence of aches. He read copiously from his history of York Minster, and explained the grounds on which he fixed the dates of the several sections of the fabric. He remarked, that the general opinion formerly was that the choir was erected at one time; it now appeared that it had been built at twice, and that they had two fabrics in one. The western portion of the choir was not completed till 1440, although it was generally supposed to have been finished by Thoresby in 1370. Again, the tower was attributed to Walter Skirlaw. Such was not the case. Instead of being built in 1370, it was not finished till 1472. The screen, it was said, was brought from St. Mary's Abbey. No such thing. It was made by William Hindley, his principal carver being a man named Fothergill. It was completed in 1515. The works at the Minster were not pushed with rapidity. Many years passed over with only seven masons engaged in the works. When the screen was finished, the same masons proceeded to build Belfrey Church. He observed, that great care had been always taken to keep the fabric account in a wholesome state; he had referred to the ancient settlements, and found that something was always kept in hand. The church owed much to the great liberality of her archbishops and clergy, who had been most zealous in all ages for the maintenance of the fabric. The building of the great tower was begun in 1292, and was completed by Thoresby. He gave the finishing stroke to the nave, and then came the decree that the choir was too insignificant. On the 29th of July, 1361, the building of a new choir was determined on, and in a few days after, on the 1st of August, the first stone was laid. The erection of the S.W. bell-tower was begun in 1445, John de Birmingham being treasurer at that time. This tower was finished in 1455, when the bells were removed into it, from the great tower, where they were formerly hung. The N.W. tower was completed in 1472.

Professor Willis briefly defended the opinions to which Mr. Brown had taken exception.

EARLY HISTORY OF SCULPTURE.

The following is an abstract of a communication by Mr. Westmacott, which was read by Mr. C. Newton, one of the hon. secs. The author, in the commencement of the paper observed, it had appeared to him in his examination of what was termed mediæval sculpture, to be worthy of remark that, while Christian ecclesiastical architecture made regular progress from the earliest character to its consummation in the so-called perpendicular style, sculpture did not advance *pari passu*; but, though as full of promise as the art whose handmaid she was bound at first to be, this art almost suddenly ceased to take its place in the course of improvement. If his view were correct, it might not be uninteresting, nor altogether unprofitable, to endeavour to discover the causes why an art so peculiarly capable of development as sculpture, should thus have stopped short in its natural progress, and relinquished the high mission to which it might truly be said to have been called. An acquaintance with Greek sculpture mounted up to that indefinite period called by scholars and antiquarians the "archaic" ages. The first signs of improvement in sculpture, introduced by oral artistical taste and feeling, and perfected by technical knowledge, dated at from 600 to 500 B.C. After the failure of the Persian invasion of Greece under Xerxes, when enormous wealth fell, as spoil, into the hands of the Greeks, a new era in art arose in that favoured land. It was determined to restore with unprecedented splen-

dour the temples which had been destroyed by the Persians, and the riches they had left behind them placed the most ample means at the disposal of the rulers of Athens. Sculpture was influenced by the new impulse which architecture then received. In the centuries before Agelodas, Myron, and Phidias, sculpture attempted little beyond representing, in the simplest way, sacred personages, or subjects illustrative of natural history. But a new light now burst upon the artists' world. Beauty in its sublimest and most seductive forms came to be considered a property of art, and essential to it: and the stimulus afforded by the political events alluded to was attended by a new feature in the practice of sculpture. It was to be borne in mind that much of the sculpture required was for the decoration of the temples; and whilst so employed it maintained its peculiar character of excellence. That this was the most zealously guarded, even after the great improvements in form effected by Phidias and others, appeared in the history of Phidias himself. Every subsequent deviation from the strictness with which the art was to be practised, as an accessory to religion, seemed to have led to its loss of high character; and perhaps it was not going too far to say that the decline of the grand style in sculpture might have been owing, in a measure, to the appeal made to the senses by Praxiteles and his followers. The introduction of sculpture in the earlier ages of Christianity was owing almost, if not entirely, to the same causes as its birth in the ancient world. At first it was used as a kind of record or representation of events and personages connected with sacred history. In the next stage, mediæval art began to interest the more as it advanced towards beauty. The development of beautiful forms with the Greeks was in the spirit of the age and their religion; but it was in the manner of carrying it out that was seen the distinction between the character and habits of the two periods and different races. After noticing the characteristics of these periods, the author stated that the chief cause of the failure of ecclesiastical and modern sculpture was attributable to the very circumstances that might have assisted in advancing modern art, viz., the taste, among the superior classes of Italy, for everything connected with Grecian associations. The canon of excellence in art was some uncovered statue of antiquity; and, if perchance any sacred subject was illustrated, it was required to be done according to some approved remnant of heathen imagery. Thus was the art that was advancing, and would have advanced, thrust recklessly aside. It no longer was identified with the age, with the people nor with their religion. The charm which had given it life, and which alone could give life to art, was dispelled just at the moment when there appeared every probability that a great and grand step of original (Christian) sculpture would be developed and matured. The genius of Michael Angelo himself was trammelled and enchained by this unfortunate mixture of the ancient and modern; and the artist of the most mighty ability of any age had left works stamped indeed with the seal of the powers of invention, imagination, and technical knowledge, but too often disfigured by mannerism, the result of this attempted combination. From that time no school of fine sculpture had been seen; occasionally successful, nay, most admirable imitations of the statues of the ancients had appeared; but no enduring system had been, or could be, founded upon such false premises as attempting to produce Greek results without Greek associations.

CLIFFORD'S TOWER, YORK.

The Rev. C. H. Hartshorne read a paper on Clifford's Tower. This ancient military building (which is now surrounded by the walls of York Castle) is built of magnesian limestone, the masonry being rather larger than the Norman ashlar. In form it is perfectly in geometrical proportion, and its width each way is about fifty feet. The mound on which it stands is anterior to William the Conqueror, and the date of the tower he believed to be about 1220. The entrance is of later erection; and the arms which surround the door and the jambs of the doorway are still more recent. The name of Clifford was not in connection with the town till the time of Charles II. Mr. Hartshorne described it as a valuable example of a military building.

STOW CHURCH, LINCOLNSHIRE.

A short description of this church was read by Sir Charles Anderson, Bart. The nave is of early Norman character, and the tower arches of the same style remain, with the perpendicular arches of the present tower intersticed within them; a part of the transepts belongs to a still earlier structure, which has evidently been destroyed by fire. Sir Charles Anderson considered the tower arches to be those of the tower built to receive the bells reported to have been given by Archbishop Putta in 1023, and the transepts to the church burnt by the Danes a few years previous to that time. It is recorded that Remigius, Bishop of Lincoln, rebuilt the church, but Sir Charles considers this only a partial work, and that parts of the older structures still remain.

The Marquis of Northampton remarked that he had never heard better evidence that a part of the church is Saxon; and the Institute was much indebted to Sir Chas. Anderson for adding another good example to the test, perhaps the best, sustained by historical evidence combined with architectural character, of any that had been brought forward.

Professor Willis observed that he was most anxious to do away with the impression, that because in our cathedrals and larger collegiate churches the Norman builders had destroyed every vestige of the Saxon work where they rebuilt the churches, therefore no Saxon buildings exist. On the contrary, he considered it extremely probable, and almost certain, that in our remote country parishes where no funds were forthcoming for building new churches, considerable parts of the original ones still exist. He pointed out the characteristic marks, such as long and short work, and other features by which such buildings may be distinguished.

THE WINDOW IN ST. JAMES'S CHURCH.

Sir,—As you published in your last number a letter addressed to you from Mr. Warrington, one of the artists invited by the committee last year to send in a design for the stained and painted-glass window at St. James's Church, I, as the honorary secretary to that committee, cannot refrain from troubling you with a few remarks, with the view of removing the unfavourable impression which such assertions as are therein contained, if not refuted and contradicted, may make in the minds of yourself and the readers of your excellent journal; they tend to throw an undeserved slur on the conduct of fifty noblemen and gentlemen, utterly incapable of acting as a body in the way described by Mr. Warrington, and whose only and most anxious desire was by their liberality and gratuitous services to effect the object for which they were appointed with strict integrity, to obtain a design worthy of the church, and to select from those submitted to them the one which in their judgment they considered the most appropriate, and prove the most satisfactory to the general body of the subscribers.

If, unfortunately, individuals of the general body, by any mistaken zeal to obtain that object, induced any one of the artists to adopt for his design a subject which was ultimately rejected, no one can regret it more than myself; but I most positively affirm, on behalf of the committee as a body, that the competition was most fairly and honourably conducted.

The circular written to the artists who were invited to compete, did not set forth that the window was to be wholly pictorial, it only stipulated that it was "to be designed in keeping with the interior, which is considered one of the finest specimens of Sir Christopher Wren's abilities." The several artists, therefore, were at perfect liberty to adopt any subject or character for their design, so long as that principle was adhered to.

Five designs were sent in to the committee, and the competitors who chose to attend the meeting had the opportunity of doing so, to explain or make any statement which they might wish relative to the character or subject which they had individually adopted; their several designs were carefully investigated; their merits discussed; and it was the general opinion at a large meeting of the committee, that the mosaic style and character adopted in the design sent in by Mr. Wailes, was the most appropriate for the window.

In execution of the work, Mr. Wailes, by the request of the committee, most certainly altered the architectural details, but the pictorial subjects selected by him, and the mosaic style and character of his design are retained; therefore, as mosaics are certainly any thing but inappropriate to Italian architecture, and as architectural errors in artists' designs are often to be found, I do not think that the whole merit of a plan should be condemned or thrown aside because a committee may require its details to be corrected. And I cannot see that the committee in this instance, as Mr. Warrington has stated, decided "upon a design which they were evidently shamed out of, and induced an open violation of their own specified conditions;" or "that it was a direct breach of integrity in a *mis-called competition* in the selection of a design which could by no possibility be adopted." I must assert, in justice to the artist, that the design in all its essential parts has been carried out, and with much credit to himself.

Mr. Warrington further intimates, that the committee have made statements through the press: this I deny; whatever may have been said on the subject by way of criticism, has entirely originated with themselves.

Thus far I have considered it my duty as honorary secretary to the committee, and without consulting them on the subject, to defend them in their proceedings, which I again aver, in my opinion, were honourable and straightforward. Whether their decision has displayed "negative wisdom" or no, is another question, and in my mind a difficult one to decide. The work as executed has been much admired, and been pronounced to possess considerable merit, with which opinion I most certainly concur, although I must confess I should prefer a pictorial production of "an Angelo, a Raffaelle, or a Rubens." But, unfortunately for us, talents such as they possessed are rarely or ever met with; the soul and feeling introduced into their pictures by their hitherto inimitable touch, are too often lost in a copy—which is only a copy after all. If first-rate talent be not employed in a picture, whether it be on glass or canvas, it generally raises a feeling of regret at the labour in vain. It therefore becomes a serious matter for consideration whether, in so large a work, a copy of one of their pictures or an original of talent inferior to theirs—taking into account the disagreeable effects always produced by the junction of the glass and the lines of the iron-work necessary to support the window,—would have been the more appropriate style to adopt. Wiser heads than mine, on this occasion, said nay, therefore I felt bound to succumb; but I still am most decidedly anxious that the artists in glass painting may eventually so improve in the art, as to overcome all the difficulties they have at present to contend with, and I do most sincerely hope, that more charitable feelings may be exhibited for the future, from your correspondent towards any one who may hereafter be his fellow competitor; for although I had no personal knowledge of Mr. Wailes or Mr. Warrington prior to this work being executed, I think it right to bear testimony to the gentlemanly behaviour of the former, and although, as I before stated, I am still inclined to the truly pictorial, I am quite persuaded that such wholesale and unmerited expressions of condemnation of a fellow artist's work, will neither do good to the cause or add weight to the arguments of the latter, or gain for him the good opinion of the multitude, without which a professional man generally sinks into insignificance. I shall now leave this matter in the hands of Mr. Wailes, if he think well to notice Mr. Warrington's letter, and trust to my reputation for you (and your readers, if you will kindly allow it space in your journal) believing my statement. Apologizing to you, Sir, for thus intruding on your valuable time,

I am, Sir, &c. Charles Mayhew.

14, Argyll-street, July 28th, 1846.

Premium for the Preservation of Monuments.—On the suggestion of the French Committee of Historical Monuments, the Minister of the Interior has caused a medal to be struck, to be presented to those who have lent to his administration valuable assistance in the preservation of national monuments.

LESLIE'S PATENT FOR VENTILATION AND ECONOMY OF FUEL.

OFFICIAL REFEREES' AWARD.

Mr. Leslie having constructed a fire-place and chimney in his manufactory in accordance with his patent, the district-surveyor of St. George's, Hanover-square, filed an information against him as follows:—

"That the said John Leslie, in building the said chimney and flue, has done certain matters or things contrary to the provisions of the Act, namely, the breast of the said chimney, and the front of the flue in the said chimney, not being built at the least 4 inches in thickness, of sound bricks properly bonded, and the joints of the works filled in with good mortar or cement."

The award sets forth, that at the hearing Mr. Leslie "stated that his object was to try an experiment for the purpose of introducing a newly invented mode of ventilation by means of a vertical perforation in the fire flues, such flues being of less width than the minimum dimension permitted by the Metropolitan Buildings Act, that is to say, of less than 8½ inches in one direction."

And the decision was, "that the matter alleged by the district-surveyor is contrary to the Act, and further that the formation of the flue less than 8½ inches in any direction is contrary to the said Act, but inasmuch as the object of the work is to make an experiment, the official referees will make no direction thereon for a period of three months from the date hereof."

In connection with the above, we are called on to publish the following letter, addressed to the official referees under the Metropolitan Buildings Act:—

Offices for Mr. Leslie's patents,
59, Conduit-street, 24th July, 1846.

Gentlemen,—On receipt of your letter of the 22nd instant, yesterday, I caused the demand on me of 1*l.* 3*s.* 2*d.* to be paid to obtain your award; and having carefully perused the same, I formally protest against it; because there are most important errors of omission and commission in the document, whereby the real facts of the case are not to be found in it.

When this award is published it will appear on the face of it, to every reader, that I have surreptitiously committed an offence against the Metropolitan Buildings Act, which the vigilance of Mr. Foxhall, the district surveyor, had discovered: that he gave me notice of the irregularity on the 14th instant: that on the 16th he found I had not amended the irregular works; whereupon under the 14th section he laid an "information" against me; on the hearing by yourselves of which "information," I am in the award represented to have stated, that the "works therein referred to had not been altered or amended, but stated that his object was to try an experiment, for the purpose of introducing a newly invented mode of ventilation, by means of a vertical perforation in the fire-flues, such flues being of less width than the minimum dimension permitted by the Metropolitan Buildings Act; that is to say, of less than 8½ inches in one direction."

The experiments under my patent for economy of fuel and ventilation have been tried long since, and with the most perfect success. The true cause of the erection of my patent apparatus in my own manufactory is not to be found in the award, but is as follows:—

In my written application to you, dated the 25th ult., to rehear my case for a modification of the Metropolitan Buildings Act, pursuant to the 11th section of that Act, and to enable you to have ocular demonstration of the patent prior to your reporting on my application (as you are compelled to do by the statute) to the Commissioners of Woods, &c., I ventured "to suggest that you should allow me to carry out my own patent, in my own manufactory, under your own inspection."

The award I protest against omits all mention of that important fact, and also of the official answer to my application, dated the 26th of June, which informed me that upon payment of the fees therein stated, "the official referees will inspect the premises on Wednesday next, the 1st of July, at four o'clock in the afternoon."

The award I protest against omits to mention, that, I having paid the fees demanded, you, the three official referees, Messrs. Hosking, Shaw, and Poynter, did, on the 1st of July, inspect my manufactory, did examine the plans for the proposed apparatus under my patent; did suggest that there should be 9 inches of brickwork at the back of the fire; saw and examined the prepared iron-work to be built in with the solid brickwork, for the ventilating process; and after a very careful and attentive examination, authorised me to erect the apparatus at once, and which was accordingly commenced the next morning.

You will bear in mind, also, that at that interview I asked your permission to put in my patent apparatus for economy of fuel and ventilation, in my front offices, but your reply was "not at present."

The award I protest against further omits to mention the official letter from the registrar, in the name of the official referees and himself, of the 9th instant, requesting my attendance at the office of Metropolitan Buildings, on the 15th instant; and I beg your particular attention to why I was required to attend,—on "the introduction in the metropolis of your patent for economy of fuel and ventilation." I attended, but soon discovered that the object for which I was specially requested to attend was to form no part of the proceedings at the interview; the real matter was to prepare the way for instructions to Mr. Foxhall, the district surveyor, to lay an information against me, resulting in the award I now protest against, for the reasons already stated.

I beg to remind you that I have paid, or am liable to pay, since my application under the 11th section of the statute on the 25th of June, four distinct sets of fees under the Metropolitan Buildings Act, the total of which, I have every reason to believe, will exceed the entire cost of the erection of the apparatus and chimney.

What does my patent propose to effect? a saving in the metropolis of one-half of the coals used, or rather wasted, occasioning a money saving to the inhabitants of fifteen hundred thousand pounds a year,—an annihilation of more than one-half of the smoke nuisance in the metropolis; and with these enormous reductions of expense and nuisance, to enable every room even of the poorest inhabitant, to be well ventilated at all times, without violent currents dangerous to the inmates.

I wish to clear myself from doing any thing surreptitiously. I always go straight at my object; and I feel bound honestly to express my opinion, that you, the official referees, were in the right course according to the statute; but from what I have witnessed, I believe you have been diverted from the right into a wrong course by your "legal adviser," particularly as to the "information" (under the circumstances) and the award thereon.

I shall send a copy of this communication to The Builder, with a request that if, as is usual, that journal publishes the award, the Editor will also publish these observations.—I have the honour to be, gentlemen, your obedient servant, John Leslie.

ROCHESTER CATHEDRAL.

Mr. Editor,—I believe the only way to call attention to an error, and to have it remedied, is by addressing the editor of a public journal, as the subject then becomes known, and commands public interest.

I lately visited the town of Rochester for the purpose of viewing the cathedral, &c., and regret to say, that although much has been expended in its repair, and that not in all cases judiciously, one great feature has been omitted or neglected, but perhaps happily till the present period, when a better taste and knowledge begin to prevail as regards ecclesiastical architecture. I allude to the beautiful Norman doorway at the west end, which is gradually perishing, and in the course of a few years the ornamental work will be so completely obliterated as to render it difficult to restore it to its pristine beauty. The expense of accomplishing this work out of the funds of the cathedral would be so trifling, and at the same time praiseworthy, that it is hoped a hint may be found useful. If the present window was removed, and the original architecture restored (no very difficult task, as you may actually trace the former arches, which have been destroyed to substitute this abortion), additional praise would be due to the heads of the cathedral,—I am, Mr. Editor,

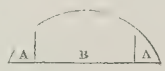
16th July, 1846. A Subscriber.

RIGA AND DUTCH WAINSCOT FOR BUILDING PURPOSES.

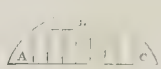
That description of oak which is known in England under the denomination of wainscot, and sold as such in the trade (and which appellation is derived from the German words wagen schoosz), is a kind of wood originally employed in the construction of the bottoms for waggons; hence the term, wagen-schoosz, or waggon-seat.

This wood is cut out of oak trees reared in the forests of Volhynia, where those are selected for felling that have a diameter of from 28 to 30 inches; and for this purpose such trees are selected that are tough in the context, and can furnish logs of from 14 to 15, or at least of 7 feet of clean timber, free from branches, and are then set apart for the better purposes in which oak is employed in building, whilst the shorter ends are cut up into staves.

The trees that are selected supply soft wood, straight in the grain, and easily to be worked. The logs of the lengths just stated are split in the middle, and often freed of the pith, so that supposing a tree to be quite sound, its section will represent about a semi-circle; but if the centre should happen not to be sound, and it should be necessary to cut a plank or so away, the remainder would assume a semi-elliptical form. Of this two slabs are then cut away (as marked AA), and the part represented by B, after having been transported upon sledges from the forest to the port of embarkation, is then shipped at Riga for the ports of England or elsewhere, and is known as crown English wainscot and crown Dutch wainscot, and second quality. This wood is subsequently sawn into planks and boards, and exposed to the action of the atmosphere during three years, at the end of which time it is considered to be adapted for use.



The wood that is used for staves comes from the same trees, and, as already observed, cut out of only shorter and weaker logs; and with this difference, that whilst the boards cut out of the wainscot logs have a width extending from the flat side to the circumference, that of the staves is only equal to the space extending from the broader flat side to a line parallel to it, produced by the previous cutting away of the part of the log represented by the letters ABC, in the annexed diagram; the shorter perpendicular lines indicating the staves, which are of the width of six or seven inches.



Besides the Riga wainscot already mentioned, and which is denominated crown Dutch log, some other is imported from Holland; and this description is rare, and much esteemed.

Holland had carried on a very extensive trade in all kinds of European wood, both in and export, extending their exports even as far as the West Indies. Towards the close of the sixteenth century, Cornelis Corneliszoon, of Rutgeest, invented the saw-mills in Holland. The first of these mills was erected by the inventor at Zoandam, and with two blades, and these mills were very soon introduced into Amsterdam, Rotterdam, Leyden, and Dordtrecht, and rapidly increased in number. Wind was in most cases the motive power employed, and they were constructed upon two known systems. By the first the whole mill is movable upon an axis towards the base, by the second the cap only moves upon an axis placed just below it and upon the top.

The transport of wood into Holland is made on the Rhine, brought in small floats along the Main, Moselle, and the Soar, as far as Andernach, near Bingen, on the Rhine, in which they unite. These small floats are then united into a larger raft, often from 700 to 1,000 feet in length, and from 40 to 90 feet in width, built so as to adapt them to the navigation of that river, and divided into three compartments, the central division being by much the longest of the three, whilst the leading and closing divisions may be considered as the van and rear; and they are propelled by oars similar to galleys. The timber is built up into three compartments, on logs and fir-planks; and the oak timber on the top, pulling along behind the raft a large number of masts, secured to it by chains and ropes. Several temporary dwellings are erected on

these rafts, for the accommodation of the master and his crew, which consists sometimes of from two to five hundred persons, some of these erections being used as kitchens, others as store-rooms, &c. The value of one of these rafts amounts often to half a million of florins (from forty to fifty thousand pounds sterling). Within late years, this branch of trade has been considerably reduced, and the importation of wood is now almost exclusively confined to the quantity required for home consumption.

Dutch wainscoat has preserved, even in England, its reputation for fineness and good figure of oak. About ten years since, Messrs. Armstrong and Smith were charged with supplying some flooring and ornamental work for Windsor Castle; and they were on that occasion obliged to proceed to Holland, to select some there, not having been able to meet with any in the whole stock in London, of Riga wainscot, that would give satisfaction.

Since that time, small quantities only of Dutch wainscot have from time to time been imported into England, and it was only in the last year that ten or twelve cargoes, consisting of planks and deals, were imported direct from Holland, the first of which consisted of very good wood, and fetched good prices, whilst the others, that were of a secondary quality, were sold cheap. Since then two cargoes of Dutch wainscot of the first quality have been lately imported from Holland in logs, and remain still in the docks, the owner refusing to sell them at reduced prices, and the buyers entertaining some prejudices against it, pretending that they would lose too much by the measurement; for as the logs are of the form of half ellipses, and the custom authorities have measured them in strict conformity with the regulations, there is some truth in these pretensions; but as the price is nearly twenty-five per cent. lower than that of Riga wainscoat, and as the slabs have a value likewise, the loss in measurement is made up very advantageously by the difference in price, independently of the superiority in quality; and as the Dutch wainscoat has laid nearly from nine to twelve months in the water, it requires not half the time for seasoning required by Riga wainscoat, for which reasons it may be said to offer advantages to builders and timber merchants.

It is almost superfluous to observe, that both Dutch and Riga wainscot is employed in the construction of the internal part of buildings; and we may consider for this purpose the Riga wainscot as possessing greater strength, and the Dutch as being more figured, and easier under the tools.

It is at the same time to be greatly regretted, that in the majority of buildings of recent erection, both in London and in the country, scarcely any attention is paid to their strength and duration. Whilst our forefathers were studious to raise structures that were to defy the ravages of time itself, their posterity seem bent upon building dwellings that should scarcely survive themselves: and if this were really their object, they could not have resorted to better means to effect this end, than the employment of wood which the dry-rot so soon destroys, as is proved to be the case by daily observation and experience. STEINITZ.

THE ALLEGED SINKING OF WESTMINSTER BRIDGE.—On inquiry we are informed, that the only foundation for the recent rumour is the fact, that, during the last two years, since the former sinking of six to seven inches, when the piles were withdrawn, the centre of the bridge has sunk, by degrees, two or three inches more, but that no recent or sudden change has been observed. The jointings present no trace of any such occurrence. The committee, however, are said to have unanimously resolved to pull down the whole structure.

LEASES IN IRELAND.—The bill of the late Government to facilitate and encourage the granting of certain leases for terms of years in Ireland, is passing through the House. Mr. Hume has given notice of a motion that its provisions should be *extended to England*. It is proposed by the bill that leases for terms not exceeding thirty-one years, nor less than fourteen, reserving a rent not exceeding 50*l.* a year, may be made according to the form in the schedule, and that the stamp duty should only be 2s. 6d.

LEGALIZATION OF ART-UNIONS.

WE are glad to be able to state that Mr. Wyse's Bill was re-committed on Wednesday last by a majority of fifty to eighteen, after a long debate, and was read a third time on Thursday. In the course of the debate great ignorance was shewn by honourable members, who ought to be better informed, as to the scope and intention of these associations. Mr. M. Milnes, Mr. Ewart, and Sir George Grey, ably supported the mover of the Bill. The amended provisions of the Bill, under which protection is granted, are as follows:—

Provided always, "that a royal charter or charters shall have been first obtained for the incorporation of any such association, or, provided that the deed of partnership or other instrument or instruments constituting such association, and the rules and regulations relating to the proceedings of such association for such purposes as aforesaid shall have first been submitted to the consideration, and be approved of, by a committee of her Majesty's most honourable Privy Council, and a copy thereof deposited with such committee; and that it shall be expressed in every such charter, deed, or instrument, that it shall be lawful for any committee of her Majesty's Privy Council, to whom the consideration of Art-Unions shall be referred by her Majesty, whenever it shall appear to them that any such association is perverted from the purposes of this Act, to certify the fact to her Majesty; and thereupon it shall be lawful for her Majesty to revoke or annul the charter, deed, or instrument, under which the association so offending shall have been constituted; and nothing in this Act contained shall be deemed to apply to any association whose charter, deed of partnership, or other instrument constituting the same, shall have been so revoked or annulled."

The committee of the London Art-Union deserve the thanks of all lovers of art and friends of national education, for the energy with which they have prosecuted the measure.

THE MANAGEMENT OF THE EASTERN COUNTIES RAILWAY.

A CORRESPONDENT ("Archi"), in reviewing the evidence of parties under examination, as to the late accident on the Eastern Counties line of railway, thus comments upon the facts of this unfortunate case:—As for the evidence itself, it need not now be here gone over.

Is it not monstrous, in perusing the evidence of the higher officials, says our correspondent, to observe with what contempt they treat even the rules they have laid down for their own guidance? They appear to have as perfect a disregard for them as for the lives of their fellow beings. They knew it to be their duty to supply the engine drivers and stokers with books of regulation, and to ascertain that they kept these books in their possession; yet they did not know whether any such regulations were ever given to these men, though they probably knew very well that they worked the engines without the slightest reference to them. Our correspondent, therefore, considers these parties to be the truly responsible and guilty ones; and thinks that they ought to have been taken into custody as well as their inferiors. He directs attention to the fact, that the more immediate cause of the accident evidently arose from the neglect of these very regulations; inasmuch as a smith in the company's service admits, that he and two other men, besides the only proper officers, were on the engine, and, in all probability, engaged in conversation with those in charge of it, and whose attention being thus withdrawn from their duty, prevented them from observing the signals till it was too late: and thus does our correspondent endeavour to fix the responsibility and guilt upon the proper parties. Moreover, had Clare *known* the rules, he would be found to have disobeyed more than one of them—firstly, in travelling beyond the regulated speed; secondly, in not looking out for the signals; and thirdly, in not sounding the whistle on approaching the station. The engine driver, in the present instance, appears to be blind of an eye! Should an office such as this, to the fulfilment of which, above all others, it is requisite that a man should "have all his eyes about him," be consigned to any one labouring under such a defect?

By way of prevention and improvement, our correspondent suggests various measures amongst which we have space for allusion to only the following, namely, that both the engine drivers (who ought to be engineers, and at least twenty-five years of age) and the stokers—though both of them, of course, chosen out of steady, sober men—ought always to be inspected by a proper officer previous to starting;—that each engine should have, to run before it, a carriage, or frame-work with wheels, and horizontal springs, but without a body, so as to receive and break the force of any accidental concussion;—and that a similar guard should be placed behind each tender, and behind the last carriage of each train. He also suggests the formation of "protecting rails," about a quarter of a mile in length, at each station, both for the up trains and the down, in order to prevent one train from running into the rear of another.

ALL SAINTS' CHURCH, ST. JOHN'S WOOD.

THE new church of All Saints, built under the able direction of Mr. Thomas Little, and recently consecrated, stands nearly opposite to the Eyre Arms Tavern, on ground given by Colonel Eyre. It is designed in the perpendicular style of Gothic architecture,—the style of the fifteenth century,—and is constructed externally of Kentish rag, with Bath stone dressings. The prolongation of the nave, which is thirty feet in width, forms a chancel about twenty feet in depth. The length of the nave and chancel is ninety-eight feet, and the breadth of the church, including the aisles, is sixty-one feet. A tower is designed, to be placed at the north-west angle, consisting of three stories, the upper story lighted on each side by traceried couplets; the battlements of the tower are perforated with quatrefoil panels, flanked by pinnacles rising from clustered buttresses. Above the tower a spire is intended to be placed, the whole height of which will be 120 feet from the ground. Our engraving shews the building as it will appear when finished, but only the lower story of the tower is at present executed. This story gives access, by a stone staircase, to the gallery, and a similar staircase is placed in a vestibule on the south side.

Below the four-light perpendicular window in the west end of the nave, a small doorway has been formed for the use of the soldiers from the neighbouring barracks; this is not shewn in the engraving.

This end of the church is flanked by double buttresses of three setoffs, or water-tables, terminated by detached crocketted pinnacles. The north aisle is concealed by the tower before-mentioned, and the termination of the south aisle recedes from the west front, presenting a single light transomed window.

The north and south sides of the church are similar to each other, and are each divided into three compartments by flanched buttresses. Between each buttress are two transomed windows of two lights each, with tracery work in the heads.

The chancel end corresponds with the west end, but the chancel window is larger in dimensions, containing five lights, subdivided by a transom into ten compartments, with perpendicular tracery in the head. The vestry is at the south-east angle.

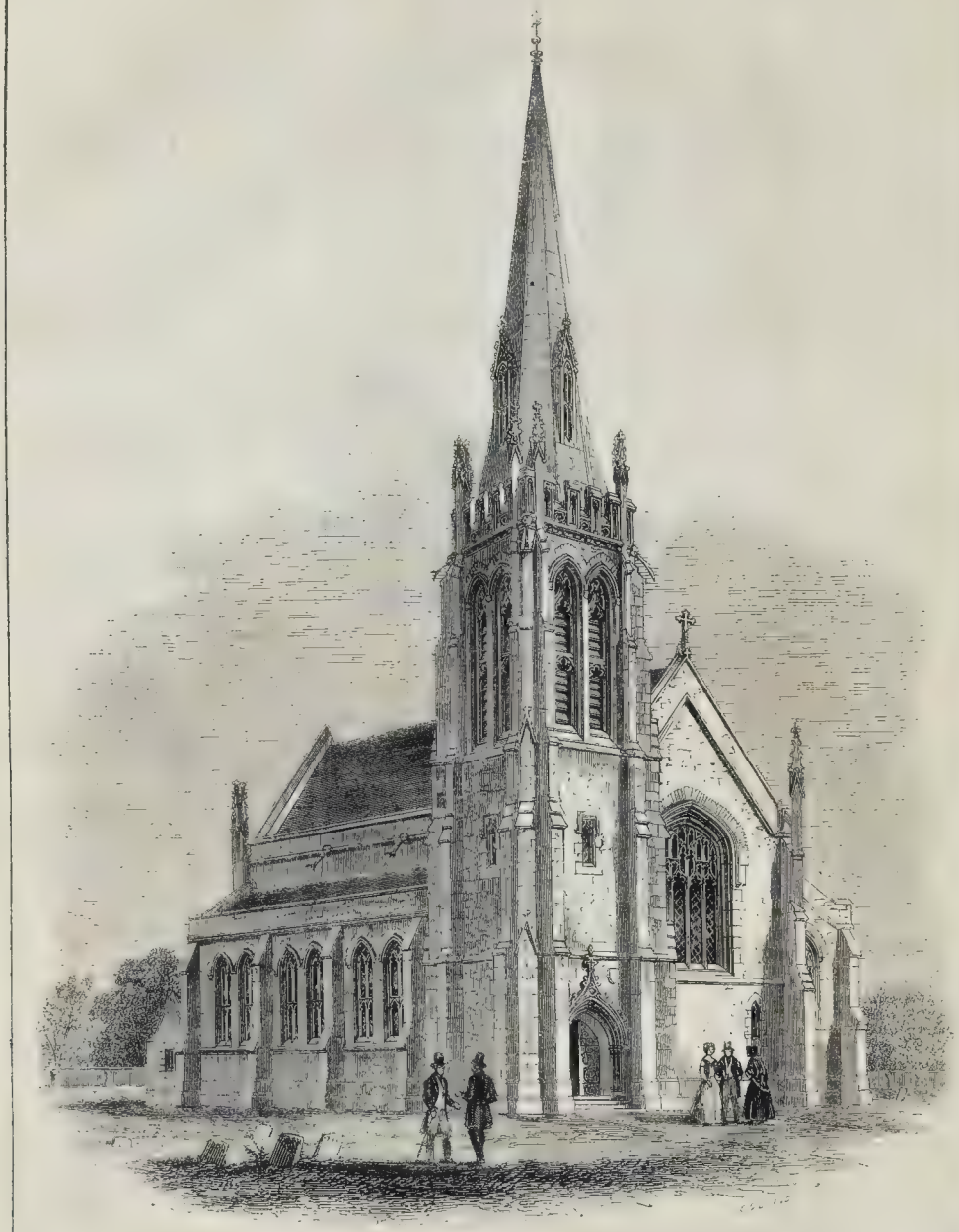
The interior of the church presents a spacious nave, separated from the aisles by three arches springing from slender piers, with attached columns. The arches rise to a height of twenty-eight feet, and have a span of twenty feet. This width affords an almost uninterrupted view from all parts of the church, but on the other hand, is not advantageous in effect. The piers are all executed in Caen stone.

The roof is an open-timbered roof of a steep pitch, springing from bracketed corbels, and rising to a height of fifty-five feet from the paving. The tie-beam is twelve feet by six inches; purlins, nine inches by six inches; rafters, four by three; the curved principals, nine inches by four and a half. The span is thirty feet, and the rise nineteen feet.

The roof of the aisles is also open, the curved principals of which spring from stone corbels. The woodwork of the roofs is stained to shew the natural grain of the wood. Galleries extend over the aisles, and at the west end, three seats in depth. The

ALL SAINTS' CHURCH, ST. JOHN'S WOOD.—(North-west View.)

MR. THOMAS LITTLE, Architect.



seats in the nave and body of the church are inclosed, but being low in height, present the appearance of open seats. The whole of the seat framing is stained with asphaltum and varnished.

The chancel window is filled with stained glass, executed by Mr. Fairs, of Mortimer-street. The head contains figures and foliage, and the ten lights of the window emblematic devices of the Evangelists and the eucharistic service. The upper part of the west window is also filled with stained glass.

The communion railing, table, tablets, pulpit, and reading desk, are of oak. The communion railing, which is a scroll panel of Gothic tracery, the table, and the altar screen, were executed by Pratt's patent machinery. The pulpit is a hexagon, standing on a single buttressed stem. The sides of the pulpit are panelled, and each panel filled in with the linen pattern decoration, carved by hand.

The church was built by Messrs. Burton and Sons, and the whole cost, including the fittings and inclosure walls, was about 7,000*l*. It will seat 1,300 persons.

The building is creditable alike to the taste of the architect and the munificence of a reverend gentleman, by whom the funds for its erection were chiefly provided.

KITCHEN ARRANGEMENTS.

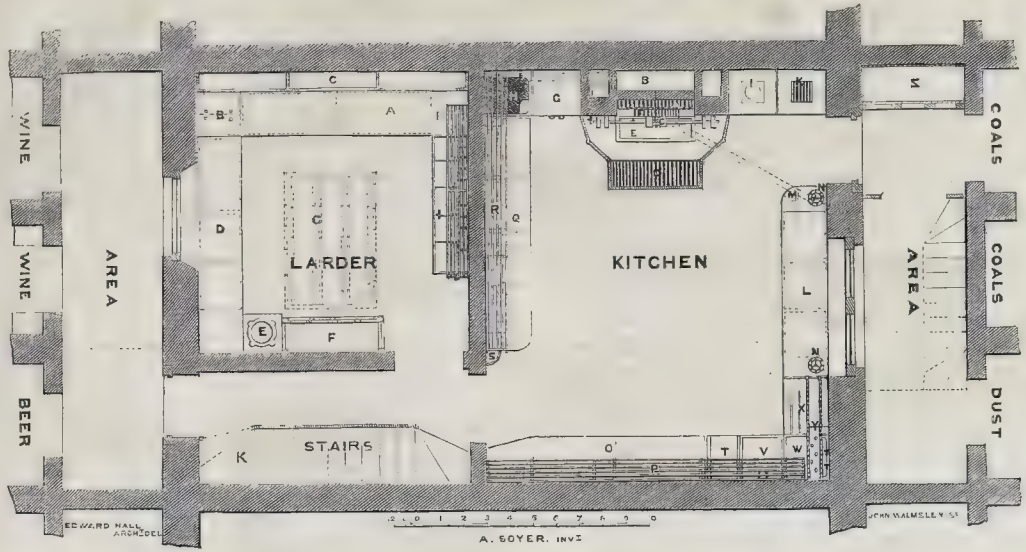


Fig. 1.—BASEMENT PLAN OF A LONDON HOUSE.

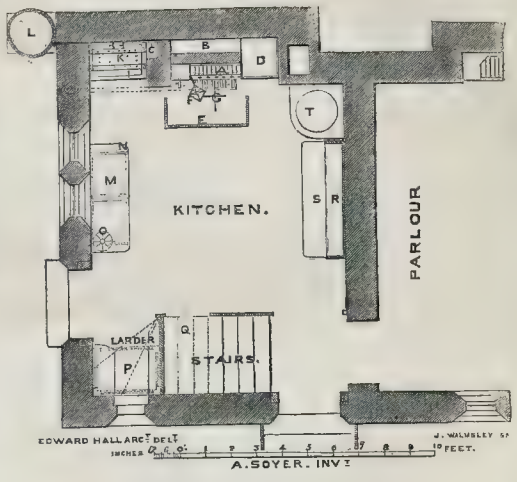


Fig. 2.—THE COTTAGE KITCHEN.

Reference to Plan of a London House.

THE KITCHEN.

A The kitchen-grate, for roasting, constructed with perpendicular bars, about two feet in height, and backed with Welsh lumps. The opening of the grate has a slide, working up and down, to regulate the draught.
B A boiler behind the grate, from which a constant supply of hot water is obtained.
C The smoke-jack.
D The screen and plate-warmer.
E The dripping-pan.
F The ash-pit, having an air-drain attached, communicating with an air brick at the exterior, to increase the draught required to turn the smoke-jack; it would also prevent the chimney from smoking.
G The oven, heated by a fire beneath.
H The bain marie, heated by hot water circulating from the boiler.
I The hot plate, heated by a fire. The coal would be kept underneath.
K A charcoal, or gas stove.
L Thick kitchen table, with sliding shelves and rows of drawers.
M Place for wet sponge to wipe the table.
NN Seasoning-box, and fish-sauce box, made to turn on centre pivots.
O Dresser, with cupboards beneath, to put four entree services of china; above it the shelves and hooks for covers, baking-sheet, &c.
P Iron rail, or shelf for coppers.
Q Dresser for dishes, with drawers for small kitchen utensils, one drawer for fat and a slide-board; over it a rail, with hooks for the covers.
R Iron rail, similar to preceding.
S Rack for the spits, as described in the kitchen of the Reform Club.
T The scrubbing-board.
U The hot water tub, with taps.
W The cold water tub.
X The draining-board, grooved and inclined towards the cold water tub.
Y The plate-rack; that part which is over the tub being perforated with holes at the bottom. The other half of the bottom is inclined in the direction of the holes.
Z A cistern, in the front area.

THE LARDER.

A A dresser with drawers beneath, to deposit sauces and cold meat.
B Flour box.
C Narrow upright closet for preserves and spice jars.
D Marble slab for pastry, with ice drawers, and pickle drawers beneath.
E Mortar.
F Safe for cooked meat.
G Rail hung from the ceiling to hang up meat and game.
H Boxes of different sizes in two tiers; they are made of slate with wooden moveable fronts, and are for vegetables.
I Iron rail above, for moulds and spices.
K Potatoes.



SINK BELL TRAP.

Reference to Plan of the Cottage Kitchen.

A The grate, with perpendicular bars, about 18 inches in height.
B The boiler.
C Reservoir to supply the boiler—the pipe from which has a ball cock.
D The oven.
E A common wooden screen, covered with tin.
F Swing bracket to support a pan.
G Bracket for roasting, and double gridiron to hang before the fire.
H Ash-pit, as before.
I The sink, with taps for hot and cold water. The coal-box might be placed beneath.
K The plate-rack, over the sink.
L The water-butt.
M The dresser, with drawers and slide-boards.
N A place beneath, for the sponge and water.
O The salt and spice-box.
P The meat-safe, placed at the upper part of the larder, which should be well ventilated by panes of perforated zinc in the window.
Q Potatoes—beneath the stairs.
R Plate shelves.
S Shelves for the pans, below the plate shelves.
T The copper.

THE ARRANGEMENT OF KITCHENS AND COOKING APPARATUS.*

ARCHITECTURE has lately been recommended by several writers, as a fit and agreeable study for ladies. Our own pages have more than once borne witness to the abilities of fair correspondents. We may therefore assume, that our readers are not wholly comprised by one sex, and as Mr. Soyer has addressed many of his remarks to the ladies, we shall probably not be wrong in concluding, that they in some degree direct the duties of the kitchen. Many of our professional readers will, we are sure, recollect, as we do, how often they have been indebted for valuable hints in the arrangement of a house to those, who must often be more familiar with the ends desired than the master of the future mansion. To our fair readers, therefore, we appeal as to the truth of our remarks on the great importance of attention to the apparatus of the kitchen. Though a less interesting subject than many, with which we could fill our pages, it is even in an ordinary house, a matter second to none in importance. It is this consideration, added to that of its having been much neglected, which leads us to devote additional space to Mr. Soyer's illustrations.

We need go no further to prove the importance of arrangement and contrivance, in a kitchen for purposes similar to that of the Reform Club: the same attention would be required from somebody in the kitchen of a hospitable mansion, and to whom can the arrangement be confided with any chance of success, but the architect. It is therefore necessary, that he should have previously studied these arrangements, and their uses; so that even in an ordinary case, he may provide such conveniences as will tend to cleanliness, comfort, and economy. The position of a few taps, or of a row of hooks, may subject him to severe comment on his professional skill, and it is his duty to consult the interest of his employer in the arrangement of the kitchen fire-place, just as it is in the plan and execution of the fabric.

Mr. Soyer shews that common kitchens could be fitted up with all the apparatus, required for an entertainment of some pretension. By means of a little contrivance, the object of the ordinary kitchen could be answered quite as effectually as that of the Reform Club. To explain this, he has given plans, one of a kitchen and larder in the usual basement plan of a London house, one which might be contrived in the back room of a bachelor's chambers, and a third, such as might be adapted to a small cottage or suburban residence. In these he called in the aid of an architect, who has devoted some attention to the subject. In the plan, (fig. 1) the kitchen is supposed to occupy its usual position at the front of the house, the only alteration being in the position of the area doorway, which in most cases, not always, would be beneath the street door. This change seems to have been made in order to accommodate all the fittings, of the dimensions which Mr. Soyer considered necessary, but in the majority of cases, we see no reason why the door could not occupy its usual place. The present position would by many persons be objected to, as it might be thought to interfere with the draught of the chimney, and it seems to have been with the view of preventing the possibility of this, that an outer door in the area, and a draught to the ash-pit were designed. The grate is similar to that in the Reform Club, described in the previous notice (pp. 341-342). It appears that the great advantage of this grate is, that the smallest bird or the largest joint can be cooked, though there is only 4½ inches depth of coals; a consideration this last, of some importance. "Another advantage is, that broiling can be done in a very superior style, by means of a double grid-iron, suspended from an extending bracket, hooked over the top bar." The screen in front of the fire, with the folding-doors, includes closets, in which dishes can be placed upon the grated iron shelves, and removed by sliding doors at the back. The screen and doors completely inclose the fire, so that there is no inconvenience from heat in the kitchen. The roasting process is performed by the smoke-jack, by means of the spits, for which a rack is provided. The other conveniences will be explained by the reference, and by the cuts in the previous number. The kitchen table has the drawers and shelves, arranged as in that already given. The iron rails or shelves (P and R) are similar to some, at the back of the gas stoves, in a previous illustration, and are for similar purposes; they are made in the manner shewn, that they may not retain dust. What we may call the scullery department is represented in one corner of the kitchen. The pans being scrubbed with sand at P, can be washed in warm water at V, and afterwards rinsed in the cold water tub, W. In like manner crockery may be washed, being set to drain upon the draining-board, X, or the plates are ranged in the rack above, Y; the waste water in both cases running back into the tub. By very slight attention to such minutiæ, the comfort of a family may certainly be greatly increased. These tubs are quite sufficient without the ordinary sink. To prevent smell from the drains, the waste-pipes should be trapped; and for that purpose Mr. Soyer has arranged a new apparatus. He states, that he contrived it after twelve months of the greatest inconvenience, arising from a complete stoppage in many of the drains of the Reform Club, which not only created offensive effluvia, but frequently caused the opening of the greater portion of the basement of the house. Since the introduction of the bell trap to the sinks throughout the kitchen department, the nuisance has entirely ceased. The bell is made of copper, and is six inches long and ten in circumference. It is screwed to the sink, and has several holes pierced through for the passage of the water only, and the prevention of any thing else passing down. It will be seen that the plug is attached to a rod, which is in its turn joined to a chain. By pulling the latter the plug is removed; and if it be necessary to keep it open, a link of the chain may be attached to a nail fastened in the wall. The expense is trifling; and Mr. Soyer adds, that it has been found so effective, that it has been adopted throughout the club, and in many kitchens elsewhere. It is shewn at *a* in the sink, in one of the former illustrations. The mortar at E, in the larder, is fixed upon a pedestal, and has a pestle, the long handle of which passes through a ring in the wall. The meat-safe, F, is similar to that at the Club, which is thus described:—"The doors by a simple contrivance open and shut as it were by themselves, by means of a cord and a weight, which draws them, the same as a sash rolling upon pullies, in a groove with iron plates in it, through which two pins are fixed six inches apart; on pushing the door open the pin is raised underneath to stop it, and by a retrograde motion of the elbow when taking a dish out the pin drops, and the door shuts of itself; it is so quickly done that there is hardly time for a fly to get in, besides the wires are so close that the impediment is complete; in addition to that an excellent current of air always prevails. The meat-safe is 4 feet high, 6 feet wide, and 3 feet deep, with two shelves inside: under it, between the bottom and the floor, is a shelf for jars and kitchen basins, &c." The frame hung from the ceiling in the larder of the Club, for meat and game, which that at G resembles, except in dimensions, is "suspended by fixed iron rods, and is 10 feet long, and 6 wide, divided into three parts, having eight iron rods, one on each side of the transverse battens, to hang up the joints, game, poultry, &c., by means of loose and moveable hooks tinned over of a particular form, very easy to remove from, and hook on, the frame with the joints or other articles upon them, by the aid of a long handle with a double hook, there being a hole in the centre of the meat hook for that purpose, thus avoiding pricking any unnecessary holes in the meat." As this requires no further explanation, we have preferred, as in some other cases, to substitute illustrations of greater importance. The vegetable boxes, like those in the Club, are made of slate, having sliding fronts of wood, to facilitate cleaning. The first row is there 10 feet long, divided into eleven parts, namely, five of 1 foot 1 inch opening and 8 inches deep, 6 inches high in front, and 10 inches at the back; the other six are smaller. The lower divisions are for large vegetables, and consequently of greater dimensions, divided into seven boxes, five of which are 1 foot 7 inches deep, 9 inches high in front, and 1 foot 5 inches at the back, with 1 foot 5 inches opening; the other two are for potatoes. "The whole appearance of the above boxes is agreeable, for you see at once all the various productions of the kitchen garden the most in season, and kept separate. There is something new in the plan which might easily be adopted. It is remarkably clean and cool."

In the plan of the bachelor's kitchen we notice many conveniences arranged in a small compass; and should the desires of our houseless bachelor readers extend beyond the limits of a steak or a chop, perhaps they might not do amiss in fitting up a room, somewhat in the manner suggested; but we have space for only one other illustration, and therefore devote it to the cottage kitchen, as more practically useful. This will be sufficiently clear from the plan and reference.

Mr. Soyer's main object appears to have been to shew, that the principal conveniences of a complete kitchen were not necessarily incompatible with the smallest house. He has drawn attention to the importance of the subject, and our professional readers may be able to carry out many of the suggestions with great advantage, and it is with this view that we have thought fit to notice the work at so great length.

* See page 344, *ante*.

BRITISH ANTIQUITIES IN LINCOLNSHIRE.

DR. OLIVER, the indefatigable writer on free-masonry, who has done much towards the illustration of Lincolnshire, which at present much needs attention in this respect, has just now published an interesting little volume on the monastic institutions of the county.* Dr. Oliver says truly, in his preface, "The city of Lincoln abounds with materials of great interest, both monumental and documentary, which are suffered to remain almost unnoticed. Its Roman antiquities are numerous. Specimens of tesselated pavements, basements of pillars, and other marks of the occupancy of that magnificent people, are turned up wherever the soil is excavated to a moderate depth. Mr. Nicholson, one of the projectors of the Topographical Society, says, in a paper read before that body, that 'amongst the opportunities for observation that had fallen to his own share, he might mention the discovery of very many Roman coins, together with brick matrices in which they were cast, on the site of the tread-wheel of the city jail;—the removal of a considerable portion of the east wall of the city next to Broadgate, when levelling the sheepmarket;—the exposure of a very singular work of an octagonal form, built with Roman bricks, when excavating for the cellars of the house occupied by Mr. Jackson, chemist, in High-street, north of the Butter-house;—the discovery and destruction of extensive remains of a Roman bath, with the hypocaust and paving of very perfect tesseræ, near the north end of the Wesleyan chapel, next to Grantham lane;—and many others.' Since this paper was read, two pavements have been found in different parts of Lincoln; and many remarkable antiquities were discovered amongst the excavations made by Messrs. Norton, when building their house in High-street.

The city is surrounded by vestiges of the highest antiquity, in the form of stone idols and tumuli, which are daily disappearing before the progress of agricultural improvements; and every memorial of our remote ancestors, the aborigines of the soil, will soon have entirely passed away, and become as though they had never been. A British deity on Cabourn wold, near Caistor, called the 'Stone sack,' has, I believe, been removed; and the Drake Stone at Anwick, may not be suffered to occupy its position much longer, although, for many centuries, it was regarded with devotional feelings, and esteemed a potent divinity. It is true, these feelings have been effaced by the substitution of a more perfect plan of salvation; but the superstitions attached to them are still in being; and it is an interesting employment to trace these superstitions to their source; and to mark the progress of the human mind from point to point, till the inquiry terminates in traditions, widely differing from the primitive fact, but corresponding thereto by a figurative reference, and an indubitable connection.

In every part of the country, similar monu-

* An Account of the Religious Houses, formerly situated on the Eastern Side of the river Witham. By the Rev. George Oliver, D.D. Spencer, High Holborn; 1846.

ments exist, marking the ages that have gone by, and each distinctly proclaiming the epoch to which it owes its existence. The residence of the Britons, the Romans, the Saxons, and the Danes, is designated by appropriate monuments. These were followed by the baronial castles, and religious houses; the cathedrals and churches of the Normans; and the distinctive style which characterized each particular era, is marked in broad and indelible lines which cannot be mistaken. These remarkable peculiarities appear to have been unaccountably overlooked. If they are seen it is only to be disregarded; and the student in antiquities moves on in the dark, enlightened only by painful and laborious researches, with scarcely a ray to conduct him in his path."

Of this "drake-stone," our author gives a description in the appendix:—

"It is a large irregular oval stone, standing in a field about half a mile north by west of the church. When I first heard of it, its upper surface was sunk 4 feet beneath the surface of the earth; and it was consequently invisible; but by the kindness of the rector on whose land it stands, it was disinterred and placed in its primitive situation. It occupies a conspicuous position; commanding not only a line of beacons which run along the borders of the fen towards the east, but also *the high place* at Dorrington, and the station at Kyme; and from its vicinity to Tattershall might be dedicated to Teut or Mercury. The dimensions are 6 feet 8½ inches long, by 4 feet 2½ inches broad, and 7 feet 2 inches high, measuring from the extreme points; and it was selected by the Druids, for its egg-like shape, because an egg was considered as the fountain of life, and an expressive emblem of the Creator. It was supported on a smaller stone so contrived as to form an aperture of sufficient capacity to admit a man on all fours. The upper part has been flattened by the chisel, and contains an irregularly shaped basin with lips or channels which extend to the edge of the stone. Though of vast weight, it has evidently been brought from a distant part of the country as it is of a different quality from the material which the neighbouring quarries produce; and the lordship of Anwick is a strong clay soil without any substratum of stone whatever.

As the native Britons had an overweening attachment to these stone idols, it was the advice of Pope Gregory to Augustine, for the purpose of reconciling the Pagan converts to the new faith, to celebrate its rites in places which were invested with a sacred character; for the missionaries, finding it wholly impracticable to wean them from their accustomed veneration for these holy places, in their proselyting zeal not only transformed the bards and Druids into Christian priests, but inscribed the stone idols of superior sanctity with the emblem of their faith, thus transferring the adoration to the Saviour of mankind."*

The river Witham was accounted a sacred stream, and its banks were the site of many edifices of Druidical origin. The larger open temples of the Britons were frequently removed to give place to a Christian church,—"which excited the unappeasable indignation of the people, who appear to have been shocked at the sacrilege. Specimens of this indignation may be found in the bardic writings. Thus, Merddin complains to Taliesin, amongst other things, of the profanation committed by a removal of the *grey stones*, for which a terrible retribution is threatened. (Welch Arch. vol. 1, p. 48,) And in another poem (Ibid. p. 74), this retribution is explained to mean, the absolute destruction of the world; which the fanatical bards expected would certainly take place, as the punishment of such a horrible desecration."

"There are instances on record where the temples contained two altars, one for the use of the Christians, and the other for the unconverted natives, who were permitted to assemble there, and offer their sacrifices to the Saxon triad Woden-Thor-Frea.

Of the conversion of heathen temples to the service of Christianity there are many instances:—

"At Stanton Drew in Somersetshire, are the ruins of a Druid temple, to which the devotional feelings of the people were so strongly wedded, that it became necessary to consecrate it to the services of Christianity by the erection of a church and nunnery on its site. Abury Church was not only built on the foundations of the ancient temple, but was constructed of the very stones which composed the sanctuary. The Druidical monument of Long Meg and her daughters, in Cumberland, was consecrated by the erection of Addingham Church; as was also the Giant's Cave on the river Eden; and even the stupendous temple of Stonehenge had Christian honours attached to it, by the construction of a church near to its external boundary; and the village was dignified with the original appellation of the sacred monument. And this custom was not peculiar to the Druids of our own country, for Stukeley says, that at Chartres, in France, where the Gaulish Druids held their chief assembly, there is now a magnificent church built upon the very spot where stood that most celebrated open temple."

Our author concludes that the abbeys of Bardney, Tupholme, Stixwold, and Kirkstead, of which he gives much curious and erudite information (not architectural), were each the seat of a Druidical place of worship, as already referred to.

"In many cases the name of *chapel*, as at Chapel Hill on the Witham, at Dorrington, and Kirkby Green, each of which had its Chapel Hill, will indicate a site of Druidical origin."*

Relative to Kirkstead Abbey, he says:—

"Kirkstead, like Bardney, is a British name, 'Cir, hirs, shires, churches, all took their appellation and form from the Celtic radical *hir* or *cir*, a circle. Church or kirk comes from *kir-rock*, the circle of stones; by contraction it is *Kirk*, and by corruption church. A kirk, church, or place of worship in druidical times, was literally no more than a circle of stones.' (Hutch. Cumb. vol. i. p. 251.) The learned and ingenious Faber says, that '*circus* and *circulus* are both derived from cir or cur, the sun.' (Mys. Cab. vol. i. p. 213."

As bearing on this point, we may mention that in a letter from Mr. Charles M. Jopling on certain Druidical remains in Furness, communicated to the Society of Antiquaries by Mr. Godwin (*Archæologia*, Vol. xxxi. p. 448), a circle (formed by a bank of earth and stones) is described, which is still called "The Kirk." Tradition says, "it was a place where their forefathers worshipped." The manor in which it is situated, is known as that of Kirkby.

* A curious instance of this kind of compromise is exhibited in the parish of Lunn Hammwleh, in Brecknockshire, in the shape of a beautiful specimen of a Druidical adytum or kistvaen, near which the early converts not only erected a church, but converted the adytum itself into the hermitage of a Christian saint; and no greater proof can be wanting of the attachment which was borne by the natives to the idolatrous temple once existing on the spot, than the fact that it required the aid of such an artifice to accommodate the true religion to the superstitious spirit of the times.

* Thus, on Temple Downs in Wiltshire, a Kistaven formerly existed which bore the name of Old Chapel; and many examples of the same kind are stated in a letter from Dr. Gordon to Mr. Aubrey, which has been inserted by Hutchinson in his History of Cumberland.

NOTES IN THE PROVINCES.

THE Poor Law Guardians of the Birmingham Union propose to erect a new workhouse on the site of the present one, adding about one-fourth to the extent of the present buildings, an accommodation which "A Guardian," in *Aris's Birmingham Gazette*, represents as altogether insufficient, at the same time recalling attention to "the startling fact, that no child born in the Birmingham workhouse for many years past has ever been reared," and therefore strongly advocating the propriety of erecting the new workhouse in a high and well drained situation at Birmingham heath, where there are twenty acres of land belonging to the parish.——The new church at Aston, near Stone, erected and endowed by Lord and Lady Vincent, was consecrated by the Bishop of Lichfield on Thursday week.——The Commissioners of Paving and Sewerage at Liverpool, have been very properly adopting measures to ascertain the perfect security of the balconies and stages on the line of procession during Prince Albert's visit.——It is proposed to open the three new public parks at Manchester on the 12th proximo, the anniversary of the origin of the 32,000*l.* subscription.——The parish church of St. Peter, Nottingham, was re-opened on Sunday week, on the completion of its general repair. During the removal of the whitewash, &c., several curious and interesting discoveries were made, such as that of a piece of ancient church music of about the year 1480 scratched upon the stone, probably by the mason who worked it. The flowered diapering was also laid bare in many places. It was for the express purpose of concealing any "profane show" of decorations, &c., as many of our readers are probably aware, that whitewash was first used in churches. The repairs were entrusted to Mr. Place, a young Nottingham architect, and appear to have given complete satisfaction.——Messrs. Bowers and Murray have so far completed their contract of the Railway Dock, at Hull, that the water has been admitted, and the workmen withdrawn to their new undertaking at the East or Victoria Dock. On this occasion about 300 of those employed were entertained with good cheer and friendly feeling by Mr. Murray, at his temporary office on the works.

CONVERSION OF AREAS.

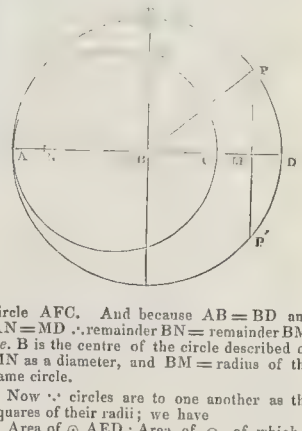
SOLUTION OF "R. H.'S" PROBLEM.

IF the inclosed solution of problem, which appeared in page 331, should be welcome, I beg you will make use of it.

The proposer of the problem does not seem aware that the solution does not depend upon the lines EF, CD. J. W. B.

Bisect CD in M. Through M draw PMP′ at right angles to AD. Then PP′ shall be the diameter of the circle required.

Join BP. Take AN = CM or MD. Then because AN = CM, adding to each NC, we have AC = NM: *i.e.* NM = diameter of small



circle AFC. And because AB = BD and AN = MD ∴ remainder BN = remainder BM: *i.e.* B is the centre of the circle described on MN as a diameter, and BM = radius of the same circle.

Now ∵ circles are to one another as the squares of their radii; we have

Area of ⊙ AED : Area of ⊙ of which PP′ is diameter :: $BP^2 : MP^2$; and

Area of ⊙ AFC : area of ⊙ of which PP′ is diameter : : $BM^2 : MP^2$.

∴ (Eucl. V. 24, 1.) The excess of area of ⊙ AED over area of ⊙ AFC : area of ⊙ of which PP′ is diameter : : the excess of BP^2 over $BM^2 : MP^2$; *i.e.* Crescent-shaped space, AEFDCA : area of ⊙ of which PP′ is diameter : : $BP^2 - MB^2 : MP^2$ (Eucl. I., 47) : : $MP^2 : MP^2$: : 1 : 1.

THE REGISTRAR GENERAL ON HEALTH.—The inadequate supplies of water by companies, the imperfect sewerage in towns, the open drains and ditches, and the general neglect of cleanliness, leave every where great quantities of organic matter to decay and putrify in the midst of crowded populations. In such circumstances, the mortality, like putrifaction, is always increased when the temperature is high; and epidemics of diarrhœa, dysentery, and cholera prevail. Many thousands of the people of England were carried off in the last quarter by these diseases, and others of the zymotic class.

BRITISH ARCHÆOLOGICAL ASSOCIATION.—The annual congress will be held in Gloucester, commencing on Monday next, and closing on the following Saturday. The arrangements promise a very interesting week: we shall give full particulars.

RAILWAY JOTTINGS.

Our new Chancellor of the Exchequer it is said has been consulting several of the more eminent of the Liverpool brokers on the subject of railway legislation.——The "Land and Companies Clauses Consolidation" bill, now before the Commons, is held by some of the more practical men in the city as a desirable remedy for the deficiencies of former proceedings on the part of the legislature relative to the winding up of railway companies.——The customs have agreed to take the average of colonial cargoes of railway sleepers, by piling sixty pieces of each description, and taking the length, height, and breadth, to the quarter of a foot.——A new first-class passenger carriage on a somewhat novel principle has been lately built. It runs on eight wheels, and is expected to obviate the jerking which arises from inequalities on either side of the rail, and to prevent the wheels from getting over them in rapid curves, the plan involving what is equivalent to a hinge in the middle of the frame-work, so that the whole is easily turned as a lorry or omnibus. The chief novelty, however, consists in the mode of reversing so long a carriage on the ordinary turn-tables.——The Great Western Company, if they obtain the extension of the broad gauge to Birmingham, intend, it is said, to abandon their Oxford and Rugby Line, at the point where the Oxford and Birmingham Junction leaves that line. The company also promises, when the Oxford and Birmingham Line is opened to run trains between London and Birmingham in three hours and three quarters instead of four hours and thirty-five minutes, as by the London and Birmingham at present.——The Directors of the Great Western have adopted at Bath the system of taking care of the passengers' luggage, charging 2d. on each article to meet the responsibility and expense.——A complete avalanche of earth from an embankment was carried down on Thursday week upon the rails of the Sheffield and Manchester line, by the bursting of a culvert under the Saltersbrook turnpike road, at Woodhead, in consequence of the heavy fall of rain. It is calculated that 3,000 yards of earth fell, and lay 30 feet deep on the line, and 60 feet wide, for a length of 50 yards. It dammed up the mouth of the tunnel, in which the water stood 3 feet deep. Navigators were promptly set to work to clear away the immense mass.——The Richmond line was opened on Monday last. It has cost only 170,000*l.*, though the original estimate was 260,000*l.* Mr. Locke is the engineer. It was completed in nine months, or at the rate of a mile a month. The fares are to be 8d., 10d., and 1s.——A curious line of railway is said to have been lately opened between Paris and Sceaux — the celebrated park *bal champêtre* village. It is 7 miles long, and was invented by M. Aioux, the inventor of the *trains articulés*, or jointed. It consists entirely of curves, some of them of only 100 feet radius! The termini are circles, where, as in the sharp turns, the first and last carriages come right opposite one another. The axles, instead of being fixed parallel, are free to turn on a pivot, and are made to place themselves in the radius of the curve by guide-wheels or rollers running obliquely against the inside of the rail. The carriages are connected by iron bars. Near Sceaux, the road is a zig-zag, and the train "tacks" up the hill on a rise of one in ninety! How indescribably characteristic of the Parisians this zig-zag flighty curiosity somehow is! The association with the *bals champêtre*, too, how thoroughly French! — the dancing whirl of the rail with the whirl of the waltz, whither it so appropriately leads!

Church of St. Mary-le-Strand.—The steeple of this church, one of Gibbs', has been scraped and partially repaired, the joints stopped, &c., at an expense of 47*l.* 10s., exclusive of the scaffolding. The latter was efficiently erected by Masey and Son, of Clare-market, and cost 30*l.* We mention the repair chiefly for the latter fact, which is a useful *datum*. The weathercock had not worked for thirty years. It is to be regretted, that the parish do not appear to be willing to repair the body of the church, which, externally, stands much in need of it.

Miscellanea.

Vitrified Walls.—At a recent meeting of the British Archæological Association, Mr. T. Pryer read a paper on the ancient vitrified forts in Scotland, particularly that upon Craig Phadric, Aberdeenshire. This fort occupies the entire summit of the hill, which has an elevation of 1,150 feet. In shape it is a parallelogram, being about 250 feet by 100; the walls are traceable, though covered with moss and heather; no cement has been used; the stones are unwrought, and connected together by a kind of substance in some places resembling lava, but in general more like the scoriæ of a foundry; the whole of the stones had been apparently softened and partially melted by fire, and it was evident that the entire structure had been subjected to intense heat. At the conclusion of the paper, Mr. Saull observed that the builders of these ancient forts, which he considered dated a little anterior to the Roman Conquest, had probably used wood and kelp for vitrifying the walls, and he explained the manner in which he considered it had been effected. Mr. J. S. Buckingham fully agreed in the opinions given by Mr. Saull, and stated the ancient buildings at Babylon appeared analogous to the vitrified forts. In the Birs Nimrod, or temple of Belus, there was to be noticed a mass of brick masonry 170 feet high, the exterior and interior surfaces of which had been calcined. Various theories had been advanced to account for the vitrification; some thought lightning to have been the agent; others sought a cause in the custom of the Persian fire-worshippers, of maintaining perpetual fire; but he considered that advanced by Mr. Saull as the more rational. Mr. Buckingham quoted the sacred Scriptures as throwing a light upon the mode of burning the walls; the expression, "and they took bricks and burnt them thoroughly," is still more applicable in the original text, which might be translated, "and they took bricks and burnt them to a burning."

More Foreign Competition with British Manufactures.—We have already had occasion to notice the somewhat startling announcement, that the Sheffield cutlers have been bearded by foreign ones even in their own workshops; and we now observe, that a somewhat similar invasion of the territories of the manufactures of glass is threatened. "Serious apprehensions are entertained by the glass manufacturers in this district," says the *Birmingham Gazette*, "that a certain portion of their trade must give way to foreign competition. Several Belgian travellers have lately offered for sale wine-glasses and tumblers at the merchants warehouses in this town, at from 25 to 35 per cent. cheaper than the same description of articles can be produced in this country. The same disadvantage to a still greater extent is apprehended with respect to ornamental-glass. In the manufacture of articles requiring a great amount of engraving and cutting, the disadvantages against the British manufacture are said to be very decided." It is some consolation, in this lamentable and extraordinary dilemma, that, "in the manufacture of plate-glass, there is little to be feared."

Ancient Timber Edifices of England.—Mr. John Clayton, A.I.B.A., announces a work on this subject containing twenty-six lithographic plates, comprising views and details alternately arranged. The work will comprehend a series of specimens of ancient timber work, illustrative of the use of this material in the erection of buildings, for a variety of public and domestic purposes; the subjects illustrated, with the exception of the Town Hall, Hereford, which is restored from authority, exist in a perfect condition, and are chiefly collected from Herefordshire, Shropshire, and Cheshire. They comprise the principal of the remarkable edifices, designed by John Abel, and erected about the date 1600. John Abel was created one of his Majesty's carpenters in the reign of Charles I., and acquired great celebrity in the west of England.

Submarine Telegraph.—Recent experiments in Portsmouth harbour have established the fact beyond doubt, that information may be transmitted through the water with the same facility as it is along the lines already formed on land. In a score of years England will be in *daily* communication with all her foreign possessions.

American Copper Region.—"The stories which reach us from the copper region on Lake Superior," says the *Toronto Patriot*, "almost daily startle our credulity, and were it not that we have ourselves seen some of these large masses of native copper, we should find it difficult to credit them, however well authenticated." One mass, 13 feet in length, is instanced, and the Ontanagon copper rock, weighing about two tons, is alluded to as "one of the wonders of the world;" but between that mass and one recently met with, "the difference is as great as between a mustard seed shot and a cannon-ball." The proprietors "have 'drifted' longitudinally about 90 feet without finding its length. They have sunk down about 4 feet in places, without finding its depth. Its average thickness is about 18 inches. And the mass thus far uncovered, is estimated at about 90 tons in weight, and its commercial value when raised and smelted, will exceed 25,000 dollars." It is to be sawn into blocks by a steam-engine.

Daubing the Interior of Churches.—A correspondent of the *Stamford Mercury* says, "The interior of Louth Parish Church has undergone a 'cleaning-up this May-day time,' with sundry buckets of white and colour wash, after the fashion of kitchens and stables; and, as far as such applications could make it so, looks clean enough; but what could induce the churchwardens to cover over with such, or any other wash, the fine stone pillars, arches, buttresses, and mullions, and thus destroy their architectural effect, we cannot divine. They might as well (nay, with greater propriety) have whitewashed their marble chimney-pieces and mahogany chairs and tables in their own houses; for in that case no one would have a right to complain; but here, where the parish money is used to destroy the beauty of the church, and to hide from view such parts as may require substantial repair, it is right to call the attention of the parishioners to such doings."

Violent Earthquake at Smyrna.—Two minarets have been shaken down, and a vast number of houses shattered, by a shock which occurred on the 25th ult., and the casualties would have even far exceeded the reality, but for the very prudent practice here, as in some other localities subject to earthquakes, of building dwelling houses of wood, which of course is not so liable to be toppled, or even rent, especially as no large timbers or other heavy materials are used in their construction. Iron would be even preferable to wood in such localities, and would remove the risk from fire, which it is well known frequently consummates the destruction which the earthquake originates.

Operative Carpenters and Joiners.—We have received a copy of a circular issued by a committee of workmen, appointed to take steps for the establishment of a trade society on an improved footing, "and at the same time afford the members opportunities of associating together, apart from the excitements of the public-house, for the transaction of business, the cultivation of their faculties, and the improvement of their condition." Any scheme with such an end in view, to be carried out by legitimate means, would seem to be entitled to support. The first inquiry of course is, what are the means proposed? Care must be taken to avoid arraying class against class.

The Birmingham Cemetery.—The design adopted for the Church of England Cemetery, at Birmingham, is that of Mr. J. Hamilton, of Gloucester. The chapel will be in the decorated style of Gothic architecture, with a tower and spire. The ornamented parts of the building will be of white stone and the plain of Wesley Castle red stone. The catacombs will be in two rows, of an elliptical form.

Carpenters' Tool-baskets from Faro.—The Faro baskets, which are sometimes also used for carrying fruit, are made of a soft and pliable description of rush, with a strong, thick, matted handle. They are charged with a variable amount of customs duty on importation, valued occasionally at 30s. for the largest and 15s. for the smallest size per bundle of five dozen each.

Wesleyan Church in Paris.—The old church of St. Vincent de Paul, in the street Montholon, has been taken by the Wesleyans, and fitted up to hold 800 persons. Mr. W. Corderoy was the architect employed.

LARGE PAVILION.—We omitted to mention last week that the pavilion erected for the recent dinner of the Agricultural Society, in Newcastle-on-Tyne, was 140 feet long, by 84 feet deep, and capable of accommodating about 1,500 persons at dinner. The ventilation was effected by leaves formed of thin canvas stretched over a light framework, which folded upwards to admit the air, and when hanging down they offered no obstruction to the light. The roof of the building was supported by iron-work, and covered with floor-cloth, being completely impervious to the weather. There were two large stained-glass windows behind the chairman and vice-chairman. The floor was boarded throughout. This pavilion was erected by Mr. Manning, of London, at a contract of 3,000*l*. Most of the materials had been used at former meetings of the society.

PARGET FOR CHIMNEYS.—A country paper says, instead of plastering the inside of chimneys in the usual way, take mortar made with one peck of salt to each bushel of lime, adding as much sand and loam as will render it fit to work, and then lay on a thick coat. If the chimney has no offsets for the soot to lodge on, it will continue perfectly clean, and free from all danger of taking fire. A trial of three years, it is said, warrants this assertion.

SCULPTURE COMPETITION.—"A Dancing Girl Reposing," by Mr. W. Calder Marshall, A.R.A., has obtained the premium of 500*l*. offered by the Art-Union of London for a figure in marble.

NOTICES OF CONTRACTS.

[We are compelled, by the interference of the Stamp Office, to omit the names of the parties to whom tenders, &c. are to be addressed for the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent Garden.]

For the repewing, restoring, and improving the parish church of Ifield.

For making a million of bricks in the country.

For taking down and rebuilding the walls, iron railing, and gates, and painting the ironwork of the church of St. Leonard's, Shoreditch.

For the works necessary in extending sewers in the hamlet of Radcliff.

For the erection of a rectory-house and offices near Eye, Suffolk.

For the making of part of the General Terminus and Glasgow Harbour Railway, extending from the Polloc and Govan Railway to near the margin of the river Clyde, with a branch to the Glasgow and Paisley Joint Railway; being a length in all of one mile four furlongs, or thereby. Also, besides the cutting, embanking, and usual railway formation.

For the deviation of a part of the Glasgow and Paisley Canal. Also,

For the building of a tunnel under the Glasgow and Paisley Canal. Also,

For the building of a bridge under the Glasgow and Paisley turnpike-road. Also,

For the building of a bridge under the Glasgow and Paisley Joint Railway. Also,

For the erection of two occupation-road bridges, &c., in connection with the General Terminus and Glasgow Harbour Railway.

For the whole of the work on that part of the Aberdeen Railway from Lawrenceskirk to the North Esk river, being a length of about 4 miles.

For the execution of the branch railway on the Glasgow, Paisley, Kilmarnock, and Ayr line, between Bushby and Irvine stations, a length of about 5½ miles.

For the formation of a branch railway leading from a point on the Wilsontown, Morningside, and Coltness Railway, in the lands of Blackhall, to Shott's Iron Works, a length of 2,291 yards or thereby, with relative bridges and other works (promptly).

For the erection of a parsonage-house on the Upper Dicker Common, near Horsebridge.—Builders requested to send in plans and estimates, including the usual out-buildings; but no charge will be allowed for plans or estimates, or for any other expenses; and all communications must be pre-paid.

For the erection of a rod rolling mill at Middlewood, works, Sheffield (promptly).

For works to be performed in repairs, alterations, and additions to the parish church of Aldborough, near Aylsham, Norfolk.

For painting the iron palisading round Norwich Castle (promptly).

For the erection of six attached cottages for the Itchen Bridge Company, to adjoin their toll-house.

For the erection of the proposed royal arch, at the Queen's Quay, Dundee.

For the disposal of an ironmonger's business in Edinburgh.

For lighting, cleansing, and upholding the public gas lamps of the borough of Gateshead for the ensuing season.

For the leading of the battery at Willington.

For taking down and re-constructing Looc-bridge, Cornwall.

For the disposal of a wainscot altar-screen at Castle Hedingham.

For the opening, cleansing, and making navigable the creek or inlet leading from the River Blyth to the salt works at Southwold, a length of about 1,050 yards.

For the purchase of about 210 tons of fish-bellied rails at Sheffield or Masborough.

For the letting of Woodfield brick yard, near Aldridge.

For the execution of the town drainage of Walsall.

For the rebuilding of the parish church of Runcorn.

For the re-erection of the George Hotel with mews and premises at Rugby.

For the disposal of an old established ironmongers' business, near the market place, Hull.

For the disposal of a builders', upholsterers', cabinet makers, and auctioneers business, established for ten years in a large market town.

For the letting of the Eagle Iron Foundry, at Kidderminster.

For the disposal of a large quantity of contractors implements.

For the mason work required for the water-works at Brampton.

For the mason-work required in the erection of a union workhouse, with infirmary, receiving-wards, register-offices, work-sheds, and other buildings, at Bridlington.

For the carpenter's work required in the erection of the union workhouse and other buildings at Bridlington.

For the iron and other works required in the erection of the Bridlington union workhouse, &c.

For the erection and construction of a gas-holder, 80 feet diameter, with columns, girders, &c., for the Commercial Gas Light and Coke Company, at Stepney.

For the disposal of an oil, colour, and varnish business, in the centre of the metropolis.

For a supply of iron for the East-India Company.

For a supply of paint for the East-India Company.

For the disposal of a long established ironmonger's business, in a good market town 60 miles from London.

For levelling the ground and making the road and drains of the proposed Church of England cemetery, at Warstone, Birmingham (promptly).

For iron pipes required for the Brampton Water Works.

For tanks required for the Brampton Water Works.

For the rebuilding of a Wesleyan Methodist Chapel at Neath.

For the making and erecting of a reservoir, well, shaft, tunnel, and other works for the Gravesend and Milton Water Works.

For the disposal of a nearly new 3-horse power high-pressure engine and boiler, at Birmingham.

For the repair of the footways at Ipswich, for one year.

For the letting of a small brickfield, of about two acres, near Stoneferry, Hull.

For the erection of a wall round the newly-consecrated ground, in the parish of St. Gregory, at Sudbury.

For 5,000 tons of permanent rails of the double-headed pattern, weight 75lbs. per yard, for the London and Brighton Railway Company.

For the construction of a piled jetty and timber gangways at Bow creek wharf.

For the dredging in front of the jetty at Bow-creek, for ships' berths.

For the erection of a workhouse for the Hungerford union, at Hungerford, Berks.

For rebuilding the church of Kilcully, county of Cork.

For the erection of a fever hospital at the Lowtherstown union workhouse, Ireland.

For the performance of repairs and outside painting to buildings, &c., at the Deptford Victualling Yard. Labour alone (promptly).

For the erection of an additional ward of two storys high to the fever hospital of the New Ross Union Workhouse (Wexford, Ireland).

For lighting the City of Bristol with gas for seven years (re-advertisement).

For the works on the Newport extension of the Edinburgh and Northern railway, in two divisions.

For the execution of works on the Hawick branch of the North British Railway, in four contracts.

For the ironwork, &c., of the high level bridge on the Newcastle and Berwick line, at Newcastle.

COMPETITIONS.

Designs are wanted for a new workhouse for the Calne Union, without payment; but the architect whose design may be approved of will be employed to prepare the working plans and specifications.—[Whether or not these also are to be done without payment is uncertain; no promise of payment being made even for them.]

Plans are wanted for widening, altering, repairing, and improving the Cornwall County Bridge at Wadebridge.

Plans are also wanted for the improvement of the eastern approach to the Wadebridge Cornwall County Bridge.

Plans are wanted for a new church, to be built near Pennant, in the parish of Bettws, Montgomeryshire.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At the Royal Oak Inn, Eccleshall: a number of oak trees and poles.

At Leicester: 50 lots of African, Spanish, Honduras, and Cuba mahogany.

At the Southampton Docks: a small cargo of Honduras, Cuba, and St. Domingo mahogany.

At the White Swan Cross House, Southampton: a cargo of spruce and pine deals, battens, batten ends, black birch, red and yellow pine and lathwood.

At Snitterfield, Warwickshire: 2,000 oak timber trees and poles, with several lots of elm and ash timber trees, and 60 cords oak wood.

At Ossington Woods: a large quantity of oak and ash poles and posts, oak, ash, elm, beech, chesnut, fir, and other timber.

At the Albion Wharf, Blackfriars-bridge: a stock of artificial stone and Roman cement castings in architectural ornaments, moulds, vases, &c.

At 35, St. Martins-lane, Charing-cross, an assemblage of scientific instruments from the Adelaide Gallery, comprising a 3½ horse-power steam-engine and boiler, with Perkins's coiled generator; large gasometer, &c.

At 21, corner of New-road, Gower-street: a stock of finely sculptured and polished Italian and French marble chimney-pieces, &c.

TO CORRESPONDENTS.

Received.—"E. B. L.," "Professor D.," "T. I. M.," "S.," "M.," "W. S.," "J. D. P.," "Traveller," "T. L. D.," "J. A. F."

"*Carpenter.*" Write to the works, "Limehouse."

"*W. W.*" We know nothing of the party named.

*** Correspondents must excuse us till next week.

ADVERTISEMENTS.

THE GUARDIAN MUTUAL INVESTMENT and ACCUMULATING FUND SOCIETY, Exeter Hall, No. 3, Committee-Room.—The next Meeting of this Society will take place here on Tuesday Evening, the 11th of August, at Seven o'clock, for the enrolment of Members, receipt of Subscriptions, and sale of Shares.—This Society has now been established fourteen months, and a reference to the first year's balance-sheet will prove its stability, and show how satisfactorily it has progressed.

Money immediately advanced on Freehold, Copyhold, or Leasehold Property, on most advantageous terms both to the borrowing and investing Members.—Prospectuses, and every information, may be obtained of the Secretary, Mr. J. F. HOOPER, No. 4, Great Russell-street, Covent-Garden, on Monday and Thursday Evenings, from 5 to 7 o'clock.

TO CARPENTERS AND BUILDERS.

W. WARD, Glazier, 125, Union-street, Borough, is enabled to Glaze New Sashes with Crown Glass, at 4d. per foot up to one foot; at 4½ per foot up to two feet.—FOR CASH ONLY.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—Wyatt, Parker, and Co., Agents. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

CHEAP PAN FOR WATER CLOSETS, With Trap, in one Piece.

DOULTON and WATTS, Lambeth Pottery, London, Manufacturers of the above in superior glazed STONE WARE, price 7*s*. 6d. each. They are of the most durable ware, and are recommended in preference to iron on account of their cleanliness and cheapness. If preferred, they can be had in two parts, the pan at 4*s*. 6d., and the Trap at 3*s*. 6d. N.B. Manufacturers of RAIN WATER PIPING for houses.

COLOURED PHOTOGRAPHIC PORTRAITS.

"We have recently inspected a number of portraits taken by Mr. BEARD, which are quite beautiful. The colour is uniform, and so transparent as not to affect the likeness in any degree."—Builder.

Mr. BEARD'S establishments are 85, King William-street, City (where application for license should be made), 34, Parliament-street, Westminster, and the Royal Polytechnic Institution, Regent-street.

By Her Majesty's Royal Letters Patent

BAILLIE'S

PATENT ROUNDED RIM LOCKS.

WITH SECRET AND SECURE FIXINGS.

THIS CHEAP and USEFUL ARTICLE, obviating the unsightly appearance and insecurity of the common rim lock, can be obtained of any respectable ironmonger in town or country, or from the sole manufacturer, Mr. EDWARD WRIGHT, Wolverhampton.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 10*s*. per gallon.

LOUIS QUATORZE METALLIC CHIMNEY PIECES, of splendid design, at less than one-fourth the usual cost of Marble, and superior in use, as not liable to injury; they retain their original polish much longer, and can at any time be restored at a trifling cost.

These CHIMNEY PIECES are specially adapted for public rooms, such as ASSEMBLY ROOMS, DRAWING and DINING ROOMS of first-rate HOTELS, or RAILWAY STATIONS; in fact, wherever elegance in style, economy in cost, or durability in use, are of any importance, they will be found most advantageous, and are so exquisitely finished as to deceive the best judges.

May be had either in SIENNA, JASPER, BLACK GRIOTE, BLACK AND GOLD, or any other coloured Marble that may be required.

The openings are 4 feet 2 in. wide, 3 feet 6 in. high, inside, with a shelf, 12 in. wide, and 6 feet 1 in. long.

A tracing will be forwarded, with particulars, upon application to PIERCE and KOLLE, STOVE GRATE MANUFACTURERS, 5, Jermyn-street, Regent-street.

ORNAMENTAL IRON STAIRCASE.

TO BE DISPOSED OF at a great sacrifice, having been recently made for a GENTLEMAN'S MANSION, and not now required, consisting of twenty-nine steps fitted with ornamental cast-iron heads, and risers full three-eighths in thickness, perforated with quatrefoils in panels, moulded nosings, and open bracket ends, framed on wrought iron carriages of 3 inches by 1 inch.

The plan is formed of twenty-two flyers framed in one piece, three winders in quarter space, turning to the left, and four flyers above, measuring 15 feet in height (but being formed in two parts it may be lowered) and 3 feet wide, with 9 inch tread of steps, and risers of 6 inches.

This staircase is well adapted for any situation WHERE ELEGANCE, SPACE, and LIGHT, are desirable, as both ends are framed to shew, and may be put up in a central situation, and suitable in a showroom, warehouse, or any out-door purpose, such as for descending from a drawing room to pleasure-grounds, &c. &c.

Apply to PIERCE and KOLLE, Stove Grate Manufacturers, 5, Jermyn-street, Regent-street.

CHAS. WM. WATERLOW,



Manufacturer of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square. Well-seasoned materials, superior workmanship, lowest prices. Upwards of 400 Doors and a large variety of Sashes and Frames always on Sale. Glazed goods securely packed for the country.



Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged on building.

HERRING'S PATENT SAFETY WINDOW.—All danger from cleaning or repairing windows at an end. No housekeeper should be ignorant of this invaluable invention. Simple, cheap, and effectual; will repay the cost every two years; add 5 to 10 per cent. to the value of houses. No one should buy or rent one without it. Now in full operation in most parts of the kingdom. Builders and the public can inspect its real merits, and have licenses, at the Patent Steam Bed-feather Factory, 14, Kingsgate-street, London.—JOHNSON and PASK, Makers.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

STAINED GLASS, Manufactured in the style of the middle ages, for church windows and Gothic edifices, by JAMES ALEX. FORREST, 19, Old Haymarket, Liverpool. Designs given free, where the work is executed.

PAINTED GLASS.

THE Subscribers, who have been appointed to furnish the PAINTED GLASS for the WINDOWS of the HOUSE OF LORDS, are ready to prepare Designs adapted to every style of Ecclesiastical or Domestic Architecture, and to execute Work, to any extent, within the shortest possible period.
BALLANTINE and ALLAN, 42, George-street, Edinburgh.

STAINED, PAINTED, AND EMBOSSED GLASS.

GEORGE HOADLEY begs to inform his Friends and the Public, that he can supply ornamental embossed Glass from 1s. 6d. per foot super., and borders from 8d. per foot run. Embossed borders in the most splendid colours on view. Having been established 25 years, can give references to numerous works.
6, St. James's-place, Hampstead-road.—Terms, Cash only.

BRITISH and FOREIGN SHEET GLASS for Horticultural purposes, &c., may be had at JAMES BROMLEY'S, 315, Oxford-street, London, at the following reduced prices:—

In crates, containing about 260 feet, of coarse 13 oz., at 4½d. per foot, or fourth quality, 5d. per foot; ditto, 16 oz. coarse, 5½d.; ditto, fourth quality, 6d.; or cut to any size not exceeding 40 inches long by 10 inches wide at 8d. per foot extra. Also Microscopical Glass, French Shades, Plate and Crown Window Glass.—A discount to the trade.

PAINTED AND STAINED GLASS.

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THE BIRMINGHAM PLATE AND CROWN GLASS COMPANY, "Registered," beg to inform the Trade and Public, that the extension of their Works at Smethwick, near Birmingham, being now completed, their Warehouse, 141, Fleet-street, London, is now open for the Sale of their Crystal Plate Glass, which will be found to stand unrivalled by that of any other manufactory. They are in a position to supply Rough Plate of any substance for Skylights or Floorings on the shortest notice.—Orders addressed to B. MOSS, Company's Warehouse, 141, Fleet-street, London, will be promptly attended to.

WINDOW GLASS, LEAD, VARNISH, and COLOUR MANUFACTORY.—Crown Window Glass, in squares under two feet, 4½d. per foot; glazing, 5d. per foot; sheet glass, 3d. per foot; white lead, 26s.; seconds, 24s.; thirds, 22s. per cwt.; linseed oil, 2s. 2d.; boiled oil, 2s. 6d.; turpentine, 3s. 9d.; fine oak varnish, 10s.; carriage, 12s.; copal, 14s.; body copal, 20s.; gold size, 10s.; paper varnish, 10s.; linseed oil putty, 7s. 6d. per cwt. per firkin; patent dryers, 42s.; black paint, 28s.; lead colour, 24s.; Oxford ochre, 42s. per cwt.; best pan water-closet, 34s. complete; ½-brass cocks, 2s. 8d. each. Milled sheet lead, patent pipe, beer-machines, tapping-cocks, and brushes and colour of every description. Thomas Millington begs the manufacturer, can supply a much better article than most other houses. Address, THOMAS MILLINGTON, 87, Bishopsgate-street Without, London.—Established upwards of 90 years.

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VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.
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CLARENDON PANTECHNICON.—Warehouses for furniture and other articles, situate in North Row, North Audley-street, Grosvenor-square. The proprietor, Mr. JAMES PONSFORD, begs most respectfully to inform the nobility, gentry, and public, that he has those exceedingly spacious and convenient ware and store-rooms for depositing of furniture and other valuable property, and that the greatest care and attention shall be paid both to the receiving and delivery of articles, as well as to their perfect safety while in the warerooms. The proprietor also holds himself responsible for any damage which may occur while on his premises, and the moderate terms upon which he offers the convenience, is considerably less than is charged by similar establishments in London.

PAVING, 2s. 9d. PER SQUARE YARD Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, FOLKONEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27s. 6d. per ton.

TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorized CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced.
I. FARRELL, Secretary.
Stangate, near Westminster Bridge, Jan., 1845. Seyssel Asphalte Company.

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

SIR WILLIAM BURNETT'S PATENT for the Preservation of Timber, Canvas, Cordage, Cotton, Woollen, &c., from Decay.

TESTIMONIALS.

From THOMAS GRAHAM, Esq., M.A., F.R.S., L. and E., Professor of Chemistry, University College, London.

"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions,

"The wood appears to be fully and deeply penetrated by the metallic salt; I have found it in the centre of a large prepared paving block.

"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the crystallizable salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.

"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Toplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotised principles it contains, by entering into chemical combination with them.

(Signed) "THOMAS GRAHAM."

"University College, 25th October, 1845.

From Professors BRANDE and COOPER.

" London, 4th November, 1845.

"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.

"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.

"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibre of the substances in question.

"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.—(Signed) "WILLIAM THOMAS BRANDE,

"JOHN THOMAS COOPER."

"To Sir William Burnett, K.C.H., F.R.S., &c. &c."

Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 53, King William-street, London-bridge.

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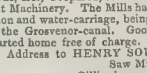
AT REDUCED PRICES.

ALWAYS ON SALE, a LARGE ASSORTMENT of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¼ inch to 1½ inch thick. Rough Boarding for Flats.
TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.
Apply at W. CLEAVE'S Timber Yard, Smith-street, Westminster.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, at Old-Barge-Wharf, Upper Ground-street, Blackfriars, and at Hy. Castle's, Ship-yard, Millbank-street, Westminster, a large, very general, and well-seasoned stock of all kinds of Prepared Floor and Match Boarding, planed to a parallel breadth and thickness, fit for immediate use; also a great variety of machine-prepared mouldings, very accurately finished.
A. R., in calling the attention of builders and consumers, confidently presumes on being able to supply them on such terms as will ensure and merit their favours, &c.

DRUCE'S No. 3, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Pantiles.

MUIR'S PATENT  PLANING MACHINERY.

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TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.
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N.B. Estimates given for Sawing and Planing.



TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.

THE GENERAL WOOD CUTTING COMPANY continue to receive the most satisfactory assurances from all who have given their improved machinery a trial, that there is no method of preparing floor-boards, matched linings, skirtings, &c., by which accuracy, dispatch, and economy of material are so certainly obtained. In shooting, or groving and tonguеing a board (although curved), the machine follows the edge, removing no more than the skin of the wood, and by the use of a peculiar saw for deep cutting, the board comes off with a perfect surface, thus obviating the necessity of reducing its thickness in order to plane out the hollows. The Company being neither builders nor timber merchants, unconnected with any trade but that of sawing and planing, and depending solely on the public for a moderate interest on their capital, are determined, by an assiduous attention to the interests of their customers, both as regards workmanship and general business arrangements, to merit a continuance of their support.

MARBLE.—L. BOZZONI, of CARRARA, begs to call the attention of sculptors, statuaries, and others to a cargo of marble just arrived, per the "Peter Sesin," ex Leghorn, consisting of statuary, vein, and Sicilian of the first quality and large dimensions.—For prices thereof, and to inspect the same, apply to JOHN ROGERSON, Victoria Wharf, near the wooden bridge, Pimlico.

CAEN STONE.

TUCKWELL'S Norway Sufferance Wharf, Greenwich.—Architects and Stone Merchants are informed, that this stone may be procured at the above Wharf in any quantity, in blocks up to 12 tons. The stone, which is exclusively the product of the Allemagne Quarries, and of the very finest quality, is consigned solely to W. TUCKWELL, who is prepared to execute orders to any extent, having a Large Stock always on the Wharf.—Orders received by, and further information with samples may be obtained of Mr. R. A. WITHALL, Surveyor, 90, Cheapside, and of Mr. W. TUCKWELL, at the Wharf.
N.B. Cargoes shipped direct to any Port.

TO BUILDERS, ROAD SURVEYORS, &c.

JOHN SUTTON, Stone Merchant, Rocky-hill, Maidstone, takes this method of informing the Public he has, in addition to his Kentish Rag-stone Quarries at Boughton, Monchelsea, and at Faut, on the Medway above Maidstone, OPENED AN EXTENSIVE QUARRY on the MEDWAY, below the Allington Lock, where he can supply any quantity of RAG-STONE on the shortest notice, in hammer-dressed headers, rough-dressed rag for walling, rough rag-stone for foundations, hassock for internal walls to plaster on, broken rag for roads, block rag for sea walling, &c., also for lime. Any description of dressed stone for quoins, buttresses, copings, strings, labels, &c., can be supplied from Boughton Quarries as usual—delivered alongside any wharf in London.

ROYAL POLYTECHNIC INSTITUTION.—A Chemical Lecture, by Dr. Ryan, daily, and and on the Evenings of Mondays, Wednesdays, and Fridays, Prof. Bachhoffner's Lectures on Natural Philosophy, with brilliant experiments, daily. Macintoshe's Revolving Engine, Coleman's Patent Locomotive Engine for ascending and descending inclined planes, Farrell's Archimedean Railway, the Atmospheric Railway, all in action. Hallette's Atmospheric Railway Valve. The Opaque Microscope. The Oxy-hydrogen Microscope, exhibiting a fine Collection of Living Objects. A beautiful Picture of the Chapel in the Convent of St. Catherine, near Jerusalem, by Mr. Charles Smith, is one of the series of Dissolving Views.—Admission, 1s.; Schools, Half-price.

The Builder.

No. CLXXXIII.

SATURDAY, AUGUST 8, 1846.

GLOUCESTER, the *fair city* of the British, as some say (Caer Glow), was well chosen as a meeting-place by the British Archæological Association. It stands on a Roman basis, it possesses a noble cathedral, several interesting churches, and has many places in the neighbourhood, as Tewkesbury, Cirencester, Goodrich Castle and Court, Sudeley, Berkeley Castle, and others, with strong attractions for the antiquary and architect. Beyond these, however, the subject of archæology has been much neglected in Gloucester, and many objects of great interest have been allowed to disappear without any efforts for their preservation being made. To induce an interest in the subject, to shew the value of vestiges of antiquity in connection with history, and lead to a proper study of them, are the purposes of such societies; and therefore it is, we say, that Gloucester was well chosen for this congress. The enlightened study of antiquities has been productive of the greatest advantages, and will be more so. We are thereby arriving at a truer knowledge of our forefathers and their times, and are under the greatest obligations to those who, in the face of ridicule, have assisted to preserve ruined buildings, half effaced inscriptions, "unreadable" parchments, and broken pottery. To lead to the conservation of ancient monuments, a knowledge of their value must be spread abroad, and this the provincial visits of the Archæological Association, and the Institute, cannot fail to effect.

The latter body met a few weeks ago at York, and we laid before our readers abstracts of such of the papers read as were likely to interest them. Being unluckily prevented from attending there, no mention was made of the general proceedings, and as we are about to speak at some length of those at Gloucester, we cannot refrain from alluding to the omission, to prevent the charge of partizanship, which up to this we have successfully avoided. Our opinion of the disagreement is known to the readers of THE BUILDER. We regret the division that took place, and hope one day to see a junction effected; but while they are working separately will give both all the aid in our power, with a view to the successful prosecution of their useful purpose.

To return then to the British Archæological Association at Gloucester:—

On Monday, at three o'clock, a General Meeting was held at the Shire Hall, when Mr. Pettigrew, vice-president, in the absence of Lord Albert Conyngham, through illness, reviewed, ably, the doings of the association since its establishment.

Mr. Pettigrew said justly, that the ridicule which formerly attached to the pursuits of antiquaries no longer existed: "a proper view of their importance is entertained, and their connection with history forms now the primary and proper object of their application. The importance to carry out such extended objects, for the illustration of which much and varied knowledge is demanded, has been strikingly shewn in the labours of this association, which yet can claim only an existence of scarcely three years," mentioning the ancient structures preserved by the interference of the association, the chairman dwelt particularly on the efforts made to save Caistor Castle, and the success which attended them; because, he said, the merit of it had been claimed for the Archæological Institute.

Mr. Roach Smith, honorary secretary, read a notice, by Mr. T. Inskipp, of a tesselated Roman pavement, discovered in Gloucester in 1844, and hitherto unpublished. Mr. Inskipp was passing accidentally through the city at the moment it was found, and made a drawing of it before it was destroyed.

Mr. Farmer Dukes, F.S.A., submitted an account of the ancient baronial mansion of Plaish, Salop, built in the 16th century. It was stated that the owner, a judge, inquired, at the time he was building it, for an artisan who could execute the ornamental chimney-shafts, and was told that he had himself just condemned to death the only man in the neighbourhood who could construct them. Then, said the judge, he shall do my chimneys first. And accordingly the cunning workman was respited *pro tem.*, executed the chimneys, and was then hung.

The members dined together at the Bell Inn, but our notice must not extend to matters social. At the evening meeting, which was numerously attended, an interesting paper on

THE NEW INN AT GLOUCESTER, AND ANCIENT HOSTELS,

by Mr. Britton, was read by Mr. Godwin.

We make the following extracts in the writer's own words:—

"It is to me a source of great gratification to hail the present meeting. I exult in having lived to see an epoch calculated to exalt and popularize the study of *Archæology*. I use the term *popularize* from a comparison and contrast between the state of archæology and antiquarian literature *now*, and at the beginning of the present century, when I first entered upon its study and practice. At that time an antiquary was regarded as a dull, plodding, abstracted, and eccentric being, ridiculed by the satirist and dramatist, and separated from men of general science and general literature. Now we have had, and still have, not only many profound scholars amongst its distinguished votaries, but men of varied and preeminent talents. I could exemplify this assertion by reference to names which command the respect of all classes of society. Amongst those who no longer remain to us, were Sir Walter Scott, the Whitakers of Cornwall and of Yorkshire, Daniel and Samuel Lysons, Mr. Surtees, Sir Henry Englefield, Mr. Hamper, and many others whose talents and writings have conferred honour on English literature.

Struggling and groping as I did in the early part of my literary career, I view with astonishment and delight, the rapid progress which has been lately made in topographical and antiquarian literature. Formerly there were but few authors, few draftsmen, and few engravers, qualified to elucidate or illustrate, with skill or taste, the many and varied subjects belonging to this branch of learning. *Now*, if their amount could be stated in round numbers, it would astonish the ordinary observer. This may be easily inferred from a review of the many publications which have recently issued from the press, and from the works of numerous amateur artists and authors which are limited to friendly circles. I have watched with anxiety and interest the growth of this taste,—the budding and blossoming of this rare fruit in the garden of England, and feel assured that the Archæological Association will eminently tend to nurture and bring to ripeness many useful specimens.

Change, reformation, revolution, is inherent in all mundane things. The seasons present an endless succession of changes, and all terrestrial and celestial objects move onward, and revolve; thereby exhibiting new phases and aspects for the study and admiration of man. So even all the works of man himself undergo mutations, from perfection, or completeness, to ruin and annihilation. Hence we are induced to view with curiosity and interest the handicraft and artistic productions of former generations as evidences of the manners, customs, and intellectual qualities of their producers; and to endeavour to deduce history from buildings, statues, coins, domestic utensils, and indeed from every variety of implement or ornament. This is the province of the archæologist. In the architectural ruins of Egypt, Greece, and Italy, we see and estimate the character and condition of mankind in times and countries far removed from our own; and in such reviews we acquire wisdom and find pleasure.

The *dark ages* and *enlightened ages* are terms of comparative import and meaning. We of the present day are arrogant enough to fancy that we live in the latter, and that our ancestors groped in mental darkness during the former. What are called the *middle ages* certainly exhibit a very useful contrast to the present, as well as to those of the Grecian, the Roman, and the later Egyptian dynasties. From archæological evidence—perhaps a better and more authentic source than even literary records of ancient history—we know that in the useful and ornamental arts the Egyptians were far advanced, both in knowledge and in practice. By the Greeks all these were further improved, and more adapted to the desires and the necessities of a refined and luxurious people. But in the *middle ages*,—from the dominion of the Saxons in Britain to the advent of the Tudor family,—we do not find much elegance, grace, or beauty, except in *one*, and that the noblest of the arts. *Architecture* was even in those ages diligently studied, and hundreds, nay, thousands of churches were erected, which are calculated to excite our utmost admiration and surprise.

It is not, however, with the great masterpieces of the freemasons of those olden times that we have now to deal. Our present object is merely to direct attention,—by some general remarks upon a class of interesting old buildings,—the *ancient inns* or *hostelries of England*,—to one of the most curious specimens of that class now remaining,—the "New Inn," in the city of Gloucester, as it is still somewhat inconsistently termed.

The peculiar comforts of the inn or tavern have possessed a charm for Englishmen, from the days of Chaucer, when Canterbury pilgrims made them places of halting and refreshment, to the time of Shakspere (whose "Falstaff" indignantly exclaims, "Shall I not take mine ease in mine inn?") and again to the time of Dr. Johnson, who declared a "tavern chair" to be "the throne of earthly felicity."

The "New Inn" at Gloucester was itself erected about half a century after Chaucer's death, and probably supplied the place of one much older.

PILGRIMAGES, which Aubrey, as well as Chaucer, mentions, were greatly conducive to increasing the number and importance of *Inns*.

The priory of Lewes in Sussex, had a hostelry in the parish of St. Olave's, Southwark, where the fraternity were themselves lodged, and where they dispensed their hospitality when they visited London. It afterwards became a public inn, known as the Walnut Tree, and in forming the approaches to New London Bridge, some remains of the building (a crypt of Norman character), were discovered.*

Many old inns may be still met with between London and Canterbury;—at Dartford especially.

The *George*, at Glastonbury, is a well known ancient pilgrims' inn, and remarkable for its fine architectural exterior elevation.

A curious ancient inn at the corner of Spicer-street, St. Alban's, is illustrated (from a drawing by Buckler), in *Gentleman's Magazine*—(September 1845).

The *Angel*, at Grantham; the *Red Lion*, at Corsham, &c., are more or less curious and interesting.—In plan and arrangement, these buildings were all similar to each other.

It is a recorded fact, that the "New Inn" was built by John Twining, a monk of Gloucester, during the abbacy of Thomas Seabrooke, who presided over the monastery there from 1450 till his death in 1457; and it is still the property of the dean and chapter of the present cathedral establishment.

There can be very little doubt that this inn

* See "Brayley's Graphic Illustrations."

was built for the accommodation of the great concourse of pilgrims and devotees who were attracted to the abbey church, by its peculiar sanctity, as the place where the remains of the murdered monarch, Edward the Second, had been interred, more than a century previously.

It is recorded of Edward the Second that, coming to Gloucester about the year 1319, he was honourably received by Abbot Thokey and the Convent; and, being present at an entertainment given in the Abbot's Hall, observed the pictures of his predecessors, and jocosely inquired if his own was among them. The abbot, in something of a prophetic spirit, answered, that he hoped he should have him in a more honourable place. This actually occurred; for, when the king was murdered, the monasteries of Bristol, Kingswood, and Malmesbury refused to receive the royal corpse, through fear of Mortimer and the queen; but Abbot Thokey brought the dead body from Berkeley Castle in his own carriage to the monastery of Gloucester, where it was received by the members of the convent in procession, and buried on the north side of the choir, near the great altar.†

The writer then gave some particulars of the death of the king, and shewed the advantages which resulted to the monastery from the burial of the king. Funds flowed in and enabled the abbots to execute great works.

The following passage from Archdeacon Furney's MSS. shews that this inn belonged entirely to the Abbey:—

"In or about Abbot Seabroke's time (1450—1457), John Twynning, then called a laudable man, and a monk of this abbey, built from the foundation the *Great Inn*, called the New Inn, in the upper Northgate-street, to the great profit and advantage of the abbey, which, according to tradition, was intended for the reception of pilgrims."

The building was spacious in extent, and constructed of ponderous and durable materials. The different apartments surrounded two square courts, and, as indicated by present appearances, were provided with stairs, which ascended from the courts and communicated with two tiers of galleries. These led to numerous large and small dormitories, or sleeping rooms. The building is commonly said to be constructed entirely of chesnut-tree timber. Almost half of its material is wood, cut into large beams, and placed horizontally, perpendicularly, and diagonally, with the intermediate parts filled either with brick-nogging or lath and plaster. The whole building extends 137 feet from east to west, exclusive of the stables, &c., which continue 72 feet further. The court yard seems admirably adapted for Chaucer's Canterbury Pilgrims, and Shakspere's carriers, in the play of Henry IV.

The paper was illustrated by some excellent diagrams, and Mr. Britton, at the close, added some remarks on timber houses generally, of which there are many good specimens in Gloucester.

Mr. Godwin pointed the attention of those who were now in Gloucester for the first time, to a part of the, so called, *New* Inn which had not been modernised,—the flank in New Inn-lane, which exhibits some good carving of the fifteenth century. Relative to the face of the upper stories of timber, each projecting before the other, although not wise in a sanatory point of view, he said it was in a constructional one, as the woodwork was thus protected.

Mr. Jerdan, with reference to the size and expenses of the ancient Inns said, "in Scotland Acts of Parliament were passed, with a view to their protection, preventing the exercise of private hospitality."

A paper on Monkish miracles, as illustrative of history, by Mr. Thomas Wright, M.A., followed; and then a number of small articles of the Roman period, discovered near Gloucester, were exhibited by Mr. Purnell. These included a *letter* padlock, supposed to be a modern invention.

† Britton's "Gloucester Cathedral," p. 20.

A paper by Mr. Pretty, of Northampton (read by Mr. C. Baily, F.S.A.), on a curious enamel on the poor's-box in Smarden Church, Kent, with a notice of the structure, concluded the business of the evening. We confine ourselves to the latter part of it.

SMARDEN CHURCH.

This church is popularly known as "The Barn of Kent." Hasted's description of this building is extremely scanty; he states, that the church is dedicated to Saint Michæl, consists of one aisle or body, and a chancel; the former is of a most curious structure, being 40 feet wide, with a span roof over it, and singularly constructed. At the west end, is a tower steeple, with a beacon turret. He might have added a north and south porch to the account. Until within the last half century, the roof was open to the timbering, giving it probably an appearance congenial to the local term. Previous to the introduction of the chancel arch, when the church was ceiled, the building must have appeared in perspective from west to east as one gigantic lengthened roof, no break excepting that of the rood loft being perceptible to the eye. In the chancel, near the south buttress, there is a small narrow window closed up, which appears to have opened into the interior near the right of the altar at a very unusual place. In the usual position there is a piscina, cinque-foil headed, with bowl quite perfect, a credence-shelf, and above a smaller one of wood. Opposite, on the north side, there are appearances of the arch of the Aumbry-locker. There are three sedilia, the higher arch cinque-foiled, and the other two tre-foiled: the seat is of oak. To the right is a circular bracket, with a corresponding one on the north side. There are two windows on the north and two on the south sides, of two light tre-foiled and a broad quatre-foiled opening in the head; and at the east end there is a window three light cinque-foiled, with quatre-foiled and side piercing above. Over this window, on the exterior, under the gable point, is a stone with a cross pierced through, and which, before the ceiling was added, must have been seen from the interior. The arch which divides the chancel from the nave, as before observed, is modern, as is evident by the position of the lower part of the rood-loft screen, which is left extending considerably beyond; as well as by the appearance of the brick work behind the panelling of the pew on the left side. At the east end of the nave, on each side, there is a reredos, embattled at the top, and ornamented with a double corbel table, trefoil headed. On the right, or south side, there are the steps in the rood-loft tower, and opening internally above the door. Three decorated windows, similar to those in the chancel, of two lights, originally gave light on each side of the nave; but one on the north, near the altar, and two on the south side, have been since enlarged to three light perpendicular windows, to give additional light to this part of the church: probably done at the time the tower was built. The pulpit was originally placed on the north side, between the windows, to the right of the north door.

The tower of this church is of perpendicular architecture, of three stages, bold and lofty in design. It was entered from the nave by a noble perpendicular arch, now closed up by the erection of a gallery, theatrical in fashion, reaching by a series of pews to the ground. Before this addition was made, this part of the church must have been enlightened by the west window of three lights over the door in the belfry, as frequently occurs in the perpendicular towers of this neighbourhood. The staircase, or beacon turret, is at the north-east corner of the tower.

	ft.	in.
Length of chancel:—		
Within the altar-step	14	3
To chancel arch	26	0
From chancel arch to 1st step in the nave	6	3
Nave	70	0
	116	6
Width of chancel	18	2
Ditto, nave, from wall to wall	35	4
Tower, 18 feet by 13, exclusive of 3 ft. 6 in. in the tower arch.		

Hasted's admeasurement was probably to the recessed part at the windows.

It is worthy of remark, that the walls are very thick in the piers between windows, by which the roof is ably sustained without any buttresses; those set on at the corners of the nave and chancel diagonally are merely for ornament.

On Tuesday, a large accession of members arrived, and at eleven o'clock the room in which the meetings were held was crowded to hear a paper on the cathedral, by Mr. Cresy—the result of a very careful examination of the building for this purpose. Mr. Monckton Milnes, M.P., was in the chair. Mr. Cresy sought to prove, in opposition to the general opinion, that a great part of the existing structure is anterior to the Norman conquest, and supported his views with great ability. We are unable to assent at once to his opinion. The paper, however, was one of so much interest, as to demand a more lengthened notice than we could now give it: we therefore postpone it till next week, when it will appear at some length. At the close of it, a discussion ensued, in which a number of members took part, and Mr. Niblett, the honorary secretary of the Gloucestershire Archæological Society, laid before the meeting a transcript of Abbott Frowcester's chronicles, connected with the abbey, made by himself. Mr. Niblett mentioned that a copy of the chronicles, which belonged to the chapter-room of Gloucester Cathedral, was missing, and justly urged that search should immediately be made for it. The meeting then adjourned to the cathedral, under the guidance of Mr. Cresy and Mr. Britton, and minutely examined the whole fabric. A more interesting cathedral can scarcely be found; it offers examples of every period, and presents a series of most instructive lessons to the architect who knows how to observe.

From the cathedral, a number of members proceeded to examine, amongst other edifices, the church of St. Mary de Crypt, recently restored through the exertions of the Rev. A. Sayers, the rector, and now the most interesting object in the city, after the cathedral. Of this, we shall speak more at length hereafter.

Relative to the dinner which followed, we will mention that Mr. Guise, the chairman of the Gloucestershire Archæological Society, addressed the members, merely that we may record the fact that this gentlemen has munificently presented to the city of Gloucester a very valuable collection of objects of natural history, as the foundation of a museum; and that the corporation have determined on the erection of a proper building to receive them.

At half-past eight in the evening, the members again met, Mr. Monckton Milnes in the chair, and a paper was read on the form of arches, illustrated by reference to Gloucester Cathedral, by Mr. John Adey Repton, an abstract of which we shall give. In connection with this, Mr. Godwin expressed a desire to draw the attention of the authorities to the present state of the cathedral. He said he ventured upon it with considerable hesitation, because it might be said that the association had no right to come into a city where they were kindly received, and find fault. It seemed to him, however, so important that the building should be immediately placed under the supervision of an architect, that he threw aside personal scruples, and made this public appeal to the Chapter in behalf of all who were interested in the preservation of our ancient buildings, and he hoped it would be received in the spirit in which it was offered.

An interesting discussion followed, on some points in Mr. Cresy's paper, in which Mr. A. White dissented from his views.

Mr. Wright made some observations on the

carvings under the misereres in the choir, and shewed that they all related to the current literature of the day. After this papers were read by Mr. Pettigrew "On the Gloucester Peg Tankard," and Mr. J. O. Halliwell "On Robert of Gloucester."

Wednesday was devoted to the examination of the beautiful Roman pavements at Woodchester, opened for the occasion, and the antiquities of Cirencester,—a meeting being afterwards held in the evening. On Thursday Tewkesbury and Cheltenham, with an evening meeting at the latter place, produced much interesting matter, to be noted with Cirencester in our next. In the meantime we give a view of the Abbot's gate and the Abbey Church at Tewkesbury.*

THE ARCHITECTURE OF PISA.

THE CATHEDRAL AND ITS HISTORY.†

The successful results of commerce, which filled the maritime cities of Venice and Genoa with wealth, and their streets with magnificent structures, and which called into exercise the talents of the Florentine architects, produced similar results in the ancient city of Pisa. When the Italian cities of the north declared their independence, Pisa was actuated by the same spirit, and formed itself into a republic. It rose early into importance. In the tenth century it was rich and powerful; its fleets triumphed at sea, and its commerce was extended to the limits of the Mediterranean. Its prosperity lasted during the 11th, 12th, and 13th centuries. Corsica, Sardinia, and the Balearic islands were obliged to submit to its power, and its alliance was courted by the emperor, and the pontiff. The Saracens on the coasts of Africa and Sicily were vanquished by its arms, and the Christians in Palestine owed their safety to its prowess. During this period its streets were adorned with palaces, and its churches were rebuilt in a style of magnificence, for which they may have been in part indebted to the marbles, which the Pisan galleys brought as spoils of conquest. But the history of Italian cities, unless it enters minutely into particulars, has to use the same recital in the one case, as in the preceding. First, civil dissension; next, the usurpation of power by an oligarchy, and the real republic ceases to exist. Pisa, vanquished by the Genoese, and deceived by France, at length fell into the hands of the Medici, who subjected it to its rival, Florence, about the year 1228.

But, it is with the influence of Pisa in art, that we have here the most concern. Its most important buildings were erected at a time, when art in Italy had scarcely a recognized existence; and their origin forms one of the most interesting inquiries in the study of architectural history. Still it is far from being decided, whether the style of the Duomo, or Cathedral of Pisa, should be classed as the offspring of the Debased Roman, or of the Byzantine, or Greek. It is an inquiry, which calls for a complete knowledge of the various styles, which existed in Italy at the same period, but is one of great importance, from the influence which the Pisan structure had upon succeeding churches. The evidence of an inscription has been put forward, on one side, to prove that the architect was a Greek, whilst on the other, the plan is clearly the Latin cross. If we say with Mr. Gally Knight,‡ that the opinion that Busketus was a Greek "does not appear to rest on any solid grounds," and that "the best proof of the contrary is to be found in the Duomo itself," we find ourselves opposed to Mr. Gwilt, and to Messrs. Cresy and Taylor. On the one hand, it seems difficult to dispute the statement in the inscription; whilst on the other, as architects, we cannot but consider the absence of the Greek plan, and of other features not observable in Romanesque, as evidence equally convincing. Mr. Gwilt states, that the four buildings at Pisa are "strongly marked with the distinguishing features of the Byzantine and Romanesque styles." D'Agincourt, in his great work on the "History of Art," reviewed in the last volume of THE BUILDER, is of opinion that the cathedral was formed directly upon the model of the Greek churches; whilst the writer in the *Quarterly Review* (March, 1845), says that the style of Pisa Cathedral was formed upon that of the Roman Christian Basilica. The impression conveyed by the review to most readers would be, that a distinction was intended between the style of the Basilica and that called Romanesque. Mr. Murray, whose general accuracy justifies a reference, which we should not make to an ordinary guide book, sums up the question in concise terms; and those who read the different opinions, will probably arrive at the same conclusion.* It seems, that for a long period, the meaning of the epitaph has been misconstrued, whilst the confidence of the same party in the dispute has been strengthened by a tradition, that the architect had been sent from Constantinople. On the other side it has been maintained, that the architect was not only an Italian, but a native of the city. The Greco-Italians have called him *Bouskeptos*, whilst the patriots see clearly that *Busketus* is merely the Latinized form of *Boschetto*. Such being the state of the question amongst the learned, an opinion may very fairly be taken upon the building, which we should be inclined to regard not as a Byzantine, but as a "Romanesque" work. The classification of buildings, and the nomenclature of styles in Italy is, however, attended with greater difficulties than in any other country, which results from the general resemblance, necessarily existing between different dates, and styles of architecture, all derived from the one type of Roman architecture.

In the middle of the eleventh century commercial enterprise, and naval exploits had raised the city of Pisa to a remarkable height of prosperity. In 1063, assisting the Normans in Sicily against the Saracens, the Pisans attacked Palermo with their fleet, entered the harbour, and returned to their city with several of the enemy's ships. On this event, they resolved to erect a cathedral, partly as a memorial of their success. The first stone was laid in 1064, and the building completed in 1118. The general plan develops the form of the Latin cross, perhaps more completely than in any other cathedral in Italy. The nave and choir have two aisles, and the transepts one aisle, on each side. The plan is of that kind, called by Professor Willis "transverse triapsal," that is to say, it has an apse at each end of the transepts, and one at the end of the choir. The length from the inner face of the wall to the back of the recess is 311 feet, the width of the nave and four aisles is 106 feet 6 inches, the length of the transepts is 237 feet 4 inches, and the width of the transept and aisles is 58 feet. The nave in the centre is 42 feet wide. Exclusive of the piers of the dome, there are twelve Corinthian columns, in the length of the church, on each side; they are all of granite. These columns are 24 feet 10 inches high, of a single block with Corinthian capitals. They bear arches, springing immediately from the capitals; over these is a cornice. Above is a triforium, having arches with a central column and sub-arches, as in the Norman style; and there are small clerestory windows. The ceiling is flat, of wood, panelled, and enriched with gilding. The total height is about 90 feet. The roofs of the aisles are groined. The building is enriched with painting and sculpture, and the windows are glazed with stained glass, and the whole effect of the interior is magnificent. A peculiar character is given to the building by the use of different coloured marbles in courses, a style, which is thought to have been derived from Saracenic buildings. It seems to have been much practised in Tuscany, and was perhaps first introduced in Pisa. The arrangement is precisely similar to that found in the buildings of Kairo.

The space at the intersection of the cross is surmounted by a dome, which, though subsequent to those at Venice, and Ravenna, is supposed to have influenced the adoption of this feature in later examples. But the dome of the Pisa cathedral has the singular peculiarity of being oval in the plan. The pointed arches which support it, are said by Mr. Knight, to have been introduced after the fire, which destroyed the original cupola and roof, and which took place in 1596. This would be extending the use of the pointed style to a late date, and it seems more probable, that they were built at the same time as some other Gothic portions, which it is now agreed were not part of the original building. But it is much to be regretted, that we do not know the date of these arches, and of those to the aisles, which are also pointed, as it might be important in the question of chronology.—The vault of the apsis is filled with gigantic figures in mosaic. They were completed in 1320, and have been mentioned as examples of the retention of archaic forms, subsequent to a period of improvement. There are twelve altars in the nave and transepts, the designs of which have been attributed to Michael Angelo, apparently without much reason. There is much carving, of beautiful design and execution. There are also several statues, and ornamental works in bronze, which shew the skill of the Pisans and Florentines in the casting and fabricating of metals.*

The exterior of this cathedral has delighted every traveller by whom it has been described. Whether it be from the arrangement of its small columns, which are relieved from the wall, so as to produce the finest effects of light and shadow in continual variety, from the hues, which time and the sunshine of Italy impart to the chequered marble of the building, from the grouping of the cathedral with the Campanile, the Baptistery, and the Campo Santo, which are adjacent to it, from the solitude of these structures, rising from the green sward apart from the "hum of cities," or from the curious research into the meaning of inscriptions, which are found profusely upon the stones employed in the building, and which awaken more recollections of the potency of Time, than the clearest explanation could disclose; certain it is, that there are few buildings, which dwell so long upon the memory, and whose beauties the pencil so entirely fails to convey. *One* secret of the charm is perhaps to be discovered in those circumstances of position, which were lately noticed by a writer in this journal. They are not railed round, and, as Mr. Murray does not fail to observe, "the whole building stands upon a terrace ascended by steps, adding much to its majesty." The external decoration consists of ranges of columns and arches, which in the façade and apsis, stand at some distance in front of the wall. It seems, that originally the whole exterior was built of the horizontal bands of marble, but these terminate abruptly a short distance from the façade. There are, however, circles and patterns of coloured marble, red, green, &c., in various parts, and these are shewn in the work of Messrs. Cresy and Taylor. The same work, assuming the cathedral to be the work of a Greek architect, traces a resemblance to the polychromy of Athenian buildings; and it must at least be admitted, that Grecian artists were at one time much employed by the Italians, and that the Pisans were in constant intercourse with the Morea. The termination of the dome is very unsightly, but the gothic canopies, which encircle the tambour, have a very beautiful effect. There are no other parts which interfere with the general unity. In a paper in the *Archæologia*, vol. xv., by Mr. R. Smirke, jun., F.S.A., certain ornaments on the gable of the façade, called by him "crockets," and clearly coeval with the gable, were considered as gothic, that argument being used to prove, that the canopies of the dome were not of late date. Every succeeding inquiry has certainly proved the truth of the assertion, that one style did not so much characterize each particular era in Italy, as in England, but Mr. Arthur Taylor, who made a very careful examination, reported (*Archæologia*, vol. xx. 12), that the canopies were unquestionably additions, and that the "crockets" were quite destitute of any real gothic character.—The original doors were of bronze, with compartments illustrative of events in the Gospel. All these but one were destroyed by the fire, but were replaced by others, modelled by Giovanni di Bologna, in 1602. They are all represented in the "Theatrum Basilicæ

See page 378.

1.—"Architecture of the Middle Ages in Italy; illustrated by views, plans, elevations, sections, and details, of the Cathedral, Baptistery, Leaning Tower or Campanile, and Campo Santo, at Pisa: from drawings and measurements taken in the year 1817, accompanied by descriptive accounts of their history and construction. By Edward Cresy, and G. L. Taylor, architects, and F.S.A. London, 1829."

2.—"Theatrum Basilicæ Pisanæ, in quo præcipue illius ædis enarrationibus, iconibusque ostenduntur; cura et studio Josephi Martinii, ejusdem basilicæ Canonici, J. C. et Lib. Pis. Editio Secunda. Romæ, MDCCXXVIII."

† "The Ecclesiastical Architecture of Italy, from the time of Constantine to the 15th century."

* "Handbook to Northern Italy."

* The bronze lamp, which is said to have first suggested to Galileo the theory of the pendulum, is still suspended in the nave. It is of fine workmanship.

Pisanæ," and are inferior only to those of the Baptistery at Florence. In the same work, also, is a drawing of a capital of great beauty; it has birds and grotesque heads amongst the acanthus leaves; there are figures of sportive children between the caulicoli, and the latter are supported by birds. The engraving is executed with care, which can hardly be said of others in the same book.

The cathedral of Pisa is not only in design, a structure in advance of the period of its erection, but is equally a remarkable work in construction. It appears that the architect excelled in mechanical contrivances; and inscriptions, distinct from his epitaph, record that he invented a machine, by which ten maidens could raise the load of a thousand oxen. Another inscription gives the name of Magister Rainaldus, and has led to the supposition that he was joint architect of the building. But it would be difficult to find any structure so clearly the work of one mind, and it is more probable that Rainaldus was the sculptor of the ornaments of the façade. Still, if there be any who think that Greek and Italian types are both discernible in the building, they may readily interpret both this inscription and the epitaph in the manner they wish.

The work of Messrs. Cresy and Taylor contains complete plans, some details, and other illustrations of the four buildings. The description has some ingenious speculations arising from the comparison of the Pisan buildings with those of other countries. The plates are well engraved, and the work is in this respect a very great advance upon the older one upon the list. The latter is, however, well worth examining, and must be consulted by every one who is inquiring into the history of these structures. It is in one volume folio, in Latin, and has a considerable number of illustrations. There is great difference in the manner of their execution. Some of them are curious attempts at perspective, not all of which it is easy to comprehend the intention of. The Baptistry, Campanile, and Campo Santo form part of the same volume.—The work of Morrona is still more valuable as a book of reference for the history of art in Pisa, but we must defer speaking of it, as well as the remainder of the buildings illustrated in these volumes, to another notice of the architecture of Pisa. E. H.

BOHN'S STANDARD LIBRARY.

Beckman's History of Inventions, Discoveries, and Origins. Translated by W. JOHNSTON. Revised and enlarged. Bohn, York-street, Covent Garden: 1846.

THE series of works which Mr. Bohn is presenting to the public under the title of his "Standard Library," are remarkable for their goodness and cheapness, even in this age of cheap, good books, and ought to command a large sale. To be able to obtain Roscoe's "Life and Pontificate of Leo X.," Schlegel's "Lectures on the Philosophy of History," Sismondi's "History of the Literature of the South of Europe," and Schlegel's "Lectures on Dramatic Literature," for a few shillings, is extraordinary enough, and to find them beautifully printed and bound, and ably edited, is even more so. Yet so it is, and much praise is due to the enterprising publisher in consequence.

Beckman's well-known work is to be completed in two volumes, revised by Dr. Francis and Dr. Griffith. The first is now before us, and contains an immense mass of recondite information, and pleasant light reading, suitable to all capacities. To give an idea of its style and matter, we make the following extracts from the chapter on

PAVING AND CLEANSING THE STREETS.

"Of modern cities, the oldest pavement is commonly ascribed to that of Paris; but it is certain that Cordova in Spain was paved so early as the middle of the ninth century, or about the year 850, by Abdorrahman II., the fourth Spanish caliph. This prince, who knew the value of the arts and sciences, and who favoured trade so much that abundance in his reign prevailed throughout the whole land, caused water to be conveyed into that city, which was then his capital, by leaden pipes, and ornamented it with a mosque and other elegant buildings.

The capital of France was not paved in the twelfth century; for Rigord, the physician and historian of Philip II., relates, that the king standing one day at a window of his palace, near the Seine, and observing that the carriages which passed threw up the dirt in such a manner that it produced a most offensive stench, his majesty resolved to remedy this intolerable nuisance by causing the streets to be paved; which was accordingly done, notwithstanding the heavy expense that had prevented his predecessors from introducing the same improvement. The orders for this purpose were issued by the government in the year 1184; and upon that occasion, as is said, the name of the city, which was then called Lutetia on account of its dirtiness, was changed to that of Paris. This service rendered to Paris by that sovereign, who first also caused the cathedral to be surrounded by a wall, is confirmed by various historians. Mezeray informs us, that Gerard de Poissy, then intendant of the finances, expended eleven thousand marks of silver in this undertaking. It appears that a certain income was allowed to the city for defraying the expenses; for in 1285, a hundred years after, when it was proposed that the pavement should be carried without the gate of St. Martin, the citizens excused themselves from the work, by saying that the funds assigned to them were not sufficient for that purpose. It is certain, that in the year 1641 the streets in many quarters of Paris were not paved.

It is very probable that other opulent cities, finding the benefit which the capital derived from this improvement, were induced to follow its example. At any rate we know that Dijon, which was then reckoned one of the most beautiful, had paved streets so early as the year 1391, to which Philip the Bold, Duke of Burgundy, the second husband of Margaret, heiress of Flanders and other parts of the Netherlands, contributed two thousand livres; and in 1424 paviors were employed in all the streets. Historians remark, that after this period, dangerous diseases, such as the dysentery, spotted fever and others, became less frequent in that city.

That the streets of London were not paved at the end of the eleventh century, is asserted by all historians. As a proof of this, they relate that in the year 1090, when the church of St. Mary-le-Bow, in Cheapside, was unroofed by a violent storm of wind, four pillars or beams, which were twenty-six feet in length, sunk so deep into the ground, that scarcely four feet of them appeared above the surface. The streets of London then, says Howel, were not paved, but consisted of soft earth. I can, however, find no account of the time when paving was first introduced. It appears that the pavement of this immense city became gradually extended as trade and opulence increased. Several of the principal streets, such as Holborn, which at present are in the middle of the city, were paved for the first time by royal command in the year 1417.* Others were paved under Henry VIII., some in the suburbs,† in 1544, others in 1571 and 1605, and the great market of Smithfield, where cattle are sold, was first paved in 1614."

"When a solid bottom had been given to streets, the cleansing of them, which, as the Roman prætors said, is a continual improvement, was then rendered possible. At Rome were appointed *tribuni rerum nitentium*, who had the care of cleansing the streets, markets, temples, baths, and other public places. Strict orders were given that no filth should be thrown into the river or streets; whoever transgressed against this prohibition was subjected to punishment, and obliged to repair the damage. The public sewers, *cloacæ*, under the streets contributed very much to facilitate the cleaning of them, yet they were commonly full of mud, as those of Paris are at present, notwithstanding the many expensive regulations established to prevent that nuisance.

A very improper liberty prevailed at Paris in the fourteenth century, which was, that all persons might throw any thing from their windows whenever they chose, provided the gave notice three times before, by crying out *Gare l'eau*, which is as much as to say, Take care of water. This privilege was forbidden in 1372, and still more severely in 1395. A like practice, however, seems to have continued longer at Edinburgh; for in the year 1750, when people went out into the streets at night, it was necessary, in order to avoid disagreeable accidents from the windows, that they should take with them a guide, who as he went along called out with a loud voice, in the Scotch dialect, *Haud your haunde*, stop your hand.*

This practice, however, would not have been suppressed at Paris, had not the police paid particular attention to promote the interior cleanliness of the houses, and the erection of privies. Some will perhaps be astonished that these conveniences should have been first introduced into the capital of France by an order from government in the sixteenth century; especially as they are at present considered to be so indispensably necessary, that few summer-houses are constructed without them. Those, however, to whom this affords matter of surprise must be still more astonished when they are told, that the residence of the King of Spain was destitute of this improvement at the very time that the English circumnavigators found privies, constructed in the European manner, near the habitations of the cannibals of New Zealand. But Madrid is not the royal residence which has had dirty streets longest on account of this want. Privies began to be erected at Warsaw for the first time only within these few years.

In the Parisian code of laws, *Coûtume de Paris*, which was improved and confirmed in 1513, it is expressly ordered, that every house should have a privy. This order, with the denunciation of severer punishment in case of disobedience, was renewed in 1533; and in 1538 the under officers of police were obliged to examine the houses and to report the names of those who had not complied with this beneficial regulation. It appears, however, that the order of 1533 was not the latest; for in 1697, and even in 1700, the police was under the necessity of strictly commanding "that people should construct privies in their houses, and repair those already constructed, and that within a month at furthest, under the penalty of being fined in case of neglect, and of having their houses shut up until they should be in a proper condition." This order is given in the same words in the Coûtume de Mante, Etampes, Nivernois, Bourbonnois, Calais, Tournay, and Melun. That issued at Bordeaux is of the year 1585.

Privies seem to have been common in the large and flourishing towns of Germany much earlier than in the capital of France; and those who are not disposed to find fault with me for introducing proofs here which historians have not disdained to record, may read what follows:—In the annals of Frankfort on the Maine, where mention is made of the cheapness of former times, we are told how much a citizen there gave in the year 1477 for cleaning his privy. We are informed also, that in 1496 an order was issued by the council forbidding the proprietors of houses situated in a certain place planted with trees to erect privies towards the side where the trees were growing; and that in 1498, George Pfeffer von Hell, J.U.D. and chancellor of the electorate of Mentz, fell by accident into a privy, and there perished. It appears, however, from the streets and houses of most of our cities, that they were constructed before such conveniences were thought of, and that these were erected through force at a later period."

[Berlin, strange to say, is very ill circumstanced in respect to these conveniences, even at the present day (1846). In most of the houses, small closets are located on the landings of the stairs, which require to be emptied every other night, to the no great satisfaction of the olfactory nerves. Nor are the streets kept in a very proper state,—large puddles of filth

* In the king's order it was said, that the highway named Holbourn in London was so deep and miry, that many perils and hazards were thereby occasioned as well to the king's carriages passing that way as to those of his subjects; he therefore ordained two vessels, each of twenty tons burthen, to be employed at his expense, for bringing stones for paving and mending the same.—Anderson's Hist. of Com., i., p. 244.

† In this order the streets were described "as very foul, and full of pits and sloughs, very perilous and (noyous) noisome, as well for the king's subjects on horseback as on foot, and with carriage."—Anderson, *ut supra*, p. 370.

* Letters from Scotland, 1760, 2 vols., 8vo. At this period, when the luxury of water-closets was unknown, it was a custom for men to perambulate the streets of Edinburgh, carrying conveniences (pails) suspended from a yoke on their shoulders, enveloped by cloaks sufficiently large to cover both their apparatus and customers, crying, "Wha wants me, for a bawbee?" It has since been used against the Edinburgh people as a joke or satire upon an ancient custom. By way of a set-off, however, it may be observed that at the present day there is a water-closet in almost every house in Edinburgh.

being allowed to collect before the doors even of the best houses, and which, especially in the hot months of summer, diffuse a most horrible stench. Something, however, must be allowed for the low situation of the town, which renders drainage next to impracticable. Laing, in his Notes of a Traveller, speaking of Berlin as he found it in 1841, says, "It is a fine city, very like the age she represents—very fine and very nasty.....The streets are spacious and straight, with broad margins on each side for foot-passengers; and a band of plain flagstones on these margins make them much more walkable than the streets of most continental towns. But these margins are divided from the spacious carriage-way in the middle by open kennels, telling the nose unutterable things. These open kennels are boarded over only at the gateways of the palaces, to let the carriages cross them, and must be particularly convenient to the inhabitants, for they are not at all particularly agreeable. Use reconciles people to nuisances which might be easily removed. A sluggish but considerable river, the Spree, stagnates through the town, and the money laid out in stucco work and outside decoration of the houses, would go far towards covering over their drains, raising the water by engines and sending it in a purifying stream through every street and sewer. If bronze and marble could smell, Blucher and Bulow, Schwerin and Ziethen, and duck-winged angels, and two-headed eagles innumerable, would be found on their pedestals holding their noses instead of grasping their swords. It is a curious illustration of the difference between the civilization of the fine arts and that of the useful arts, in their influences on social well-being, that Berlin, as yet, has not advanced so far in the enjoyments and comforts of life, in the civilization of the useful arts, as to have water conveyed in pipes into its city and into its houses. Three hundred thousand people have taste enough to be in die-away ecstacies at the singing of Madame Pasta, or the dancing of Taglioni, and have not taste enough to appreciate or feel the want of a supply of water in their kitchens, sculleries, drains, sewers, and water-closets. The civilization of an English village is, after all, more real civilization than that of Paris or Berlin."]

FREEMASONS OF THE CHURCH.

July 14.—Mr. French, architect, in the chair. Monsieur Louis Vellino exhibited a series of carvings in wood, by the celebrated artist Bouzanigo, representing Peace and War, portraits of emperors and kings, &c., &c., all executed with artistic feeling, and incredible minuteness, and grouped together with garlands of flowers. These carvings occupied fifty-eight years to execute. Mr. J. W. Archer exhibited a design for a monumental brass, and offered the following observations:—The cross upon the brass is a speculative restoration from an incised stone in the church at Minster, Kent. The type of the vine is represented in the head of the cross according to various passages in Holy Scripture. In the arms of the Latin cross, and supporting the sigil which contains I H S, are four angels; a similar composition occurs in the church of St. Prassede, Rome. The latter work is a mosaic, in which four angels support a medallion, containing the head of our Lord. The decoration in the stem of the cross is typical of strength in faith. The colours are typical, and the general intention is to represent the feeling of monumental art termed Giottotedesea, at the time of the revival of art in Italy, and that which prevailed in England in the reign of Henry III.

Mr. Edward W. Smith, of Bedford, alluded to a fine ruin of one of Inigo Jones's mansions, Houghton Conquest, it is a perfect ruin; Mr. Smith undertook to lay down a ground plan from actual admeasurement; he has also made a sketch of the elevation.

Mr. George Isaacs then delivered a lecture on the subject of "Flemish or Stone-ware of the 16th century." He commenced by observing, how little attention had hitherto been paid to the subject, and that even Brogniart in his profound and elaborate work "Les arts céramiques," had rather obscured than elucidated it. The various kinds differing in their colour and character were explained from numerous specimens laid before the society. Much attention was excited by a magnificent bottle, bearing the portrait, armorial bearings, and badges, of the Emperor Charles V.; and several fiancilles or cups, used in ancient times as presents of betrothal. Of the latter character, seemed to be one upon which were depicted Albert and Isabella of Austria. Nor was among the least curious a puzzle or wager-jug of brown ware with slashes in the neck, making it impossible to drink from, except from a small aperture in the lip of the vessel. This example is said to be unique. Little is known with regard to the places of the manufacture of stoneware, but it appears from some circumstances, that it was made in the heart of Germany, that is to say, in the neighbourhood of Rabisbound and Bareuth, towards the year 1600. Those bottles in the form of an elongated truncated cone, called canettes, were probably produced in Mansfeldt, in proof of which is adduced a very fine one to be seen in the Kunst-Kammer, at Berlin, and said to have been presented to Luther by the town of Eisleben, his birth place. The lecturer endeavoured to disprove the assertion that Jerome Hopfer was employed in designing ornaments upon some of these canettes, but at the same time gave a carefully collected series of artists' initials and monograms, from specimens in various cabinets here and on the continent. It was also shewn that none of the ancient stoneware jugs, whether of the pearly grey colour, the blue, the brown, or polychrome, have any title to the epithet *Italian*, nor have the arguments of Mr. Hausmann in favour of an *Italian* jug any weight at all, when we consider that the specimen cited by him bears a monogram constantly found on specimens undoubtedly Flemish.

ON THE ARTS AND ARTISTS OF ENGLAND.

The following is the substance of a paper read by Sir Richard Westmacott, at the late meeting of the Archæological Institute, in York.

Sir Richard observed, that as the arts are intimately connected with the epochs in which they are practised, and mark the state and variations of civilization and manners more forcibly than any other criteria of their age, he had ventured, as sculpture holds a distinguished place in the mediæval arts of England, to submit a few observations on its progress with us, and, where possible, on the artists who practised it. In tracing the history of the arts generally, from their fall to their revival, the transition from the pagan idolatry to the Christian religion, we are naturally induced to reflect on the similarity of causes to which they owed at once their destruction and regeneration. We owe the revival of the arts wholly to religion, but Christianity, which had made great progress in the 3rd century, notwithstanding the persecution it endured, had scarcely ascended the throne of the Cæsars, when the Christians in their turn became the persecutors. These again became divided, new sects arose, and their consequent antipathies led to universal bigotry. A country so divided became an easy prey to the invader, and degeneracy in civil habits increased, until the pure principles of Christianity were lost in superstition. These dissensions are the more to be lamented, as art, and sculpture more especially, gave promise, under the first emperors, who had embraced Christianity, if not of being restored, at least of being sustained with no mean effect. That art owes much to the pious regard which all countries have shewn to the dead. The Athenian states offer abundant examples, as also Rome and its colonies, whilst the vast Necropolis, lately discovered in the country of the Volscii, the extent of which is yet unknown, displays a degree of magnificence and care for the preservation of the dead quite astonishing. This consideration was the more extraordinary, as though their heroes were canonized, and presumed to be ever near them, the Ethnick doctrines place death as everlasting sleep; but when the mysteries of religion became revealed to us, and resurrection assured through the merits of our Saviour, a new sense arose, and a new feeling towards the dead, and the subterraneous depositions, as may be seen in the earliest crypts of Italy, attest the early and pious belief of a future state in the numerous effigies of the raising of Lazarus.

When St. Austin was sent to convert the Saxons, 596, Pope Gregory I. instructed him to accommodate, as he could, the Christian forms of worship to those of his disciples—to convert the heathen temples into churches, and to establish Christian in the place of pagan rites. This will account, probably, for the preservation of many pagan symbols which we find in this country. Pisa may be considered the cradle of the restoration of art, from the 10th to the 14th century. The Crusades may also be considered as having been conducive to the prosperity of the arts, as, from 1144 to 1228, that is from the 2nd to the 6th Crusade, not less than six hundred religious foundations were established. The most polished people with whom the Crusaders mixed had likewise had their attention attracted to the sister arts, and painting and sculpture were called in to assist in the embellishment of those pious edifices. The effect of this religious zeal may be seen in Rochester and Wells Cathedral, and many other churches of that age. The revival of sculpture we must consider to have been formed on the remains of Grecian and Roman art, there being a constant struggle on the part of native genius to banish the Lombardic Gothic, which, owing to German influence at that period, and to the skill which German artists had exhibited, was established throughout Italy. The character of Anglo-Saxon art, which prevailed to 1189, we may consider to have changed gradually through the Plantagent family to Henry III., when the decorative style of architecture gave full employment to, and demanded the greater efforts of the sculptor. Notwithstanding the check which ecclesiastical authority had received so early as the reign of Richard II., the church yet exercised an extensive control over the construction of religious edifices, as we find, with the magnificent buildings of antiquity, that the priests, or hierophants, controlled the erection of all works of a religious character. In one century, no less than five priors of Canterbury made architecture their study, and there can be no doubt that the cathedrals and monasteries, erected from the Conquest to the 13th century, were designed principally by churchmen. Sir Richard afterwards alluded to the services rendered to art by Henry III., to whom may be ascribed the most beautiful works we possess of the mediæval age, observing that the number of artists in England, during his reign, must have been considerable, but he had strong doubts whether painters and sculptors, Englishmen of talent, were really found in the provinces. Henry, it is well known, was very partial to foreigners, and a considerable number of the benefices in England was held by them. He (Sir Richard) had little doubt, from the peculiarities of taste which arose at that time, not only in England, but throughout the north of Europe generally, that it was induced by the introduction of foreigners. He was far from designing to derogate from the fair claims of his countrymen, and desired to be understood that in the good art of those ages, although the greater part may have been executed by English artists, the taste and direction was by foreigners. Until the fourteenth century, England had full opportunities of cultivating the arts of peace, and must have depended in a great degree on their communication with Italy. About Henry the Fifth's reign, the character of sculpture was vigorous, and, though rude in execution, was by no means deficient in feeling or expression. Sir Richard then referred to the last period of mediæval art in England, in which the florid style of architecture then adopted demanded all the powers of the artist and of the sculptor, more especially in the exuberance of embellishment then displayed in religious edifices. From this period we may date the extinction of mediæval art. The taste which followed, and which applies to every country in Europe, was of a mixed character, engrafting the Italian and German manner with the old, and which left nothing either in architecture or sculpture to redeem the innovation. Henry the Eighth, though without the genius to improve, had the judgment to select the best which was then offered to his choice. He distinguished merit, and his catalogue of artists of the period contains the names of fifty persons, most of whom were employed by him.

TEWKESBURY ABBEY CHURCH.

VIEW FROM THE WEST.*



ON ARCHITECTURAL SHADOWS.

BY T. S. DAVIES, F.R.S.
PROFESSOR OF DESCRIPTIVE GEOMETRY IN THE COLLEGE FOR CIVIL ENGINEERS, PUTNEY.

SIR,—I perceive with regret that you have inserted a paper on this subject, in which the character of the problem seems misapprehended.† May I, therefore, beg of you, for the sake of your student readers, to insert also the following, where the problem is taken in all the generality of which it is susceptible? It will appear from what is here given, that whatever be the direction of the rays of light, the problem is equally simple (both in theory and in practice) with that particular case ordinarily employed by architects, viz., when the rays are parallel to the diagonal of a cube, two of whose faces are parallel to the plan and elevation of the drawing.

The present solution has reference alone to finding the shadows on the plan and elevation; as, to develop the general problem of shadows with any degree of completeness, would require more space than you could afford, and probably more time than I could just now command.

As the DESCRIPTIVE GEOMETRY is the *true* foundation of the entire process of shadows and shadowing, and as there is no English book to which I could satisfactorily refer the reader, I have been obliged to occupy a considerable portion of this paper with mere preliminaries, which I should have wished, had it been practicable, to avoid.

If it should be compatible with your plan to allow me sufficient space, at some future and not very distant period, I shall be glad of the opportunity of rendering the subject tolerably complete. Should it, however, not be in accordance with your views, do not scruple to say so, as my work on descriptive geometry, when published, will, at all events, place the theory and practice of this, as well as other applications of Monge's general methods, within the reach of my professional countrymen.—I am, Sir, &c.,

T. S. DAVIES.

Charlton, Kent, July 24th, 1846.

In the solution of this problem, in its utmost generality, only the very simplest principles of descriptive geometery are required; but as no work that can be referred to in England contains the development of those principles in a truly scientific form, it will be necessary to premise the propositions which we shall require in the solution.

I. A point or a line, as every architectural student knows, is given when its projections on the plan and elevations are given; these planes occupying their true places at right angles to each other.

In the annexed figures, the *eïdograph*, or representation of the system of lines, is a rude sketch of the planes and lines which occur in the problem, drawn after the manner of Euclid's eleventh book; and the *orthograph* is the result of supposing a total removal of all the parts of the eïdograph except those which lie in the plan, XY, and elevation, XZ; the elevation plane, XZ, being also revolved about the ground line, OX, into coincidence with the plan XY. Figs. 1 and 2.

Now in the eïdograph, let A be any point; and let perpendiculars, Aa_1, Aa_2, be drawn to the plan and elevation respectively. Then the plane, a_1Aa_2 will be perpendicular to both the planes, XY and XZ (*Euc. xi.* 18), and hence (*xi.* 19) perpendicular to OX, and, finally, (*conv. xi.* 4) the lines a_1a and a_2a are also perpendicular to OX.

Again, a_2a being in a plane XZ perpendicular to XY, and at right angles to the common section OX, it is perpendicular to the

* See p. 373. † P. 175, *ante*.

ILLUSTRATIONS OF ARCHITECTURAL SHADOWS.

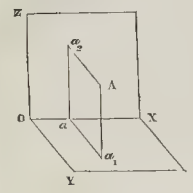


Fig. 1.

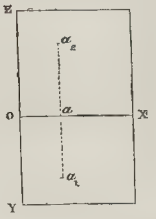


Fig. 2.

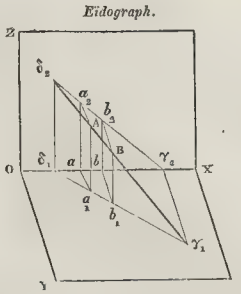


Fig. 3.

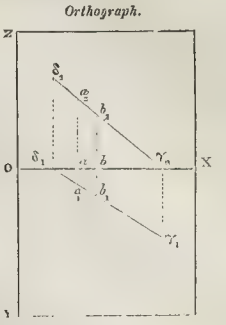


Fig. 4.

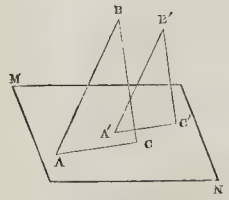


Fig. 5.

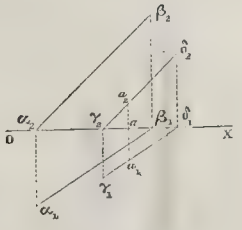


Fig. 6.

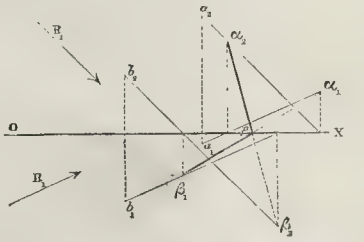


Fig. 7.

plane XY (*xi.* 38), and hence (*xi.* 6) a_2a is parallel to Aa_1. Similarly it is proved that a_2A is parallel to aa_1; and hence Aa_2aa_1 is a parallelogram. Also it has one right angle a_2aa_1, and is therefore a rectangle (*i.* 29 and 34).

Let us now conceive the lines Aa_1, Aa, to be removed, leaving the lines a_1a, a_2a in their respective positions in the planes XY, XZ. Then let us conceive the plane XY to be revolved about OX till it comes into coincidence with the plane XZ *produced*. The result will be the *orthograph*. Then since Xaa_1 is a right angle, and the relation of Xa to aa_1 is not altered by the revolution about Xa, it will be a right angle in the orthgraph; and a_1aa_2 becomes a single straight line perpendicular to OX.

In this it will be seen at once, that aa_1 is the height of the point A of the eidograph *above* the plane XY, and that a_1a is the distance of the same point A *before* the elevation XZ. And if we take away the frame-work of the planes XY, XZ, we shall have the ordinary "descriptive representation" of the point A of the eidograph.

Again, if there be a second point B in the eidograph, its "descriptive representation" will be b_1bb_2, as in the figured orthograph.

Also, if AB be a given line in the eidograph, the projections a_1b_1, a_2b_2 constitute its descriptive representations in the orthograph. Figs 3 and 4.

II. Let us now conceive the line AB produced both ways (if necessary) to pierce the plan and elevation planes in γ_1 and δ_2. These are called the *traces* of the line AB. Then two converse problems arise, which it will be necessary to specify.

PROBLEM A.—*Given the projections of the two points in a line, to find the traces of that line.*

ANALYSIS.—Let the eidographic plane ABb_1a_1 be produced and cut XY, XZ, in $\gamma_1\delta_1$, $\delta_1\delta_2$, and the plane ABb_1a_2 to cut them in $\gamma_1\gamma_2$, $\gamma_2\delta_2$. Then, since both planes pass through AB, their intersection is the line AB produced to meet the planes XY, XZ; or γ_1, δ_2 will be the *traces* of the line AB.

Now since by the definition of orthographic projection, Aa_1 and Bb_1 are perpendicular to XY, the plane $\gamma_1\delta_1\delta_2$ is perpendicular to XY (*xi.* 18). Whence, since the two planes $\gamma_1\delta_1\delta_2$ and XZ are perpendicular to XY, their intersection $\delta_1\delta_2$ is also perpendicular to XY XY (*xi.* 19); and hence (*xi.* 4) $\delta_1\delta_2$ is perpendicular to OX. But a_1, b_1 are given, and hence the intersection δ_1 of a_1b_1 with OX is given; and therefore the vertical trace of the line AB is in the given perpendicular from δ_1. Moreover, the vertical trace of AB is in the given vertical projection a_2b_2 of the line AB. Whence it is their intersection.

In the same way the horizontal trace is shewn to be the intersection of a_1b_1 with $\gamma_2\gamma_1$; and the following simple construction results:—

SYNTHESIS.—Let a_1b_1, a_2b_2 be the horizontal and vertical projections of the line AB upon the *orthograph*. Produce them to meet the ground line OX in δ_1 and γ_2 respectively. Draw the perpendicular $\gamma_2\gamma_1$, $\delta_1\delta_2$ to meet the projections a_1b_1, a_2b_2 (produced if necessary) in γ_1, δ_2. These will be the traces required.

The demonstration is obvious from the analysis and need not be put down here.

PROB. B.—*Given the traces of a line to find its projections.*

The following construction results from a slight variation of the preceding analysis.

SYNTHESIS.—Let γ_1, δ_2 be the traces on the orthograph of the given line. Draw $\gamma_1\gamma_2$, $\delta_2\delta_1$, perpendicular to the ground line OX; and join $\gamma_1\delta_1$, $\gamma_2\delta_2$. These are the projections of the entire of the *visible part* of the line; that is, of the part which lies in the "region of space" inclosed by the two planes which are opposite to the spectator.

III. *The projections of parallel lines are themselves parallel, whatever be the plane of projection, and whatever be the direction of the projectors.*

Let MN be the plane of projection, AB, A′B′ two parallel lines meeting MN in A, A′. Take any points, B, B′ in these lines, and draw BC, B′C′ parallel to the pattern-projector, meeting MN in C, C′.

Then, since BC, B′C′ are parallel to the pattern-projector, they are parallel to one another (*xi.* 9). Wherefore the two lines, AB, BC, are respectively parallel to the two lines A′B′, B′C′, and, therefore, the planes ABC, A′B′C′ are parallel (*xi.* 15).

Again, since the parallel planes ABC, A′B′C′ are cut by the plane MN, their sections, AC, A′C′, with it are parallel (*xi.* 16); and these are the projections of AB, A′B′ upon the plane MN by projectors parallel to a given pattern-projector. Whence, &c.

The proposition as here enunciated is somewhat more general than we require just now: but as the demonstration is precisely similar to that more limited case of orthographic projection, I have put it down in the general form.

IV. It follows from the preceding investigation, that if the projections of two lines upon both the horizontal and vertical planes be parallel, they are the projections of parallel lines. Or, in reference to the annexed figure, where $a_1\beta_1$, $a_2\beta_2$ are the projections of a line continued through the whole visible region, and $\gamma_1\delta_1$, $\gamma_2\delta_2$ parallel respectively to the former projections are the projections of another line, the two lines projected will be parallel. Fig. 6.

It also follows, that if the projections a_1, a_2 of a point be given, and likewise those of a line $\alpha_1\beta_1$, $\alpha_2\beta_2$, then if it be required to draw the projections of a line through the given point which is parallel to the given line, we have only to draw through a_1 the line $\gamma_1\delta_1$ parallel to $\alpha_1\beta_1$ in the horizontal plane, and through a_2 the line $\gamma_2\delta_2$ parallel to $\alpha_2\beta_2$ in the vertical plane. These will be the projections required; and the traces of the line, γ_1, δ_2 will be determined as already explained in II.

Having disposed of these preliminary matters (which certainly ought to be amongst the *most ordinary topics of professional education*, and I trust the day is not distant when they will be so), I proceed to the main purpose of this letter, viz.

V. Fig. 7.—*The projection of Architectural Shadows.*

1. *For Points.*—Let OX be the ground-line, R_1, R_2 the horizontal and vertical projections of the pattern-ray, a_1, a_2 the projections of a point, and b_1, b_2 those of a second point.

Through a_1 a_2 draw the projections of a line parallel to R_1, R_2, and find its traces α_1, α_2. Now the *visible one* of these traces is α_2 on the *vertical plane*, and is the shadow of the given point, whose projections are a_1, a_2.

Similarly draw the lines as in the figure, through b_1, b_2, and find the traces of the line so represented, viz., β_1, β_2. In this case the *visible trace* is β_1, or the shadow falls upon the *horizontal plane*.

2. *For straight lines.*—It is obvious that as the shadow of a straight line upon any plane is itself a straight line, this problem only requires us to find the shadows of any two points in that line, the given extremities being usually the points most convenient for the operation.

When the shadows of the two extremities fall both upon the horizontal, or both upon the vertical plane, we have only to draw the line to join them, and the shadow will be constructed.

When the shadow of one extremity, a_2, is on the vertical plane, and the shadow of the other, β_1, on the horizontal, the shadow of the line will be composed of two separate parts, $_2p$ on the vertical, and $\beta_1 p$ on the horizontal plane, the point p being common to the two segments of the shadow, and situated in the ground-line OX.

Now it is quite clear that if the vertical plane were removed, the line $\beta_1 a_1$ would be the shadow on the horizontal plane. The presence of that plane in its place, therefore, does not affect the position of that shadow so far as the part in front is concerned, whence $\beta_1 p$ is the portion of the shadow which actually falls upon the horizontal plane.

Wherefore, find the traces a_1, β_1 of the lines through the extremities of the given line (a_1b_1, a_2b_2) drawn parallel to R_1R_2, and draw $a_1\beta_1$ cutting the ground line in p. This will be the shadow on the horizontal plane.

In a similar manner, find the vertical traces α_1, β_2, and by the same kind of reasoning it will appear that $\alpha_2 p$ is the position of the shadow of the line which falls upon the vertical plane.*

Wherefore $\beta_1 p \alpha_2$ is the entire shadow of the line whose projections are a_1b_1, a_2b_2, the rays being parallel to R_1, R_2.

The application of these principles will enable us to find the shadow of any figure bounded by rectilinear edges, whether it be plane or solid, with considerable facility. Some modifications may be advantageously introduced when the parts of the figure have specified relations, especially when there are several sets of parallel lines—a circumstance of continual occurrence in architectural figures. A few remarks on some of the more frequently occurring cases may be useful, and will probably be hereafter given in this work.

With respect to the shadows of curves and curve surfaces, we can only as a *general rule* find the shadows of points taken conveniently in them, and connect these points by hand in the usual manner. Certain cases, however, form exceptions to this general rule; and, fortunately, these cases include the far greater part of architectural curves and curve surfaces. Upon these, too, a few remarks will be necessary.

* If it should be questioned whether $\alpha_1\beta_1$, $\alpha_2\beta_2$ must *necessarily meet* OX in the same point p, we have only to reflect that the lines $\alpha_1\alpha_2$ and $\beta_1\beta_2$ are, in the eidograph, parallel lines, and hence situated in the plane of shade. That plane cuts the horizontal and vertical planes in the lines of shadow, and consequently the lines of shadow cut OX in the same point that the plane of shade cuts it. Whence the conclusion follows.

STATE OF THE LONDON CHURCHYARDS.

"Give us a little" (more) "earth, for charity."

Sir,—In *agriculture* the number of *sheep* to an acre should, I believe, be *five*, at the utmost, sometimes four.—Now were any one to shew us an acre and say, "that will be the sole food of at least *twenty-five* sheep for the next twelvemonth," should not we be struck with horror, and try to prevent, if possible, such inhumanity? Change common humanity for decency and health, but retaining a spice of the first, as regards the feelings of survivors, and we have too true a principle and calculation applicable to the state of provision for the dead in London.

Our "pious ancestors" are not to be blamed for this. They provided for the necessities and perhaps prospects of their times, and could not in 1500, or even 1700, anticipate the requirements of 1846. Neither are the clergy, though it might be as well if they were to express their opinions more publicly. The writer knows that some of the most justly esteemed of them would be favourable to any fair or better plan. If parishioners will continue to keep up, amidst successive increases of population, these shockingly crowded places, and provide nothing better, how can one man of limited means (great part of which, God knows, often goes to the poor) help the unconcern, or heartlessness, or meanness of hundreds?

Or, is it not enough that here, as in the abominable system of punishment in the army (now, by Divine goodness, about to follow the slave-ship and the inquisition), we are behind all other nations?—that, in respect for the decent disposal of the dead, and care for the health of the living, many savages might "flout" us? "Bad words," it may be, but applied to a very bad state of *things*.

With great respect for both the church and parish of *St. Sepulchre*, Snow-hill, the writer must consider it *one* of the worst situated in this respect. With a population including Middlesex, of 13,500, it has two "slips" on either side of the church, which together can scarcely, if at all, exceed a *quarter of an acre*. There are vaults under the church; but if any one, having perceived the effluvia some yards from the opened door, can descend, unimpelled by duty or private feeling, he has stronger nerves than the writer's, although sorely taxed in this troublesome world.

At *St. Andrew's*, Holborn, the vaults are inoffensive; but for about 55,000 inhabitants (with St. George the Martyr, Queen-square) it has only this crowded ground, and the *reduced* one in Gray's Inn-road, before mentioned.

St. Bride's is almost exactly on a par with St. Sepulchre's, and fever is said to be almost every year produced in the neighbourhood.

St. Bartholomew the Great (2,000 inhabitants), Smithfield, the oldest church in London or Middlesex, has too small a churchyard, but by no means in proportion to the foregoing. The same applies to *Cripplegate* (15,000 inhabitants), where is a bastion of the old wall of London.

St. James's, Clerkenwell, with about 60,000 inhabitants, has the limited ground, certainly considerably less than an acre, at the church—all trodden ground—grass is rare and evanescent; perhaps an acre at Pentonville Chapel rather better, but inconvenient for this distance; and a small plot, common to *St. John's*, which has its own "slip" at the back of the church, still less. It is needless to say that these parishes require, for decency and propriety, some where, at least *four* times as much now; and what will they do, with many others, 100 years hence? The excellent rectors, Messrs. Faulkner and Hughes, the writer knows, are amongst those who would be favourable to a better state of things.

J. D. Parry.

P.S. May a few words be permitted on *St. Pancras Church*, alluded to in a previous number? You have omitted what you would well know, on consideration, viz., that besides Mr. Inwood's being sent to Athens by the parish (at perhaps some 200*l.* expense only) he published a handsome folio on the *Erectheion*, with good plans and engravings; this Erectheion *Ionic* having beautiful mouldings, copied all round St. Pancras, not to be found in any other instance. You have not mentioned, also, that the columns surrounding the tower have the lotus-leaved capitals first found by *Stuart*, at the *Temple of the Winds*, copied above. If the upper part of the capitals had been filled in, they would have been beautiful. The windows and "Greek tiles,"—instead of ballustrades or coping—are unhappily ugly. But the eastern central sweep is elegant,—after the "Choragic monument" or "Lantern;" and within it are six very bold *verd antique* columns of scagliola. This church is *said* to have cost 70,000*l.*; more than *double* St. Martin's, and *eight* times St. James's.

J. D. P.

West Ham Gas Works.—The tender of Messrs. Curtis, of Stratford, for the erection of these works, has been accepted. The contract is 1,994*l.*, which includes two gasometers; all to be completed within two months. Messrs. Curtis's estimate was 200*l.* less than one, and 80*l.* below several other tenders.

PROVINCIAL NEWS.

At a meeting of the Society for building, enlarging, and repairing churches and Chapels, held on the 20th July, it was determined to grant assistance towards the erection of eleven new churches for 27,000 persons; the rebuilding with enlargement of seven parish churches; and the enlargement of nineteen churches and chapels. Seven of the new churches are to be for the accommodation of the inhabitants of districts to be endowed by the Ecclesiastical Commissioners—viz., Northward, in the parish of Stoke-on-Trent. Hope and Etruria, in the Staffordshire potteries. St. George, Darlaston. Denton, near Manchester. Prestoke, near Bolton-le-Moors, and Coldhurst, in the parish of Prestwick. The remainder are to be built at Cirencester, Idregthay-par-Winksworth, Henley-on-Thames (a free church), and Greenwich. The churches to be rebuilt are at Baildon, near Bradford; Tremaer, near Cardigan; Birkenhall, near Taunton; Ellerton, near Selby (now propped up and expected soon to fall); Ewell, Surrey; Llanvabon, near Cardiff (very much dilapidated); and North Formby, near Hull. The churches to be enlarged and otherwise rendered more efficient are at Ditchingham, near Bungay; St. Columb Major and Stratton, in Cornwall; Elworthy, near Taunton; St. James's Church, Preston Hutton, near Wells; Ifield, near Crawley; Heath, near Ashby-de-la-Zouch; Dartford, Kent; Balcomb, near Cuckfield; Eaton Constantine, near Shrewsbury; St. Sampson, York; Globy, near Leicester; Lingfield, near East Grinstead; Stowin-the-World; Othery, near Bridgewater; Nailsea, near Bristol; Ardington, near Wantage; and St. Olkmund, Duffield, Derbyshire. The society, since 17th Nov. last, has expended 20,360*l.* towards the erection and the rebuilding of sixty-nine churches, for the accommodation of 37,367 persons, 30,277 of them free. At last meeting, 5,540*l.* of the above sum was voted.——The church of St. Lawrence, Reading, is to be repewed and restored by subscription, at an expense of 2,000*l.*, according to architectural plans and estimates lately prepared.——The church of Bebington is also to be renovated.

THE IRON TRADE.

The quarterly meetings of the iron masters are over, the last of them being held at Birmingham on Saturday week; to which meeting all final arrangements were deferred. Attempts had been made to change the quarter day, but the effect intended was not produced. As it is, however, fortunes have been won and lost in the uncertainties attendant on the anticipations of the holders. The demand for iron for railway purposes has not been so great as has been represented, and the anticipatory statements which have occasionally appeared, have in some respects been fallacious; but the quarterly meetings of the Staffordshire masters went off with a decided tendency to high future prices. They had resolved, on the special ground of a stoppage of works in England, Wales, and Scotland, from the intense heat, more than for other alleged reasons, to raise the price of iron at the July quarterly meeting; an advance of even 1*l.* a ton being meditated by one of the largest makers in South Staffordshire; but the prices of the previous quarter-day were in the main barely supported. Bar iron, however, is said to have fetched about 10*l.*; hoop, 10*l.* 10s.; and pig, 4*l.* 15s. up to 5*l.* 10s.; and since the quarterly meetings the demand in the Scotch iron trade, at least, has been very great; the prices following, at Glasgow, being not only firmly maintained, but still manifesting an upward tendency:—"Glasgow, July 17th. A large business has been done by the dealers at 70s. for No. 3, 72s. 6d. for mixed Nos., and 74s. to 75s. for all Nos. Cash f.o.b. Several contracts have been made by makers, at 77s. 6d. for all No. 1. Cash on delivery.—July 18. The price of Scotch pig-iron, delivered free on board here, may be quoted today at for all No. 1, and for 3-5ths No. 1, and 2-5ths No. 3, 75s. for all. No. 3, 70s. 6d. and 71s. 6d. The makers have effected sales at 80s. for mixed Nos., less 4 per cent. discount, cash in a month. The demand during the week has been very great, and the above prices for the present are firmly maintained, there

being as many buyers as sellers." On July the 25th, the quotations are 73s. to 74s. for all No. 1, and for 3·5ths No. 1 and 2·5ths No. 3, 71s. to 72s. per ton net cash, with but few buyers, however.

RAILWAY JOTTINGS.

The actions against provisional committeemen have had a severe check at Lincoln lately, where in every case the plaintiff was nonsuited. ——The Gauge of Railways Bill has gone through committee in the Commons.——The jury, in the Eastern Counties Railway accident case, in finding a verdict of manslaughter against the engine driver, Clare, have declared that "culpability attaches to the management of the Eastern Counties Railway in not taking care that their rules are observed, in the exhibition of signals, in want of punctuality, and in the appointment of incompetent persons." ——The establishment of an uninterrupted electro-telegraphic communication for Government use between the metropolis and Gosport is now so far realized, that wires are being laid across the harbour of Gosport by Messrs. Coon and Wheatstone's workmen.——Atmospheric pipes increased to twenty-two inches diameter are said to be in course of formation for the South Devon line of railway. ——The arches of the new brick bridge across the Syston and Peterborough line, near Peterborough, has given way, and the contractor and his workmen have been dismissed.——The telegraph on the whole of the Midland line, from Leeds to Birmingham, and from Derby to Nottingham and Rugby, is at length completed, and in successful operation, at an estimated cost of about 40,000*l.* The distance between Birmingham and Derby is forty-one miles.——The Nottingham and Lincoln Railway was opened on Monday last by a special train, which completed the distance between Derby and Nottingham in less than half an hour.——A monument to the memory of the men who have lost their lives by accidents on the Shap district of the Lancaster and Carlisle line during its construction, has been erected in Shap church by the contractors, Messrs. Hutchins and Brown.——On the stations of the Edinburgh and Northern Line there are at present 4,536 labourers and workmen employed.——1,200 men, employed on the first contract by the Messrs. Jeffs on the Mullingar line from Dublin to Enfield, have struck work because the ticket system so much complained of by the men themselves has been discontinued, and because the wages were to be henceforth paid by the fortnight instead of by the week.——The Minister of Public Works at Paris is said to be resolved to establish a school of instruction there for drivers of locomotives on the French railways.—— The Paris journals of Monday week report the sinking of a portion of the unfinished Orleans and Vierzon Railway, near to Orleans, on the preceding Saturday, on which day, also, according to the *Journal de la Somme*, a part of the tunnel of the Boulogne and Amiens line, near Amiens, suddenly gave way, with a loud crash, in the midst of a shower of rain.——The Austrian Government is said to have decided on the speedy formation of a line of railway from Vienna to Salzburg, and the Bavarian Government on the formation of one from Salzburg to Munich.——The Hanoverian Government's credit of 11,000,000 thalers (about 40,333,330 francs) for the formation of a line from Hanover to the Hesse electorate frontier has been accepted by the Hanoverian Railway Commission.

Responsibility of Railway Engineers. —On the Oxford Circuit, in the case of Collins and others, as the managing directors of the Dudley, Madeley, and Ironbridge Railway Company, against Giles, their engineer, to recover damages for his negligence and carelessness in the preparation of the requisite plans and sections, which prevented the company from successfully going to Parliament with them; it was shewn that the losses incurred by the company in consequence of the defendant's negligence amounted to at least 20,000*l.*, and that the defendant had received from them 4,500*l.*, of which he had paid 2,800*l.* to those employed by him in the preparation of the plans and sections. The Jury, after a few minutes' deliberation, found for the plaintiffs—damages 4,500*l.*

OFFICIAL REPORTS ON COLLIERY EXPLOSIONS.

By Sir H. De La Beche and Dr. Lyon Playfair.

These important and much called for documents have been recently lodged, in conformity with the Government instructions, instituting chemical and other researches into the nature and causes of colliery explosions, and the advisable or practicable remedies for the evil.

The general result of the examination into the physical and chemical constitution of the fire-damp is, that though, in many cases, the explosive material exists and accumulates from the gradual decomposition of the vegetable nature of the coal, in the *gaseous* form, it is frequently condensed in crevices amongst the coal in the form of a liquid, which suddenly expands to the gaseous form so soon as the pressure is insufficient to sustain it in the form of a liquid; that in opposition to the results of the researches of continental chemists, the reporters have found no trace of olefiant gas in the eight pits which they have examined, and in which the explosive or inflammable constituent or fire-damp was found to be carburetted hydrogen, without even any trace of free hydrogen, except in one instance; that nitrogen is the next element, amounting in some cases to 21 per cent. of the whole, and that this, together with carbonic acid, formed by the exhaustion of the vital air of the pit, by combination with the carbon, forming one of the decomposing elements of the coal, constitutes the poisonous after-damp, which has been found to be even more fatal than the explosion, more especially as it exhausts the remainder of oxygen, often sufficient for respiration after the fire-damp has exploded. Incidentally the reporters recommend, as a partial remedy for this evil, that cheap mixtures, capable of absorbing carbonic acid, such as glauber salts and lime, should be used at least by those who try to aid the sufferers after an explosion. "Such a mixture placed in a coarse bag and applied to the mouth would effectually absorb the carbonic acid, and prevent it exercising an injurious effect on respiration."—[A recommendation, by the way, which ought to be kept in view by workmen and others in the habit of descending into wells, &c.]

Explosions, however, are attended with results so complex, that the reporters hesitate to recommend any one preventive or remedial course in particular, although they suggest the use of fanners in the mine for the purpose of more thoroughly diluting the fire damp while accumulating; as, being lighter than air, it tends to occupy an upper stratum, apart from the wholesome air, but more liable to act as a train for explosion leading to a repetition of the evil in upper galleries or other reservoirs of the carburetted hydrogen. Plans, they observe, have been adopted for the purpose of taking advantage of this tendency to ascend, by draining the mine of fire damp through pipes, as through a chimney, but the conditions being so various, they do not stop to consider such plans. Proper general ventilation of the colliery is what is more particularly desirable, but "as a whole their general ventilation is very imperfect, good as it may be in some collieries, particularly in certain districts." They deprecate the too common use of single shafts divided by wooden partitions for ventilation, but there is no allusion to, or attempt made to propose any effectual or decidedly improved or promising system of ventilation. The principal recommendation of the reporters is "an extension of the principle which regulates the employment of women and children in our mines and the labour in our factories, effective discretionary powers being vested in properly qualified persons appointed in convenient districts, so that the needful adjustments to conditions may be effected, and no single system be attempted inapplicable to our collieries as a whole."

"Should the suggestion of a system of judicious inspection be considered worthy of consideration, the ready access to proper plans and sections of collieries, brought up to given times, would necessarily form a part of any general system of regulations. If correct (and power to ascertain that they were so would be essential), they would at once disclose the system of working and ventilation adopted, and, with information respecting the police regulations, and an account of the kind of lights employed, would at once afford a general view of the mode of conducting any particular colliery, and of the adjustment of the workings to conditions."

The necessary funds, the reporters calculate, might be raised from the districts under superintendence "by a very slight impost, not even exceeding one farthing on each ton of coal raised in it."

It appears from the remarks of the reporters on the Davy and other safety lamps that the seemingly paradoxical fact is, that the very safety of the Davy lamp, and its use, have increased the mortality arising from explosion, inasmuch as it has enabled or tempted coal proprietors to work in "fiery" and dangerous seams, where previously no such idea would have ever been for a moment entertained. They add that as fire-damp does not exist or does no injury in some districts, it would be unjust to compel the indiscriminate or general use of safety lamps throughout the collieries. Professor Grove's safety lamp of electric light, though imperfect, is favourably alluded to by the reporters. The light in this lamp is struck between two coils of platinum wire inclosed in two concentric glass vessels, the outer one filled with water so as destroy the light should the inner one be broken.

THE YOUNG ARCHITECTS OF ENGLAND.

BY ONE OF THEMSELVES.

No. III.

Sir,—There is very much in the idea of Mr. Lamb as we have it in your last week's "Miscellanea," that "the public wonder very justly that Architecture, advanced as it has been to the merely Mechanical, should rank as a Fine Art at all." Antiquarianism and soulless Method—have usurped the throne of our Art! Aliens utterly,—of other blood than ours,—of other laws,—ignorant of our very speech,—contemptuous to our faith,—their scorching rule has blighted our beautiful land! Patriotism is Treason; and they who will not bow before the alien throne are rebels and outlawed! Yet there are some (but—whisper low) there *are* some, living and loving alone and hid, who think of other days and other kings, and vow strange vows and pray strange prayers, and find strange joy in this.

In a lone room, damp-walled and fireless,—the midnight wind of March howling without, —cold, but not feeling it,—cheerless, comfortless, but senseless to such,—there sits—perhaps a youth—perhaps an aged man. A book lies open; and his red eyes greedily devour the Thought. Or it is a picture that he muses on:—perhaps a statue;—a carving;—a device:—perhaps (although it may seem wonderful) a building. Or he writes—ponders and writes:—or draws—ponders and draws. Or it is Music that he loves—sweet melody—soft harmony—in the still night when grosser men have ceased their turmoil's jarring discord. How intent he is! He forgets the world,—forgets himself,—forgets the cold March night, —in some strange love. The chill of opening Spring is calm kind sunny Autumn. That cheerless home of his is lost—in the vision of a beautiful Heaven. The bleak black noon of night is *without; within* it is a brilliant day-light scene; and he is very happy. He is alone with *Art*—surrounded with The Beautiful. *He* is not in the dim damp chamber, cold and comfortless,—Earth singing a wild Winter-song without; *he* is far far away. Fool that he is, —poor dreamer! *Fool?—Dreamer?*—Nay.

And Alderman Beefeater, "Architect and Engineer, Surveyor, House-agent and Appraiser,"—Peter Beefeater, Citizen and Alderman, worthy man! is meanwhile snoozing *so* snugly. Now Beefeater is—in short, there is no nonsense with him; he is a man of the world, is Beefeater. He is rich; he—"looks after the main chance," does Beefeater. People may call him a Batty Langley*,—what does he care? If he never attempts anything *new*, he runs all the less risk of *going wrong*, as he jocosely says. He can refer you to chapter and verse for every atom of design he ever suffered himself to accomplish. He leaves *originality* to those who have a mind to *starve* (for Beefeater is a wag occasionally): he works for a living, *he* does; and, if he could make a better living thereby, if he wouldn't

* Batty was about the culmination of the Rule-and-Regulation system, a mighty man as an Architect of the real orthodox stock. He it was who discovered (not *invented*) the *five orders of Gothic Architecture.*

turn pork-butcher or greengrocer he says his name isn't Peter Beefeater. It's the money *he* wants, he says: and as for "the business," he was "brought up to it," and it's a good one —at least as good's is going; and *Art*—pooh! mere bagatelle—nonsense,—they don't know what they mean, these fellows—at least *I* don't—and I don't care; — give *me* the thing that *pays!* (Although, to tell the truth, this is only when Beefeater is angry—very angry, or very waggish, and then of course he exaggerates himself a little—Beefeater out-beefeaten as it were; he's not so bad a fellow at other times.) Art indeed! I suppose they mean picture sort of thing: wouldn't give five pound for all the pictures in the world. Can't get *dividends* off pictures—Eh?

Now, Beefeater, thou man of a gastric soul! do I blame thee? No; thou art right.

Dreamer; do I blame thee? No; thou too art right.

Ha! Paradoxical; whither away so fast? How is this?—We merely see two estimates of the world here,—two among thousands. The one hero of ours has his pleasures in being "rich and increased in goods and in need of nothing," a dignitary, a great man and "looked up to;" he dreams at times also, during his nap after dinner, of a great gilt coach—and men in armour—and Gog and Magog—and proclamations by one "BEEFEATER, *Mayor*"—and many other things wonderful to see: and thus he displays a theory of Life—an estimate of the world. Our other takes no pleasure in such things; but rather loves to rise alone into a high ethereal region where, among exquisite and subtile things, he finds a joy of rare refinement. And thus he forms another theory of Life—another estimate of the world. Beefeater thinks ~~it a very~~ fine thing to be an Alderman, and to sign proclamations: the Dreamer thinks all this must be but "weary, stale, flat, and unprofitable" at the best; and that it is a fine thing to sit alone and think of a thing called Art. And I have said that both are right: and it seems a paradox; for every one knows that the Beefeater theory is the orthodox one. With modifications here and there, it is the doctrine of mankind and womankind at large. Twelve good men and true would not hesitate a moment to pronounce upon their oath that Beefeater, all snoozing in snug bed at midnight in cold March, is by far a happier and wiser man than the poor visionary zealot with his *Art* forsooth! And they would snap their fingers as they said it, too.

But, alack and a-day! even juries sometimes err: "to err is human." And, in our present case, the maxims of the multitude are utterly at fault. Beefeater is *not* necessarily the wiser happier man.

There are two Worlds, two among a myriad. Beefeater is in the one; it is a Common-sense World; the Dreamer is in the other; it is an Art World. Each has its all-essentials and its non-essentials; and it happens that the two standards are not the same, indeed widely different. The pleasures and pains of the one are not at all the pleasures and pains of the other. But it does not therefore follow, that *this* one is false and that *that* one is true. Nor does it now altogether appear which is *really the dreamer*.

I have said that both are right. Neither is *really true*. If we judged truly of the world, all men would value all things justly, and therefore equally. But our MAKER hath not made us so. In every thing that which one counts all another counts nothing. We all form estimates intrinsically false in some respect; and, error producing failure, we all get thereby our respective shares of knocks and buffets in life; but some form estimates more false than others, inconsistently false, absurdly false; and Earth's machinery bewilders them, prostrates them, beats them to death perhaps. Wherefore the less false, the *commonly* false, I call, comparatively, true. And both the theories before us now are so. The All of the Dreamer will not apply to the real world; but it applies to *his* World, for he lives *altogether* in an ideal World, he is self-contained, he thinks not of other men—of the real world—at all. (And if your reader feel inclined to say—There are no such, you, Sir, and I know better). Beefeater applies his All to the real world, and there he finds himself in such an excellent majority that he can afford to laugh at other doctrines as *visionary*, can Beefeater. Thus both our heroes are (as the world goes) happy in their different opinions; and, therefore, both are right. But—here's the rub—there are men half Beefeater, half Dreamer, who live not *altogether* in an Art-World, but sufficiently so and in such manner (as it happens) as to apply their Art-estimate to the real world; and, finding it scouted, they *hate* the world; and these men are *fools*. Too many of Earth's brightest men are so. They open up their souls, as I have said, to a factitious misery; no pain can be more keen than that (though utterly a false one) which springs from a man building upon a false estimate of Life a horrible misanthropy. And hence, by the commonness of this, the intolerable conceit— contempt for every one who is not Artist, and, in another view, for every one who, being so, is not so to his mind exactly, which, to a proverb, is a feature in the common notion of a votary of Art. It is not the love of Art that makes a man this fool.

It is a false doctrine that the artist is *a visionary*. The Common-sense man is equally a visionary; only he happens to have the great majority—the earthy multitude—upon his side. Each has *his own world*, with its own peculiar desirables, its own All; and that is the reality—the philosophy of the matter. *Both* are visionaries, if you will. The Art-World is no more a false thing than the Common-sense World. The joy of having painted a good picture, and of looking on it, is not necessarily more false than the joy of being made a lord, and of looking on the coronet, or the joy of having done some great deed and of feeling the reward. We are not to decide the matter by *a vote*.

Thus it is that I was able to affirm, that when to the question—What is the chief end of man?—the answer, Architecture—or, say at present, Art—is returned, there are two senses in the answer, a right and a wrong. The right is when a pure Art-World is formed; the wrong when the Art-World and the Common-Sense World (which the jury decided to be the *real*) are confounded together. So that if you have waded with me through all this philosophy, you will be able to see perhaps the more clearly the true standing of Art; in fact, that he who gives it *supremacy* is not *a fool* therefore, although it is only in an *ideal* World that such supremacy exists; that he only is the fool who would maintain or expect that supremacy in the world of Common-sense.

And thus also it is that to him who forms a proper Art World, the *over* estimate of Art is the Love which is the Soul of Life; and that to him who does not so properly, the over estimate of art is frequently but a source of torment and hate.

That which you count all you must permit others to count nothing. And thus perhaps a little of the *evil conceit* which throws so much of pain into many an Artist's life may now be undermined. He who is an Artist, and is troubled because other men are so dead, and dull, and earthy, is tormenting himself with bugbears, confounding the Art-World with the real,—he is foolish; and if he have pain thereby it is a false pain, a pain gratuitously, unnecessarily incurred, although unfortunately, none the less on that account severe. Your grumbler is a grumbler because he forms a misconception of the world.

But the Artist need not be *always* in the clouds. There are many who are so—Dreamers; but there are many who are not so. They value Art as supreme in the Art-World, but subordinate in the real world; and thus they are right, just as our Beefeater and our Dreamer were right, because they preserve *unity* in their estimate of the world. The Alderman had no Art-World; the Dreamer no Common-sense World; our new Artist inhabits both the one and the other—but he keeps them separate. And certainly it happens, in our age at least, that Artists generally are alive to both the Art-World and that which I have called the Common-sense World—the World of Ambition, Fame, solid comfort, and wives and children. I do not counsel the Dreamer not to bring his Art into the real world, for he never comes down to it. Nor do I counsel Beefeater to leave his pelf below; for he never ascends, worthy man! he would explode if he got into so rarified a medium. But I counsel him who would live in both Worlds, that he properly contradistinguish the one and the other. The error of the man who, in his foolish conceit (how common it is!) gives his soul incessant trouble through his estimate of Art lies, not in giving antagonists their due, but in confounding them together in a hybrid. Kilkenny cats must be kept asunder.

Now, Sir, all this may seem insufferably dull and metaphysical. Forgive me for once, and I won't do it again (if I can help it). But surely it cannot be useless to the true Artist, to shew him that the standard is not a real one by which he is advised to put genius under bands and bars, and shun all "dreamy notions" as mere foolishness; to show him how it is—and how, justly,—that his soul refuses to be cramped by *prudence*-rules of common sense, although he cannot contradict their seeming value; to expose to him the reason why he so rebels instinctively against the maxims which he instinctively allows; and surely it cannot be useless either to put a beacon on the rock which has wrecked so many, to show him who is in danger the way he may avoid the evil thing which has so fatally crept in to blast the happiness and sour the spirit of many, many a brother. Men speak of artists as monomaniacs. They are not *necessarily* so.

Sir, these sketches of mine may seem disjointed and unfinished. They are partly so by necessity, being hasty; and partly purposely so, that I may not merely think for others, but lead others to think for themselves. The old lady to whom the wag lent the dictionary to read, is said to have reported that she had read the book through, and doubtless it was a good and a sensible book, but there seemed to be a sad want of connection in it. Nevertheless I hold it as certain, that the good dame had much advanced, albeit unconsciously, in the knowledge of the subject-matter: for every thing has its effect; and, depend upon it, she did not read the dictionary without its leaving an impression. Just so let it be with this: every idea, however isolated, is the offspring of a certain *system of thought*, a *ruling notion;* and it is that system of thought, that notion, in the abstract, which I would fain convey.

R.

London.

STAINED GLASS, ST. JAMES'S CHURCH.

SIR,—In this, my reply to Mr. Mayhew's letter of the 28th instant, I will occupy your valuable space as briefly as possible. The question in my mind is of much more importance than will at first superficially seem to the many. It is therefore made to appear, that my former letter was intended as personal, than which nothing could be further from my intention. My object is truth and consistency in art, and had the window in question have been of a character in unison with the church, not one word would you have heard from me upon the subject.

London especially abounds with Italian churches of the class of St. James's, and this window is a most dangerous example, and which must give a tone to, and influence the designs of other artists in connection with them, sanctioned, as it is presumed to be, by fifty noblemen and gentlemen, unless as publicly protested against as an example. What a position, therefore, does this inconsiderateness place artists in, whose individual voices would be as nothing against such an undisturbed authority.

Sir, this is not a question between A and B or A and C; it is a question of public taste and propriety in the decoration of our Italian buildings; a question, in short, of whether these buildings are to be rendered into Gothic—and it is simply for this reason that I have pronounced this work a solecism and a discrepancy, although I could have wished that the task had fallen into other hands.

Nevertheless, however I may have been misunderstood to the contrary, I do not hold the artist blameable for this mistake, for he plainly and candidly stated at the outset thus, "having devoted himself and his workmen exclusively to the production of glass adapted to gothic structures, he hardly considered himself a proper person to execute a window for a church in the modern (meaning St. James's) style," from which I have a right to infer, that in *his* statement which follows, *he* was conscious of the doubtful propriety of advising Norman, excepting from the impracticability of any other, which assumption is an error. Mr.

Mayhew states, that "if first-rate talent be not employed on a picture, whether on glass or canvas, it generally raises a feeling of regret at the labour in vain." Perfectly true; but *why* should first-rate talent *not* be so employed? It is. As for the iron work and the lead spoken of, suffice it for me to say, that it is an erroneous notion. Not a lead or an iron line need be observable in an entire window; nor will the statements respecting the non-practicability of applying the art to pictorial purposes be long a *problem*, although Mr. Mayhew has said, that wiser heads have said nay. I do, however, most sincerely congratulate him upon his correct taste; for he plainly states, that he *prefers* the "truly pictorial," which, in fact, involves the whole question, and admits the justice of my strictures upon the work. His doubts, from his non-practice, may be excused; his wishes, that the art may improve equivalent to them, all must be obliged to him for.

The last part of Mr. Mayhew's letter I beg to make him a present of. Again stating, that a love of consistency and propriety in art, a love of justice, devoid of any personal feeling individually, has induced me to address you, Sir, on this subject, knowing full well from experience that this one work, sanctioned and dictated as it is by such eminent persons, must inevitably lead to other and grosser mistakes in art in general, if not arrested by some one; and with this sole impression I have been induced to raise my voice against it, regardless of whom I might unfortunately differ from, fully conscious that, however unpalateable the truth may be, it ought at all times to be told, and which must and will eventually prevail.

I am, Sir, &c., WILLIAM WARRINGTON.
42, Berkeley-street West, Hyde Park-square.

New Books.

NEUMANN, M. (director of the conservatories of the Museum of Natural History, Paris), *Theory and Practice on the laying out and building Conservatories of every kind—such as Houses for Orchideous and Water Plants, &c.* Translated from the French into German, with many additions, by F. B. BIEDENFELD. Weimar, gr. 4to., with forty plates.

AUDAT, M.—*Thermosyphon; or, the Water-Oven for heating all kinds of Conservatories, Churches, Theatres, Halls, &c.* Translated from the French, with additions, by F. B. BIEDENFELD. Ibid., gr. 4to., with twenty-one plates.

IN these works the architect will find much instruction on the building and heating of conservatories. In the first chapter the author speaks of conservatories in general, their form, the mode of supplying them with water, &c. At the end of every division of the work, treating of the different sorts of conservatories, a list of the plants is mentioned, which may be reared in this particular construction. An interesting part of the work is the description of the different important conservatories of France, Germany, and England, the construction of which is illustrated by plans and elevations.

The second work begins with a theoretical disquisition on heat, its radiation, &c. This is followed by a description of the various heating apparatus, as well as of hearths, flues, &c. Amongst the various heating apparatus, those of Rumford, Désarnod, and Curendeau are especially explained. The second part treats of the *caloriféres* with a current of air, whereby not only calefaction but a renewal of air is effected, as is the case in theatres, hospitals, &c. Two classes of *caloriféres* are adverted to; in the one, the fresh air rushes through channels into the hearth and the smoke flue; in the other, the smoke channels circulate through the air chambers. Many inconveniences are connected with those heating apparatus, especially unpleasant is the dry air of the *caloriféres*, still, this can be obviated by placing a flat, cast-iron recipient in the heat chambers—the great waste of fuel, however, prevents the use of that sort of *caloriféres*. The Palais de Luxembourg, at Paris, is heated in that way.

In the third chapter the author passes to the heating apparatus, with hot water circulation, which he calls *Thermosyphon*. Mr. Audat goes so far back as the Romans, and mentions the baths and sweating-chambers of Caracalla, Diocletian, and Titus, of which Vitruvius says, that they contained apparatus for conducting hot water in the reservoirs—a means which had not been rationally and scientifically carried out but at the latter part of the last century. The author states the following to be the advantages of the Thermosyphon: The heating with warm water at a low pressure is much more easy and economical than the heating by steam, as it does not require any supplying apparatus, no cleansing of boilers, &c. It is not so much impaired by tear and wear, and the great mass of water employed occasions a great uniformity of warmth, which continues even for some time after the going out of the fire. On the other side, the author does not dissimulate the drawbacks of this method, viz. the greater surface of warming apparatus required, the greater weight of the tubes, which encumber and may injure buildings. In the fifth chapter we find observations on the choice and the combination of tubes for the heating with warm water, the demonstration of the necessity of ventilation, as well as an easy method of calculating the celerity of air in a heating apparatus, and the quantity which can pass in a given time through a given space.

Correspondence.

ARE ARCHITECTS ONLY TO COPY?

SIR,—In answer to your correspondent, who evidently does not think with me, at least not with respect to the most material point of all, I would remark that if he has read my book, he has quite misconceived the spirit of it, for although it reprobates the practice of *mere copying*, a practice which puts all talent upon the same level, it earnestly inculcates not the desirableness only, but the necessity for our *studying* the works of former ages, for the purpose of imbibing the genuine spirit of those styles which we take as models, but which the system of copying without understanding the originals, without the slightest real feeling for them, and without any regard to altered circumstances, or the circumstances of the particular case, renders only collections of so many patterns for us how to work by, because we are, or choose to appear incapable of generating any fresh ideas of our own. Your correspondent R, "great R," as "Budownik" calls him, will, I think, agree with me in my views of the matter, also "Budownik" himself, and I hope I may add yourself likewise, if it be only to make up a trio, or if you like it better, a triumvirate,—I am, Sir, &c.,

E. B. LAMB.

26, Charlotte-street, Portland-place.
29th July, 1846.

NOTICES OF CONTRACTS.

(We are compelled, by the interference of the Stamp Office, to omit the names of the parties to whom tenders, &c. are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent Garden.)

For building sewers in Moseley-street, Dean-street, Upper Dean-street, Pershore-street, to Dudley-street, and other places contiguous thereto in Birmingham.

For building a sewer in Ferry-road and Alfred-street, Poplar.

For the letting of extensive building or engineering premises in a central part of London.

For the execution of the Melton contract of the Syston and Peterborough extension of the Midland Railway, extending to a length of 9 miles 53 chains, and comprising the earthwork, bridging a tunnel of 900 yards, and all other necessary works for a double line of railway, with all materials, excepting rails, chairs, and sleepers.

For the disposal of the lease and fixtures of an oil and colour shop in one of the leading thoroughfares of London.

For the letting of a long-established house of business for a furnishing ironmonger, cutler, &c., in a good thoroughfare in town.

For the re-erection of Aiken Knowles bridge, in the West Derby Hundred.

For the sale of the business of the Britannia Foundry at Atherstone, with stock in trade, implements, &c.

For the various works required in the erection of a workhouse, with infirmary, receiving and vagrant wards, register offices, workshede, and other buildings, for the Bridlington Poor-Law Union (extension of time).

For a supply of 80 fathoms of yellow deal ends and boards of the best description, for firewood, for the trustees of the parish of Islington.

For the disposal of an old-established ironmongers' business, a few miles out of town, with stock, fixtures, &c.

For a supply of 50 iron lamp-posts and columns, for the trustees of Islington parish.

For a valuation of the parish of Barton Mills, for the Mildenhall Poor-Law Union.

For lighting a part of the Hampstead Trust with naphtha, or essential oil of tar, or other spirit lamp, for seven months, and for furnishing and repairing York square or patent lamps.

For making a cylindrical sewer at Cambridge.

For the works necessary in extending the sewer from Butcher-row, along White Horse-street and Salmon's-lane—a length of 1800 feet, in the hamlet of Radcliff.

For the disposal of a long-established general ironmonger's business, in a good market town, 60 miles from London.

For the disposal, at a very low price, of a ready made pulpit, nearly new, with sounding-board and staircase complete, at Soho-hill.

For the erection of a rectory-house and offices, near Eye, Suffolk.

For the letting of the Kingston new steam saw-mills, at Hull.

For the mason-work to be done in the erection of public baths, at Rotherham.

For the carpenter-work to be done in the erection of the baths, at Rotherham.

For the iron and lead work to be done in the erection of the Rotherham Baths.

For the slater and other work to be done in the erection of the Rotherham baths.

For the disposal of a large quantity of larch and Scots timber trees, for railway sleepers and fences, near Castle Rising.

For the disposal of a quantity of oak, ash, and elm timber, near East Dereham.

For the execution of the Thirsk contract of the Leeds and Thirsk Railway with a branch to the Great North of England line, a length of about eleven miles.

For the disposal of a very large and rich surface deposit or lode of iron ore, and also of a rich vein of oxide, on 7 acres of land in Devonshire.

For the disposal at very reduced prices, of forty marble chimney-pieces, two wrought-iron gate piers 16 feet high, four freestone columns 6 feet 8 inches high, &c., at Gloucester.

For the construction of a railway tunnel and works for the London and North Western Railway at Liverpool, including a bridge over the railway.

For the letting or sale of the newly-erected iron foundry and steam-engine factory at Tividale, near Dudley.

For the disposal of a small ironmongery business in one of the best thoroughfares in Birmingham; stock about 150*l*.

For the repairs of the Presbyterian Church, at Stafford.

For works to be done in repairing, restoring, and improving the parish church of Ifield.

For the execution of the works of the General Terminus and Glasgow Harbour Railway (extension of time).

For the execution of the whole of the works on that part of the Aberdeen Railway from Redhall to Laurence Kirk—a length of about 3¼ miles.

For the execution of the whole of the works on that part of the Aberdeen Railway from Laurence Kirk to the river North Esk—a length of about 4 miles.

For the execution of a branch railway on the Glasgow, Paisley, Kilmarnock, and Ayr line—a length of about 5¼ miles.

For the sale of the bankrupt stock of a furnishing ironmonger, with shop fittings and tools (extension of time).

For the execution of the Newport Extension of the Edinburgh and Northern Railway, between Cupar and Leuchars, in two divisions.

For taking down and rebuilding the bridge at Stockwell, Glasgow.

For a supply of 100 to 150 yards of second hand cast-iron pipes, 12 to 15 inches in diameter, and say 5-8ths inch thick; also for a good borer to sink for coal.

For the disposal of a large quantity of Scots fir sleepers at the Moray firth.

For the letting of a going lime-work in Scotland.

For the letting of a slate-quarry at Appin, Scotland.

For the disposal of cargoes of 500 to 1,000 square yards of Caithness flag-stones with sawn edges, natural faces, &c.

For supplying her Majesty's dock-yards with oils.

For the disposal of a hall staircase and fittings of oak and mahogany, at Chancery-lane.

For the erection of schools adjoining Walton church-yard (Liverpool).

COMPETITION.

Plans and estimates are wanted for the rebuilding of the parish church of Holyrhood, Southampton.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At Hull: a large quantity of timber and deals, in suitable lots, with deal ends, lathwood, &c.

At Croxton Park: 963 oaks and 56 willows.

At West End, Southampton: 130,000 red bricks, in lots.

At Wimbledon Common: about 200 loads of fir, and 100 loads beech timber, in 6-inch quartering and sleepers, well seasoned, and in lots.

At Birmingham: a large assortment of paper-hangings of the newest patterns.

At Birmingham: an extensive rolling-mill, with engines, boilers, saws, &c.

At Galleywood Common: a builders' or cabinet makers' workshop, timber shed, timber, planks, &c.

At Vine-street, Minories: 14 marble chimney-pieces, a lead cistern, brick cart, &c.

At Brentford Bridge: a collection of lathes and tools of every description, for working iron, slate, and wood.

At Manchester: the Chapel-street Iron and Brass Foundry.

At Charlton-upon-Medlock, Manchester: the contents of a machine shop, comprising lathes, planing-machines, &c.

At Manchester: the contents of a tool manufactory, comprising stock in trade, implements, utensils, tools, &c.

At the Sands, Leith, 23,000 feet yellow pine and 330 deals.

At the docks, Leith, 6,400 feet birch, 500 feet hard-wood planks, and 250 feet pine plank.

At Assembly-street, Leith, 2,200 deals and 2,600 battens.

At Liverpool, 1,246 logs, pencil cedar; 4,844 boards, oak wainscoting; 30 logs, Havannah cedar; 363 planks, Rio rosewood; 1,474 lancewood spars, &c.

At Liverpool, 915 logs and curls of St. Domingo mahogany.

At Liverpool, 527 logs, St. Domingo mahogany.

At Belfast, a quantity of white oak, rock elm, and red and white pine.

TO CORRESPONDENTS.

"*A Constant Reader.*"—We may make use of the communication, though we cannot print it. We shall give attention to the subject.

"*One Under the Operation of the Act.*"—The same.

"*P. X.*"—We are unable to reply without a specimen.

"*St. James's Church Window.*"—The number of letters received on this subject is so large, as to preclude the publication of them, even if they presented any new points.

"*Builders' Tender.*"—On this subject too, a flock of letters have been received. They shall all be considered. Some would subject us to an action for libel.

A Correspondent wishes to know the name of the builder of the church at Mount St. Mary's, near Barlborough, Derbyshire.

Received.—"J. A. F.," "Budownik," "J. S.," "J. D.," "An admirer of the Works of Wren," "Regular Subscriber," "Country Subscriber."

ADVERTISEMENTS.

ROYAL POLYTECHNIC INSTITUTION.—A Chemical Lecture, by Dr. Ryan, daily, and on the Evenings of Mondays, Wednesdays, and Fridays, Prof. Bachhoffner's Lectures on Natural Philosophy, with brilliant experiments, daily. Macintoshe's Revolving Engine, Coleman's Patent Locomotive Engine for ascending and descending inclined planes, Farrell's Archimedean Railway, the Atmospheric Railway, all in action. Hallette's Atmospheric Railway Valve. Clark, M'Neill, and Co.'s Patent Universal Gas-Burner. The Opaque Microscope. The Oxy-hydrogen Microscope, exhibiting a fine Collection of Living Objects. A beautiful Picture of the Chapel in the Convent of St. Catherine, near Jerusalem, by Mr. Charles Smith, is one of the series of Dissolving Views.—Admission, 1s.; Schools, Half-price.

NOTICE TO INVENTORS.

OFFICE for PATENTS of INVENTIONS and REGISTRATIONS of DESIGNS, 14, LINCOLN'S-INN-FIELDS.—The printed Instructions gratis, and every information upon the subject of PROTECTION for INVENTIONS, either by Letters Patent or the Designs Act, may be had by applying personally, or by letter (prepaid) to Mr. Alexander Prince, at the office, 14, Lincoln's-inn-fields. Where may be had, price 12s., or, through any bookseller in the United Kingdom, of Wm. BENNING and Co., law booksellers, 43, Fleet-street, the LAW of PATENTS and REGISTRATIONS, with all Forms and Cases up to the present time, by SIDNEY BILLING, Esq., barrister-at-law, and ALEXANDER PRINCE, of the Office for Patents, 14, Lincoln's-inn-fields.

MORTGAGE AND ANNUITY OFFICE, No. 123, CHANCERY-LANE.

PERSONS requiring LOANS by way of MORTGAGE or otherwise upon any available security, may at all times procure an advance to the extent of from 100*l.* to 150,000*l.*, or so much as the property will bear, by applying to Mr. BRAY, surveyor, at the offices as above, where a registry for the sale of estates, houses, land, life interests, and reversions, is kept for inspection.

N.B. To expedite the procuration, personal application at the office would in all cases be better, the party bringing with them the abstract of title, plans, &c.

FRENCH PAPER-HANGINGS.—The Trade are respectfully informed, that at the Depôt of Messrs. MARKS and CO. is concentrated a most extensive stock, with weekly additional consignments, all the newest and most elegant patterns in Piece Paper and Decorations, at Parisian prices, with the reduced duty of 2d. per yard,—59, Princes-street, Leicester-square. Established 1834.

TO PAPER-HANGERS, HOUSE-DECORATORS, BUILDERS, SHIPPERS, &c.

JOHN TODD MERRICK & Co., having removed to their new Manufactory in New Oxford-street, take the opportunity of soliciting the inspection of the Trade to their extensive stock of paper-hangings, comprising every variety, from the cheapest to the most costly and elegant drawing-room patterns. They also invite attention to their complete assortment of panelled decorations, suitable for every description of room; and beg to announce that they are now ready to receive orders, furnish estimates, and enter into contracts in any situation, and to guarantee the execution of them in the first style.

J. T. M. and Co. beg to state, that they will execute any French pattern that may be brought to them, fully equal in quality, at the same price that it can be purchased in Paris, thereby effecting a saving of the duty and carriage to the purchaser. They are, however, constantly receiving importations of the newest designs, having entered into an arrangement with an important Paris house for their regular supply.

TO ARCHITECTS, BUILDERS, &c.

GAS LAMPS, GAS BRACKETS, GAS PILLARS, BURNERS, &c. &c. In calling the attention of architects, builders, &c., to their assortment of Gas Furniture in general, C. DEBAUFER and SON respectfully announce they continue to fit up premises of every description on the most approved and newest system of gas fitting. An experience of forty years justifies us in making the above assertion.—P.S. Country orders attended to with dispatch.

10 and 11, Creed-lane, St. Paul's.

FIRE-PROOF SAFE MANUFACTORY,
LEADBEATER,



125, Aldersgate-street, City Nine Years Sole Manufacturer for Chubb, St. Paul's Church Yard, has on sale a large assortment of fire-proof book-safes and chests; wrought-iron fire-proof doors for strong rooms, fire-proof jewel cases, cash, and deed boxes; fire-proof plate-chests, &c., &c., all secured by LEADBEATER'S IMPROVED DETECTOR LOCKS, throwing from three to twenty bolts, at prices 20 per cent. under any other house in London. All the above-named fire-proof articles, manufactured in the best manner, afford perfect security against fire and thieves.

LEADBEATER'S IMPROVED DETECTOR LOCKS for universal purposes, afford perfect security against false keys and pick-locks. Sold at prices equally reduced.

TO BUILDERS, PAINTERS, DECORATORS, AND OTHERS.

MESSRS. WOOD AND COMPANY, Grainers and Writers to the Trade only, by contract, measure, or otherwise.

62, Waterloo Bridge-road. All letters post paid.

N.B. Workmen sent to any part of the kingdom.

*** An Apprentice wanted.

TO BUILDERS, PAINTERS, &c.

C. WILLIAMS, 13, Palace-row, New-road, Imitator of Woods and Marbles, respectfully informs the Building Trade generally, that for the last five years he has been in the employ of Mr. W. HAMMOND, and begs now to solicit the favour of their patronage, trusting that by strict attention and moderate terms he shall secure their future favours.

N.B. Country orders attended to with punctuality.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 16s. per gallon.

DAY'S PATENT WINDGUARD, for ventilating

Churches,	Shops,	Kitchens,
Hospitals,	Bed-rooms,	Offices,
Factories,	Smoking-rooms,	Ships,
Theatres,	School-rooms,	Mines,
Breweries,	Nurseries,	Vaults,
Malt-houses,	Stables,	Tunnels,
Club-houses,	Larders,	&c. &c.

Also for preventing down draft; and is guaranteed to cure all smoky chimneys caused by wind; and entirely supersedes the use of revolving cowls, or any thing moveable or unsightly on the tops of chimneys or ventilators.

The object of this invention is to create a draft where otherwise it would not exist, by the spontaneous action of the external air. The Windguard forms a pleasing octagonal pillar, and by its peculiar construction to carry out the principle on which it is based, which consists of the wind giving a disposition for a vacuum within, thereby causing a continual upward current about equal to the velocity of the wind at the time acting upon it, which averages about six feet per second thirty days out of thirty-one; therefore, will nearly at all times ensure a continual change of air, being no impediment to spontaneous ventilation, even on a perfectly calm day. One five feet square will ventilate a building containing upwards of 1,000 persons. The Windguard applied to ships and steam vessels, in the form of a sky-light, prevents rain or the sea entering within, however boisterous the weather may be, thereby affording excellent ventilation as well as light. The Windguard is simply applied for effectually ventilating bed-rooms, nurseries, smoking-rooms, offices, &c., causing the air of the apartment to be at all times as pleasant as can be desired. It is fixed at the top of the chimney, in addition to which a cast-iron frame and valve (about one foot area), made to open or shut at pleasure, is let into the flue, near the ceiling of the room, to allow the constant ascending vitiated air being immediately carried off. The opening is guarded by a neat venetian blind or grating; and so powerful is the effect on a windy day that if a handkerchief be thrown up to the grating, it will remain there—i. e. if the valve be open. In winter the valve would be only partially open, to allow the smoke from the fire to ascend, but if the room be found too cold, can be entirely closed. The Windguard applied to the tops of chimneys prevents all annoyance from smoke (caused by wind); indeed, where it does not, nothing else applied at top will (of the same size); care, therefore should be taken to have the proper size applied. It is simple in its application, reasonable in price, ornamental in appearance; no machinery or anything moveable in it, therefore, cannot get out of order; free from noise or any unpleasantness whatever; not liable to choke up with soot; no obstacle to the machines used for sweeping chimneys. May be had of all respectable ironmongers in town and country; and may be seen daily in operation, where its powers and usefulness are exhibited by the severest tests, at THE PATENT VENTILATING WORKS, COMMERCIAL-ROAD, PIMLICO, LONDON; where also may be seen Mr. G. T. DAY'S plans (illustrating the different applications of his Patent Archimedian Ventilator and his Portable Water Apparatus) for effectually Ventilating, Warming, and Cooling the Air of Buildings, Ships, Mines, &c. &c. By the use of these inventions many thousand cubic feet, or any quantity of pure warm or cold air, can be guaranteed to be continually exchanged per minute, day and night, winter and summer; thereby insuring, at all times, free ventilation to the rooms and passages of buildings, &c. from the basement to the roof, at the same time in such a manner as shall not be inconveniently perceptible. The size of the apparatus depends on the nature and use of the building and its occupants. The Patentee has been honoured by his inventions being applied at the following places:—

Windsor Castle,	Trinity House,
Buckingham Palace,	Ordnance,
Saint James's Palace,	Greenwich Hospital,
Claremont Palace,	Christ's Hospital,
Walmer Castle	Westminster Hospital,
The Houses of Parliament,	Bethlehem Hospital,
New Conservative Club,	Surrey Lunatic Asylum,
White's Club,	New Royal Exchange,
Travellers' Club,	Mansion House,
Oxford and Cambridge,	Goldsmiths' Hall,
Pantheon,	Fishmongers' Hall,
Wyndham,	Haberdashers' Hall,
Army and Navy,	Dyers' Hall,
Senior United Service,	Grocers' Hall,
Junior United Service,	Armourers' Hall.
Admiralty,	Weigh-house Meeting-house
British Museum,	Hanover Square Rooms,
Somerset House,	Theatre of the Westminster
Custom House,	Literary and Scientific In-
Mint,	stitution,
Hon. Artillery Company,	Grand Cigar Divan, Strand,
H. M. S. Salamander,	City Club,

And many other Public Buildings in Town and Country, as well as to the Mansions of many Noblemen and Gentlemen. Licenses granted for Manufacturing the above.

Drawings and Plans made for Ventilating and Warming Buildings of every description.

TO CIVIL ENGINEERS, SURVEYORS, &c.

HENRY POPE, Wholesale Stationer, desires to return his best thanks to the Profession for their support, which has secured to him so large a sale of his mounted drawing papers, and from which he has made arrangements to keep a large stock always on hand, as well as tracing, drawing-papers, and every description of general stationery, which may be had at the wholesale prices.

N.B. Maker of the Metallic, Levelling, and Surveying Field Books, with Patent Pencil. 22, Budge-row, Watling-street, City.

CHEAP PAN FOR WATER CLOSETS, With Trap, in one Piece.

DOULTON and WATTS, Lambeth Pottery, London, Manufacturers of the above in superior glazed STONE WARE, price 7s. 6d. each. They are of the most durable ware, and are recommended in preference to iron on account of their cleanliness and cheapness. If preferred, they can be had in two parts, the pan at 4s. 6d., and the Trap at 3s. 6d. N.B. Manufacturers of RAIN WATER PIPING for houses.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

REDUCTION IN THE PRICE OF
BUNNETT AND CORPE'S
PATENT REVOLVING IRON SHUTTERS.

THE validity of this Patent being completely established, the Patentees have much pleasure in stating that the very extensive demand, and the employment of improved machinery in the manufacture, have given them an opportunity (of which they gratefully avail themselves) of making a considerable reduction in the price of this well-known and tried invention, thereby rendering them the cheapest as well as the best iron shutters in use. Every improvement suggested by practical skill and most extensive application has been adopted, and no effective REVOLVING IRON SHUTTER can be constructed without infringing B. and C.'s patent. The worm and wheel, as patented by them, being the only safe, durable, and efficient mode of raising and lowering such shutters, these shutters can be applied horizontally, either above or below the window, or vertically, as introduced by BUNNETT and CORPE, in some of the largest establishments: they are made with bent or corrugated laths, if required.

BUNNETT and CORPE also manufacture
REVOLVING WOOD SHUTTERS,

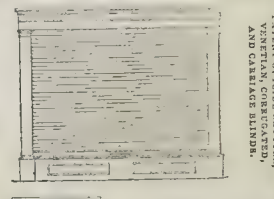
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The Builder.

No. CLXXXIV.

SATURDAY, AUGUST 15, 1846.

IN our last number we gave an outline of the proceedings of the British Archæological Association in Gloucester, up to Thursday, on the evening of which day a meeting was held in Cheltenham, after a splendid dinner at "The Plough," given by Mr. Savery to thirty of the members. There was a meeting in the morning also, Sir Samuel R. Meyrick in the chair, when papers were read by the chairman, Mr. Saull, and others.

This outline we will briefly complete, and then notice more at length, such of the papers read and places visited as fall particularly within our province.

At the evening meeting on Wednesday, Mr. Pettigrew in the chair, Mr. Roach Smith described what had been seen by the members during the excursion, especially the beautiful Roman pavements at Woodchester.

Relative to these we may say the principal pavement is nearly fifty feet square. In size and richness it is equalled by few others known in England or elsewhere. The compartments, of which the great border is composed, are all extremely elegant, and the colouring throughout the whole is so managed, as to produce the most harmonious effect. The colours are of a dark bluish grey, red, white, and several shades of brown; the first is everywhere used for the outlines; and the red, light brown, and white, are introduced in all the guilloches, in such a manner as to produce a sort of relief. Part of the pavement, near the north-east corner, appears to have been discoloured by fire; the *tesseræ* are mostly cubes of about half an inch.

Various foundations of apartments, with tessellated pavements, of diverse patterns, and part of a hypocaust, have been found, at different periods, within the churchyard, and contiguous to the great pavement; but the principal discoveries were made in the years 1795 and 1796, when the ground-plot of a very extensive Roman building was almost completely ascertained.

From the magnitude of the building, and from the richness of its decorations, Mr. Lysons imagines it to have been a villa, erected for the residence of the Roman proprætor, or "at least of the governor of this part of the province, and occasionally, perhaps, of the emperor himself."

The great pavement has not suffered much injury since the time when Mr. Lysons described it, except at one corner, where it was destroyed some years ago by frost, in consequence of its having been covered by a sort of trap-door of wood. Earth is found the best preservative, although, we fear, injury is done in removing it. A greater portion of the pavements have been uncovered on this occasion than since the time of Lysons.

After Mr. Smith's statement, and a discussion on the subject of Roman fortified towns in England, Mr. Wright reported on the Cathedral Library, and called the attention of the meeting to the contemplated destruction of St. Mary Magdalene's Hospital Chapel, near the city of Gloucester.

Mr. Niblett read a paper on the encaustic tiles of Gloucester Cathedral, amply illustrated; and Mr. Bailey described some curious monumental effigies formed with tiles, in Longfield Church, Surrey.

Mr. Britton then explained a great number of architectural drawings, which were hung on the walls chronologically, for general reference. Mr. Britton remarked, that when he commenced his architectural career he had to grope his way in the dark, with no books to consult that were worth any thing, or that could be relied upon; no public bodies to assist or cheer him on; and every step in the way of acquiring information was attended with much labour and difficulty. Now the case was widely different, and in every respect far more encouraging. At our two universities there were two critical and learned societies, and two perambulating associations were travelling the country, with the view of diffusing a taste for and a knowledge of antiquities in all directions. Therefore, now, no person need remain uninformed on any subject in architecture, ecclesiastical, castellated, or domestic. He was happy to have lived to see such an epoch in the history of this country, and the Association had his best wishes and his most earnest hope that it would go on diffusing correct, judicious, and tasteful information, in order to preserve all that was good, to prevent the introduction of all that was bad, and also to endeavour to counteract the erection of artless, tasteless, and insignificant buildings to be called churches.

A paper on Lanthony Church, near Gloucester, forwarded by Mr. Vernon Guise, was read, together with others.

At the meeting in Cheltenham, Mr. Fairholt, F.S.A., read a paper on ancient Irish fibulæ, illustrated by some beautiful drawings; Mr. J. R. Planché, F.S.A., an able paper on early armorial bearings; Mr. Gomonde on sepulchral brasses, and Mr. J. G. Waller an historical account of painting as formerly used in churches. Part of the latter valuable communication will be found in full on another page.

Mr. Planché, in the course of his paper, produced a rubbing from the tomb in Tewkesbury Abbey Church, said to be that of the founder, Robert Fitzhamon, who died *circa* 1107. The tomb was stated to have been erected in 1241, and the chapel which contained it was added by Abbot Parker, at the beginning of the 16th century. It was known that the brasses had been taken from the tomb, but the rubbing now exhibited shewed the exact outline of the missing effigy, and proved beyond a doubt, to any person acquainted with mediæval costume, that the figure must have been that of a knight, in the armour, not of the 12th or 13th, but of the close of the 14th, or perhaps the beginning of the 15th century, and therefore not agreeing with either the supposed date of the tomb, or of the chapel which contains it. The bassinet had been sharply conical, and surrounded by an orle, and the hilts of the sword and dagger were distinctly those of the weapons of the reign of Richard II. or Henry IV. Mr. Green Waller inclined to the latter date.

Mr. Planché called the attention of local antiquaries to this discrepancy between the printed accounts and the existing remains. The epitaph quoted by Sandford is no longer visible. Sandford also mentions a tomb in Tewkesbury Abbey Church, to Gilbert de Clare, Earl of Gloucester, on which the arms of Robert Consul of Gloucester "were anciently depicted." No such tomb is now seen or known of in the abbey, although three of the Clares, Earls of Gloucester, are said to have been buried there, and their figures appear in the painted windows in the choir. Mr. Planché concluded with some observations on the dilapidated state of the beautiful chapel called Lady Warwick's, in the same church, and stated, that it was the intention of the council to request Lord Brooke, one of the patrons of the association, to bring the matter under the consideration of his noble family to whom this exquisite relic must be particularly interesting. We trust this will not be neglected.

A party of sixty left Gloucester on Friday morning to visit Sir Samuel Meyrick at Goodrich Court, and were entertained by that gentleman munificently. Goodrich Court, which contains one of the finest collections of arms, armour, and antiquities, in England, has been raised by Sir Samuel on the banks of the Wye, after the model of a Rhine castle. Mr. Edward Blore, we understand, was the architect employed, and the cost of the structure was something like 30,000*l.* The situation is magnificent, and when seen from the river, the effect of the building is exceedingly fine. Some of the details of the interior are not exactly to our taste, but the visit was so full of excitement, as to give little opportunity for calm examination. Goodrich Castle, a fine ruin with a Norman keep, is seen from the principal apartments, and increases the charms of the landscape.

At the dinner in the hall, some of the Welsh minstrels and harpists, placed in the gallery, regaled the ears of the visitors with their native wood notes wild, producing an effect, in conjunction with the scene, which will not be easily forgotten by those who were present.

On the road to Goodrich, the *cortége* stopped at Ross, and examined the Town Hall, the house inscribed, "John Kyrle, the man of Ross. Died Nov. 7th, 1724. Aged 88,"—and the church. The Town Hall affords one among many instances of the destructible nature of the red sand-stone. The church has been recently restored; the trees still grow in the north aisle.

It was nearly eight o'clock in the evening when the Association returned to Gloucester; and at nine o'clock they were gathered together again, with many who had not been to Goodrich; and Mr. K. H. Fryer laid before the meeting the charters of Gloucester (through the kindness of the corporation), and commented on the principal of them. Many of these were profusely illuminated.

Dr. Claxson read an elaborate and valuable paper on the heraldic bearings in the cathedral, chiefly on the glass, and shewed the errors committed by former writers. The celebrated tomb of Curthose (the arms on which were described), was originally in the choir. It was broken by Cromwell's soldiers, and sold, but was afterwards brought again to the cathedral and restored. He believed that it had been touched up and injured by a busy verger; but fortunately there was a MS. in the Lansdowne Collection, dated 1610, which described it as it originally was.

Mr. Waller said the effigy was not coeval—it was not earlier than the 13th century.

Mr. Fairholt, Mr. Newton, and Mr. John Webb remarked on various parts of the paper.

Mr. Bailey then gave an account of the visit of some members of the Association to the church of *Deerhurst*, and the ruined priory. He considered that the church was of Saxon work, much before that in the cathedral; that it was one of the earliest specimens of Christian

architecture in England. There were two distinct towers attached to each other. One of the windows had a triangular head, and was divided into two openings by a fluted pilaster, of which the lower part of the flutes was filled with a cable moulding. Some labels inside the church terminated with snakes' heads. There was a mural painting too, which he thought Saxon.

Mr. Wright remarked, that snakes and dragons were common decorations in Saxon writings.

Mr. Godwin said, without reference to the example under notice, he thought it desirable to caution members against too hastily ascribing buildings to the Saxon period; the more so, too, as there seemed a leaning in the Association towards that course. Investigation and analogy, as well as documentary evidence, had shewn how few buildings of this period really remained.

Relative to Deerhurst we may remark, that the ruins of the priory immediately adjoining the church are occupied by pigs and cows, and are in a sad state of ruin. The church itself, the Rev. Mr. Sayers remarked at the meeting, is in good hands.

After a discussion, in which the Rev. Mr. Ellacombe (an indefatigable antiquary), Mr. Crofton Croker, and others, took part, Mr. Wright gave an account of his visit to Lanthony Abbey, and said, masses of ruins were concealed in the field adjoining, perhaps even the church and the cloisters. When there, three gentlemen were measuring for the Forest of Dean Company, and he learnt they were about to construct a dock. In the course of this work much might be discovered, and he trusted the archæologists of Gloucester would watch well the proceedings.

A paper on the primæval archæology of Dorsetshire, by Mr. Warne, was then read, and the meeting did not separate till very late.

On Saturday, the last day, the morning was devoted to a visit to Berkeley Castle, the seat of Earl Fitzhardinge, and one of the few ancient baronial castles still occupied as a residence. The plan of the castle is interesting, and the general effect picturesque and striking. Within, however, bad taste has been efficiently exerted to destroy all that was interesting; and as a last effort, it scattered over the roofs at least fifty cowls of every possible degree of ugliness.

There is, nevertheless, much to interest a careful observer, especially the hall and chapel. The room in which Edward II. was murdered has, of course, historical value.

The church, at a short distance from the castle, has several striking points, particularly a massive stone rood-screen of late date. The body of the church is early English; the west front has a window of five lofty lights with semicircular heads, shewing a period of transition.

At four o'clock, the closing meeting was held in Gloucester, Mr. Pettigrew in the chair, when votes of thanks were passed to the corporation; the local association; Sir Samuel Meyrick; the officers and others. Sir James Annesley, Sir Henry Dillon, Mr. Croker, Mr. Guise, Mr. Alderman Walker (for the corporation), the Rev. Mr. Sayers, the Rev. Mr. Ellacombe, the Rev. Mr. Booth, &c., took part in the proceedings, and thus terminated a week most pleasurable and instructive, from which much good, we are satisfied, will result.*

* The local papers, *The Gloucestershire Chronicle* and *Gloucester Journal*, reported the whole proceedings with great fidelity. A vote of thanks to them was very properly passed.

The following article gives an abstract of Mr. Cresy's paper, and of some of the other communications read.

AN ACCOUNT OF GLOUCESTER CATHEDRAL.

The Abbey Church of Gloucester, Mr. Cresy said, is one of the most ancient in the kingdom, and it was originally dedicated to St. Peter. It was founded in the year 681, in the reign of Ethelred, and to its foundation the city owed its importance. The Benedictines who came from France, and to whom we are indebted for many of the finest ecclesiastical buildings in this kingdom, were settled at Gloucester. Their sanctity produced a change in the state of the country; churches were built in a style of magnificence; kings devoted large portions of their riches to build and endow them, and great privileges were conferred upon them. In the case of Benedictines located at Gloucester, the Forest of Dean paid them tithe for the venison killed in it, and sturgeon caught in the River Severn was sent not to the king's, but to the abbot's table. The people had at first opposed the introduction of the Benedictines after the secular clergy were driven out in 1022, and had killed seven monks in a combat which took place at Churcham, for doing which the Pope declared that so much land should be given to the church as would support these seven monks living. The whole structure of the cathedral at Gloucester was originally built, from its foundation, in 1058, by Aldred, Bishop of Worcester. He considered that the crypt under the choir, the cylindrical pillars and walls of the nave and choir, the walls of the transepts, and, in fact, the entire shell of the building are of the Saxon structure, and although cut into and altered by the Normans and their successors, retain their original dimensions, and shew that the cathedral has not been augmented since the original foundation was laid; the Lady Chapel only excepted. Mr. Cresy then described the building in all its details, commencing with the crypt. Upon examining the principles upon which this crypt is set out, we find that, simple as they are, they indicate a thorough knowledge of the arts of design; we must remember that to get rid of all complex lines, and to acquire simplicity, is the result of a gradual and slow progress. That all the points of support may be equally distributed, it is necessary that some regular figure should be adopted, and the one selected here is the circle, from the centre of which proceeds the whole design: an idea which, probably, they had derived from the Roman structures, in which the circle was largely employed. He described the chapels in the crypt walls, columns, arches, foundation walls, and divisions, the solidity of the masonry, &c.

Ascending to the nave, Mr. Cresy observed, that it bore so strong a resemblance to the crypt, that no doubt could be entertained that they were erected at the same time. In every particular the plan of the nave is precisely the same as that of the crypt. The alterations in the structure were marked in a manner which indicated the tools employed in making them. Where dates are not available, we must refer to the manner in which work is done for information as to the time of its accomplishment. The manner of cutting stone differed widely in ancient times; in Egypt a bronzed chisel was used. The Greeks used tools of a superior kind, which were afterwards introduced into Italy. The Saxons had to fabricate their tools; they used the hatchet, and all the buildings erected by them are marked by sure indications that neither the saw nor the chisel, but the hatchet alone, was used on the surface of the stone work. Mr. Cresy then described the work in detail, and in the course of his observations, adverted to Tewkesbury Abbey Church, which he said closely resembled Gloucester Cathedral in its style and mode of construction. This description of it was, however, taken from his own notes, thirty years old. It was from no preconcerted determination on the part of Mr. Britton and himself to tell the same, but simply the opinion expressed almost naturally by eyes directed to the same subject. "Had I taken another view," continued Mr. Cresy, "I would have looked again rather than have differed from an early friend, whose enthusiasm certainly assisted in kindling the latent spark, which will, I trust, illumine my evening as cheerfully as it does his." The lecturer then described the whispering gallery, quoting the verse inscribed on the wall—

> Doubt not but God who sits on high,
> Thy secret prayer can hear;
> When a dead wall thus cunningly
> Conveys soft whispers to the ear.

The lecturer digressed to describe the principles by which the phenomena of whispering galleries are occasioned, justifying the diversion from the main point by explaining the great importance of the subject in the erection of public buildings. He then proceeded to consider the question whether the cathedral was a Saxon or a Norman structure, upon which he dilated at great length. The columns at Canterbury, in the glorious choir of Conrad, were of the style known as the *Opus Romanum*, which differed widely from the Saxon. Canterbury Cathedral had been destroyed by fire in 1088, prior to Serlo's appointment as abbot of the cathedral, but in all probability the main walls and the massive columns had survived. Now Serlo having come from Normandy, it was likely that in his reparations he would adopt the style then prevalent in that country, and as confirmatory of his views that the structure was fundamentally Saxon, he might mention that the mouldings constituting the half piers did not correspond with the cylindrical pillars that are opposite. These Norman reparations were evident in the windows, in which the Saxon masonry does not bond with the Norman. Mr. Cresy then stated the course, and depicted the features of the reparation carried on by Serlo, Hameline, Blande, Foliot, Thokey, and Wygemore, the latter of whom lived in 1300. Thokey vaulted the nave and erected the elegant buttresses against the south wall; he (Mr. C.) regretted that they had not done their duty in resisting the internal pressure on the wall, but such was the fact; they had been driven about eleven inches out of the perpendicular. The offerings on the tomb of Edward the Second, whose body had been brought to the Cathedral from Berkeley Castle, after his murder, and buried by Abbot Thokey, were so rich, that Wygemore was enabled, by the produce of six years' alms, to build the chapel of St. Andrews, and also to add several other buildings to the monastery. The offerings were made in St. Andrew's chapel. Mr. Cresy then gave a beautiful description of the mode of altering the style of architecture, or rather of combining one with the other; by contrasting the various styles, he observed, we are able to trace the progress of change during four centuries. The simple massive column had given way to an addition of smaller cylinders, then to the pier, and lastly to a variety of small columns, until almost a new character had been given to the structure. The great east window, Mr. Cresy went on to say, had no rival in extent or beauty; and by an ingenious contrivance, it was made to occupy more width than the choir itself. The great window at York was between four and six feet less.

After describing the cloisters and their contents, Mr. Cresy proceeded to the tower, which is upwards of 40 feet in breadth, and 225 in height from the street; rich in ornament, yet its strength was in no wise diminished by it. The motto of Seabrook, the founder of the tower, still remained on some of the tiles which had been preserved in the cathedral. "If this abbey must be dissolved, the will of the Lord be done." The lecturer then noticed the great ingenuity with which the Lady Chapel had been added to the choir, without interfering with the light of the great east window; no one would imagine that there was a building beyond that window. The lecturer then adverted to the great benefit conferred on architecture by the early lodges of freemasons, who had in the thirteenth century spread themselves throughout Europe, and had received the thanks of the pope for the science which they had displayed in building ecclesiastical edifices. "We must not attribute," he said, "to the monks or the clergy the credit of having designed or executed any part of this fabric, for they were not versed in geometry, or in the skill of laying stone; the styles would not have gradually advanced to such perfection, if they had not been fostered and appreciated by a body, whose interest and duty it was to devote their entire attention to

the subject; it is not to the clergy that we owe the coarse caricatures that we find here and elsewhere, exhibited to ridicule the monks, but to the freemasons; and unless the subject of construction had been taken up by such a body, the continuous chain could not have been so admirably preserved. There would have been some sudden change of style; we should not have had following the examples we have mentioned, the groining of the south transept, followed by that of the north, then that of the choir and presbytery; afterwards the perfection of what we find in the cloister, and the nice application of both styles in the Lady Chapel. An individual genius may strike out some new style, though the instances are rare; but we cannot break in upon a train of progressive improvements without its being more apparent than exhibited in this Abbey Church, or in others where the styles follow in regular succession. An architect cannot hope to invent until he has made himself master of all he has done—and can the clergy devote their time to so secular a calling? The various styles are all beautiful of their kind, each has its genius and proportions. They must be understood before they can be advanced. In the styles of the middle ages we trace this progressive advancement, we proceed from the Saxon heavy masses to the more delicate, we have no fetters put upon this advancement, we move on until we arrive at perfection. And we are persuaded that as quantity of material is dispensed with, science and knowledge of its quality make up for the loss. We come to the delicate style of the sixteenth century, by slow yet measured degrees. There is not a link wanting. The lodges of freemasons, like an individual, seem to increase in knowledge as they increase in years."

It is to be regretted, that at the Reformation the entire conventual buildings had not been preserved, for then we might have been able to obtain ideas of the domestic manners, and of the amount of hospitality and charity of the time. It was said that the destruction of the subsidiary buildings was to be justified by a regard for the beauty of the cathedral which they surrounded, but he thought the true way to restore the edifice to its original beauty, was not to destroy, but to restore those buildings. It was quite a mistaken notion to suppose that isolation was a necessary condition of the beauty of a building; and the greatness of this cathedral consisted in the number of its buildings, which had almost outnumbered the rest of the city, each building differing from the rest, yet all preserving the same religious character, the cathedral giving expression to the whole. Mr. Cresy ended thus:—

"Before we conclude, it is necessary perhaps that we again refer to the chronological history of this beautiful structure: in it we see the gradual progress the science of architecture made during nearly 600 years. In 1058, was consecrated the Saxon church; 1088 to 1100, the Norman was in progress; 1228 to 1243, the nave vaulted, and the misereres of the choir introduced; 1307 to 1329, south aisle of the nave by Abbot Thokey; 1329 to 1337, the transepts in progress of alteration by John Wygemore; 1337 to 1351, the choir vaulted by Adam de Staunton; 1351 to 1377, portions of the presbytery by Thomas de Horton; 1381 to 1412, the cloister by Walter de Froucester; 1421 to 1437, west front, and of nave and south porch by John Morwent; 1450 to 1457, central tower by Abbot Seabrook; 1457 to 1472, Lady Chapel by Richard Hanley; 1472 to 1499, Lady Chapel by William Farley; 1514, parts of choir by William Parker. And now let me thank you for your patient attention to a discourse, which to some of my hearers may have appeared somewhat prolix, but which is very inadequate to its subject. On the opinions I have advanced, I have been guided solely by a desire to ascertain the truth, and should subsequent inquiry prove that I am in error, I shall most willingly acknowledge it. We have all some favourite theory, which we naturally seek to substantiate; but it is not a healthy zeal which endeavours to distort facts to our purpose: my only object is to diffuse an interest in, and an admiration for, the exquisite specimens of our noble art, bequeathed to us by our ancestors, whether Saxon or Norman. Eight centuries have passed away since the iron heel of the latter was placed on the neck of the former; and if some few traces of the injury yet remain, let it be our endeavour to obliterate them; henceforth let the Norman allow that he found in the land of the Angles, reared to the most sublime of purposes, many noble structures, and let the Saxon gratefully admit that to the Norman he is indebted for the preservation and adornment of these evidences of a common Christianity."

GROTESQUE CARVINGS OF THE MIDDLE AGES.

Gloucester Cathedral.

Mr. Wright's remarks on this subject, previously alluded to, were to the following effect:—

He said, that "since the discussion in the morning he had very carefully examined the sculptures in the cathedral; and his object in again adverting to the subject was simply to show how necessary it was, in endeavouring to explain branches of art in the middle ages, to be well acquainted with the literature of those ages. A question had arisen that morning, as to whether the grotesque carvings of the seats of the choir were the work of the monks and clergy or of the freemasons. Mr. Cresy had adopted the latter opinion; but he (Mr. Wright) differed from that conclusion; and his reason for disagreeing with it was, that there was not a single one of those sculptures that had not its representative, and he believed type, in the literature of the day, which literature originated with, and was peculiar to the clergy, using the term in a more extensive sense than at present,—the clergy in those days meaning every person who had received an education, and who was thus entitled to the benefit of clergy. Amongst those persons was a large body of literature, differing very much from the monkish legends and theological writings, and representing to those legends and theological writings quite as large a proportion as the popular literature bears to the theological works of the present day. This literature consisted of all sorts of treatises on science, amongst which the most popular was that called 'Bestialis, or Natural History,' under which head were described numbers of peculiar animals, which existed not only in nature, but in fables and stories. There were also historical, and various works of amusement, which represented the spirit of the monks and clergy of that day much more accurately than it was exhibited in their legends and theology. There was not a single representation in the sculptures of the cathedral which could not be found described in the old literature of the day. In some churches it was not uncommon for the sculptures to represent the whole history of some well-known romance; and even in the cathedral he found a carving of a combat between a knight and a giant; which combat he believed he could find described in one of the romances to which he had alluded. Therefore, archæologists should always well consider before they pronounced an opinion upon works of art executed in the middle ages, and should endeavour to combine upon every occasion a knowledge of art and a knowledge also of the literature of the period to which their inquiries referred. He disagreed with the opinion first formed, that the masons were more likely to be the authors of those particular satires upon the monks, and upon the morals of the age, than the clergy themselves. But the truth was, that those popular books of the middle ages contained things which, if not seen, we should be perfectly astonished to be told were to be found there. There were satires and satirical allusions of every description; and in some of them even the Scriptures themselves were burlesqued. There was, for instance, a manuscript gospel of St. Pancras now in the British Museum, which if published at the present day would be visited with extreme punishment. It was not necessary, therefore, to suppose these sculptures to be the works of the masons, or that the monks were at all scrupulous in carrying their satires into the carvings of their churches."

As Mr. Repton's paper also refers especially to the cathedral, it may properly follow here.

ON THE SHAPE OF THE ARCH, WITH REFERENCE TO THE DATE OF BUILDINGS.

I have observed in many semi-circular arches erected before the year 1100, that the crown is slightly sunk, owing to the great weight they have to support. I imagine that in consequence of this, the arches were from that period sometimes struck from two centres, the points being so near to each other as hardly to be perceptible, as in the west front of Saint Denis, near Paris (the work of Abbot Suger), and also in the great arch in Boreham Church, Essex, &c.

I have already said, in a paper which was read at Canterbury, that we are not to depend upon the shape of the arch, to ascertain the date of the building, but rather to look to the details of mouldings, capitals of columns, &c. The members of the society have now an opportunity of examining the semi-circular door on the north side of the west end of Gloucester Cathedral, which from its details does not appear to be earlier than the time of Henry III. (the same may be said of the round-headed windows at St. Nicholas's Church, near the cathedral). The sharp-pointed arch, with its zig-zag mouldings above the door, appears to be of an earlier date than the door itself; *i.e.* about the time of King Stephen.*

About the end of the reign of Stephen, the *transition style*, as it is now called, began, when we often find the mixture of the pointed with the round-headed arch.

We may smile to hear it asserted, that the pointed arch was first introduced in 1135, when one was lately discovered in a Roman barrow at Roughham, near St. Edmund's Bury.

A curious specimen of the next style, and worthy of notice, in Gloucester Cathedral, is seen in the Monk's Treasury—its trefoil arches and the trefoil and quatrefoil holes are as if carved into a plain flat wall without any return mouldings. The capitals of columns, with their bold foilage, are peculiar to the time of Henry III. The great circle in the centre is composed of eight pointed arches, of which four have a rude and an early specimen of the "*tracery within tracery*," which afterwards prevailed much in the reigns of Edward I., II., III., &c.

The heavy style of architecture of Edward I. and II. may be seen in the work of Abbot Thokey in the south side of the nave. The plain sharp gables on the buttresses are admired by many of the young architects of the present day, but are sometimes improperly introduced in their designs, as, for example, when mixed with the Tudor style of the 15th and 16th centuries.

The arch of the great window at the west end of the cathedral (erected about 1377), is very ungraceful, being struck from two centres, the ends being slightly rounded off.

The new part of the choir with the rich tracery in the windows, not being subdivided in *half days* or *lights*, reminds us of the work of William of Wickham at Winchester. The Lady's Chapel was executed as late as 1499, by Abbot Farleigh, who had the good taste to prefer the simplicity of the style of the choir to that which generally prevailed in the 15th and 16th centuries.

The monument of Edward II. is a fine specimen of the period (after 1327). The lower parts, with the *ogee* arches and tracery, remind us of the Prior's Chapel at Ely, and appear to have been erected nearly at the same time. The elegant pinnacles, with their sharp crocketted gables above, are certainly an improvement upon those erected about the end of Henry III. or beginning of Edward I.‡

The porch is not of an earlier date than Henry V., as the arms of England are represented by *three* fleurs-de-lis instead of *semée*. It is much to be regretted that the six large statues are missing, which have destroyed the appearance of the *perpendicular lines*, so much admired in Gothic Architecture; a character very different from the Greci-gothic towers at Westminster Abbey, which are subdivided into a number of *horizontal cornices*.

ST. MARY'S CHURCH, BRIDGEWATER.—A correspondent of the *Bridgewater Times* notices the gradual decay of the fine parish church of that town, and shews that immediate attention should be paid to it.

* The round-headed arch may be found as late as Edward IV. or Henry VII., as in a window from Knapton Church, Norfolk, which can never be mistaken for Norman architecture, nor can the beautiful wooden chest in Frettingham Church of the 14th or 15th century. The semi-circular doorway in Withyham Church, Sussex (from the details of its mouldings), does not appear to be much earlier than the year 1500.

‡ The bad taste of the *ogee tracery* in the three arches, which commonly prevailed about the years 1300 to 1350, were soon afterwards exploded. I believe they are rarely to be met with at so late a period as Richard II.

DISTRICT SURVEYORS' FEES.

A return of fees received by surveyors of districts, from the 1st of January, 1845, to 1st of March, 1846 (a period of fourteen months), as ordered by the House of Commons, is now before us. The production of this document, we are disposed to think, will lead to important results,—perhaps to an alteration in the system altogether. We abstract the following startling facts:—

The total amount of fees paid to district surveyors for new buildings, within the fourteen months (5,074 completed; 2,007 in progress) is.....	£9,376	3	0
For additions or alterations (9,300 completed; 925 in progress)	9,242	13	0
For party-walls	209	17	0
For special duties	1,236	8	8
Shewing that the metropolitan public has altogether paid the sum of.....	£20,064	16	8

The following are some of the largest amounts received by individual surveyors within the periods named, without deducting the expenses incurred, or the sums remaining unpaid to them.

	£.	s.	d.
The surveyor of the northern division of London.....	428	15	0
Hackney	762	13	0
St. Leonard, Shoreditch	560	5	0
Islington	994	16	0
St. Pancras	1283	15	0
St. Giles, &c.	475	15	0
Paddington	945	3	0
Chelsea.....	675	19	0
South Kensington	637	16	0
St. Margaret, Westminster	520	13	0
St. George, Hanover-square ..	772	13	0
Newington, part of Lambeth, &c.	919	1	0
St. Saviour, and part of Lambeth	438	14	0
South Lambeth.....	476	8	0
Camberwell	454	16	0
Bermondsey.....	500	6	0

BUILDERS' ESTIMATES.

MR. EDITOR,—The leading article in a late number of your valuable journal upon "Builders' Estimates," induces me to beg your insertion of the following communication, shewing how in some instances, estimates when not opened in the presence of parties are treated by committees.

A short time since I was informed by letter from an architect, that the committee of the London and County Joint Stock Bank were willing to receive tenders for alterations to their premises at Romford. I prepared my estimate, and forwarded it, endorsed as directed, to the architect's office, the amount of which was 615*l*. Out of five other persons applied to, only one other estimate was received, the amount of which I have since learned was 644*l*.; the other parties declined, in consequence of the shortness of the time allowed for making the estimates. Upon inquiry, I was told a week afterwards, the committee had not decided upon the estimates, and the following week I received another letter from the architect, informing me they had declined to accept my tender, it not being the lowest.

The treatment I have in this instance to complain of is, that the person who is employed to do the work, and whose estimate is 598*l*., was not applied to until after the first two estimates were opened.

I am, Sir, &c.,
Romford, Aug. 4, 1846. JNO. BARTLETT.

SIR,—In a recent contract for a public building, open to all that are qualified, the advertisement expressly states; the tenders are to be sent in by a given time, and the names of two responsible sureties are also to be named and sent with the tenders. One of the said contractors does not conform to the requisition of the committee, but states at the bottom of his tender—should mine be the lowest tender, my sureties shall be forthcoming, or words to that effect.

Now my opinion is, that the non-compliance with the requisition renders the party so tendering ineligible as a contractor; and that legally all parties, in the event of a person so tendering being employed, may recover the expenses to which they have been put in preparing their tender and estimate. A person so tendering may guess at an amount in all open contracts, and if too low, back out by stating his sureties are not willing, &c. I should like much to have your opinion in your next number, if you will take the trouble, which may lead to other remarks from your very numerous and able correspondents, and assist to purge contracting of some of its abuses.

FROM AN OLD SUBSCRIBER.

Aug. 3rd, 1846.

*** It does not appear to us that much is gained by forcing builders to ask persons to become their sureties, without the certainty of needing the favour. The mere fact of having named his sureties would not prevent one who was so inclined, from declaring off under the circumstances named.

Still, if the requirement be made in the first instance, it should in justice be insisted on from all.

STATE OF THE LONDON CHURCH-YARDS.*

IN any change of burying places there must be some lesion of private feeling, always to be regretted; therefore the less that it can be done with the better. That it WILL be done, however, now, every one must see; with the less surprise, that it ought to have been long ago, a shocking system having been carried on in the teeth of common propriety and decency.

No government, consequently, could long resist it, supposing it were disposed. But it is very satisfactory to see that *Sir George Grey* has not only accepted the subject for next session, but shewn an honourable personal interest in the question.

At *Islington*, the old churchyards are so crammed, that it is almost impossible to sink a new grave in them. The coffins in the vaults (all lead) are above the level of the ground, and visible through the grated windows—not a desirable circumstance in some respects. There is a better ground at the *Chapel of Ease*, Holloway, not so much used as it might be. Besides a small general one styled "*New Bunhill*," these are the only ones for 55,000.

St. Luke's, Old-street (50,000), is better, from a noble private gift of four or five acres at the back of the church; but this is, not slowly, filling.

At *Shoreditch*, the old church-yard is not very large, about 3 acres, and the *poor-ground*, very dirty, not half that size. But as there are church-yards at *Hoxton* and *Haggerstone*, the aggregate parish, with upwards of 80,000 inhabitants, may not be so badly situated as some others.

Bethnal Green, with 75,000, has, the writer regrets to find, only the *old* churchyard, perhaps 3½ acres, rather improved. *Ten* new churches have been established, and the writer fully believes, that the poor (whose wretched condition he described at length in a statement in the *Morning Herald*, at Easter 1838) are much more kindly attended to—but *not one* burying-ground.

Whitechapel, upwards of 30,000 inhabitants, has a church-yard (besides a "poor-ground"), less than an acre and a half,—less than a *third* of what it ought to be, and its appearance is very far from creditable to the parish; though in all such cases a church-yard *must* resemble a kitchen-garden much more than a field; not a pleasant, but, unhappily, a very true comparison. The ground (to the south only) of the large church of *Spitalfields* is too small for 20,000 inhabitants. *St. George's*, and other parishes beyond the Tower, are rather better; but if the whole of *Stepney* church-yard, though very large, is not yet occupied, it cannot always last as the *only* one for *ninety-thousand* inhabitants!

Some suburbs—as *Hackney* (especially), *Kensington*, *Chelsea*, and *Newington* (but not the "Borough"), are in a better state than more inward parishes; but reasons for a better system will occur in more than one of them.

In the *Borough*, *St. Saviour's* churchyard has very properly, though too lately, been closed. The writer first perceived a *certain* effect *above* ground, here, in London. There is also a small inclosure by Union-street, and another at some almshouses—the aggregate quite insufficient for 20,000 inhabitants. *Christ Church*, with the same population, is not much better furnished—the ground very dirty. *St. George's*, with 46,000 inhabitants, the writer believes much too limited: *St. Olave's* and *St. John's*, better. The town district of *Lambeth* tolerable. *St. John's*, Waterloo-road, auxiliary to the same, has a ground of moderate size, much and becomingly ornamented with flowers, but fast tenanted. St. Paul's, *Deptford*, though a very considerable churchyard, is said to be, in parts, in a very bad condition, not very unlike the most horrible of *all*—Portugal-street, Lincoln's-Inn-fields. At *Greenwich*, the churchyards are getting inadequate to the doubled population—30,000.

Of extra-mural *City* parishes, *Aldersgate* has a very neat churchyard, but not sufficient for 5,000 inhabitants. *Bishopsgate*, 12,000, must be termed both limited and slovenly; the keeping graves for the poor unclosed and unfilled up, a practice stopped several years ago at *St. Giles*, has been denounced, here, by the press. *Aldgate*, 10,000, is said to have half an acre, but it looks to the writer much less. A shocking accident here, a few years back, called attention to the subject. The inhabitants of neighbouring houses are often obliged to keep their windows shut to exclude the vitiated atmosphere;—surely a crying fact, requiring little addition.

In many churchyards, if the graves could be dug from *twenty yards* deep, and filled to within two yards of the surface, there *might* be decency without premature disturbance. On any other principle, putting aside "pyramids" above ground, or combustion of bodies,—PHYSICALLY IMPOSSIBLE. If any one thinks this a "foolish flourish," let him use his eyes and understanding. "Omne *minus* continet in se *majus*," would as little do in mathematics as logic.—"But why say things to excite and harrow persons' feelings?"—Why does a surgeon use *caustic*, when he feels a disease is both curable and *must* be cured? (Selfish and cruel experiments were a very different thing). J. D. PARRY.

* See page 380, *ante*.

ELECTRIC CONDUCTORS FOR BUILDINGS.

SIR,—I noticed in a daily journal that the spire of the new church at Leicester was struck by the lightning, during the late terrific storm, and nearly destroyed. I trust some correspondent will send you an account of it, and state whether any electric conductor was attached to it, and how constructed, in case such provision was made.

I am of opinion that every pyramidal composition, whether spire or steeple, under which name I class most of our new metropolitan churches, should be provided with so simple and cheap a safeguard. I have directed the execution of many lightning conductors on Professor Murray's principle (which he communicated to me many years ago*), and had the opportunity of testing their efficacy during the past month, at a new church in course of erection in Yorkshire, which is built upon a considerable eminence to a height of nearly 130 feet, and, consequently, is more exposed than any other object near it. The conductor was fixed to the spire, forming a portion of the cross, and continued past its base in as direct a line as possible, down the tower to within twenty feet of the ground. The scaffolding was not struck, and the poles ran several feet above the point of the conductor.

The flash was seen, and on leaving the unfinished end in its course to the rock (on which the church is built), a sharp sound at the same instant was produced, which the workmen who were sheltered under a shed, within 50 feet of the tower, described like "the crack of a rifle;" and this was immediately followed by a heavy peal of thunder, which so terrified the workmen that they hastened out of the church-yard; no damage whatever was done to the building. I have heard from several parties who reside near to the works so protected, that they have seen the electric fluid thus safely carried off. The cost in the country has never exceeded half-a-crown a foot, and Murray's conductors (as I have always named them) have saved my works, one of which being partially de-

* Professor Murray, about 1829 or 1830, published a pamphlet, giving a full description of his conductor.

stroyed for want of such provision, was the cause of my introduction to the professor.—I am, Sir, &c. X.

London, 8th August, 1846.

⁂ On more than one occasion we have pointed out the necessity of this provision.

FOREIGN ARCHITECTURAL AND COLLATERAL INTELLIGENCE.

The Modern Memphis.—Whatever the *National* or similar papers may *tell* us, the artistic, the structural activity of Paris must be now of an extraordinary kind. The Quai d'Orsai has presented, of late, the appearance which those wharfs of the cities of the Nile must have had in the times of the Pharaohs, as cargoes of white (Carrara) marble, granite, and other rocks, are constantly pouring in, and are carried off to all parts of the metropolis. Most of these immense blocks and slabs are destined for the tomb of the Emperor, the palace of the President of the Lower House, and that of the Secretary of Foreign Affairs. These three monuments alone afford employment to eight hundred workmen.

The column of the Place du Châtelet is to be restored. This structure, which possesses some character of elegance, was the first which was erected to the memory of the armies of the Republic and the empire, at the beginning of the present century. At that time this square was encumbered by old houses, which have since been all demolished.

At the four angles of the Pont de la Concorde, the foundations of four pavilion-pedestals have been just laid, all in hewn blocks of stone. They will be adorned by the colossal statues of Commerce, Industry, Agriculture, and Navigation.—The restoration of the great hall of the Court of Commerce has been completed, and the sittings opened in this magnificent locale.

The First Atmospheric Railway in France.—A cargo of enormous cast-iron tubes has arrived at the Quai des Célestines. They have been made at the forges of Vandeuvre (Aube), and are destined for the atmospheric railway of St. Germain.

Hydraulic Works in France.—The Chambers have this year allowed large sums for these works, which are about to be carried into effect. For the regulation of the Seine at Paris five millions of francs, for that between Paris and Rouen ten millions, and thence to the sea three millions more; altogether twenty-six millions of francs are available. In the last section, one of those difficulties arising from the meeting of salt and fresh water, viz., a sandbank (*travérse*) of twenty kilometres extent, is to be coped with. If the Seine is flooded by rains, the bank is pushed *downwards* from Quillebouef towards Havre, while the spring tides will make it *recede* backwards, and it will extend, at low water, as far as Villequieux. Vessels drawing three metres of water cannot pass it but during spring tides, six or seven days each month; and even coasting crafts are often unable to pass. It was especially Mr. *Arago*, who contributed by his arguments to convince of the possibility of removing this great obstacle to navigation. He drew an analogy between the *embouchure* of the Seine, and that of the Ganges and Amazon rivers, and contended, that if the bed of the former river were narrowed by extensive dykes, and thus compelled to flow in a narrower channel, its current would become more rapid, and an immense *power* created, which would constantly contribute towards clearing the passage.—The great irrigation plans in the Pyrenees are next to be adverted to. The *Neste* is one of the small confluents of the Garonne, which, however, during the summer, is much swelled by the melting of snow. These waters are to be collected in large *reservoirs*, the cost of which is calculated at six millions of francs. Thereby, however, 50,000 hectares of land would be irrigated, and the superfluous water employed in feeding a canal between Mathory and Toulouse.

Steam Navigation of the Orinoco.—A late diplomatic agent of the United States at Carracas, Mr. Vespasian Ellis, has obtained from the Colombian government a patent for the exclusive navigation by steam of the above river during the space of twenty-two years. The timber of construction, as well as the fuel, will be furnished to him gratuitously from the public forests. His boats, moreover, will be exempt from any sort of taxation. Mr. Ellis, however, is obliged to commence operations within the next ensuing eighteen months. (Such a privilege amounts to the granting of a fortune).

New wagon, "a pivot."—Some experiments have been made at Lormont, in France, of a new wagon, invented by Mr. Boscaud, contractor of railways. It presents the advantage that it can be loaded and unloaded from all sides without the necessity of shifting it. It is chiefly destined for carrying *débris*, and other bulky and heavy materials.

Legitimate Enterprize and Speculation.—The French journals say, very properly, that it is a worthy purpose and a great thing to *divert* the owners of small capital (especially the tradesmen) from the gambling and futile speculations of the stock-exchange, and make them embark in sound, straightforward, and *tangible* enterprise. These remarks are made especially to bear on the *nautical gymnasium, and winter gardens,** in the course of being established at Paris,—an undertaking for the people, and (as it seems) by means of the people, whose shares are now (after only four months after their issue) at a premium of 19½ per cent.

The Streets of Paris—have been placarded over, of late, by the republication of an order of the Préfet de Police, enjoining the inhabitants to water the paving before their houses *twice a day*—at 11 A.M., and 3 P.M. As every moderate irrigation absorbs a great deal of caloric, and depresses the temperature, such a procedure is not only one of convenience, but of real *sanatory* importance. J. L—Y.

RAILWAY JOTTINGS.

The passenger-fares on those lines of railway in which Mr. Hudson is more particularly interested, are pointed out by a "Man of the Midland Counties," in the *Times*, not only to be precisely those of which the public are presented with no clear tables, being, on the contrary, left suspiciously in the dark; but to be precisely those, as might be thus suspected, which drain the purse of the public to the heaviest amount. This "Man of the Midland Counties" has been at the trouble of searching out and laying before the public, tables of these and other fares, from which exposure the ruling principle of the Hudsonian lines appears in a very palpable, and by no means amiable light. From these tables we have taken the averages, and find that, while on all the other lines the average 1st class fare, for every 100 miles, is 18s. 9$\frac{1}{11}$d.; 2nd class, 13s. 7$\frac{1}{11}$d.; 3rd class, 8s. 9$\frac{6}{11}$d.;—on the Hudsonian, the 1st class averages 24s. 7d.; the 2nd, 16s. 6d.; and the 3rd, 13s. 4d.; there being only one of these latter lines, out of five, on which there is any third class at all; while on every one of the eleven other lines there is a third class, with fares so low, in eight cases, as 7s. up to 8s. 8d. per 100 miles. In one instance (the Great North of England) it appears that the charge is at the rate of 17s. 9d. per 100 miles for 2nd class passengers, while the London and Birmingham charge only 16s. 6d. for passengers of the 1st class!——The London booksellers and stationers have petitioned the legislature against certain clauses in several railway bills now before Parliament, authorising the opening of parcels carried on the lines projected, and the charging of separate carriage for each inclosure.——In the course of Mr. Stephenson's examination before the select committee of the Commons, on railways, some curious details were elicited respecting the Parliamentary expenses attending the passing of railway bills. From these it appears that such expenses alone amount to from 500*l.* to 1,000*l.* per mile, varying according to the amount of opposition; while in Belgium, on the other hand, there are no parliamentary expenses at all, excepting what are paid by the government, and which do not amount to more than 2,000*l.* to 3,000*l.* altogether, for each bill. Mr. Stephenson also states that, taking the annual income of the London and Birmingham line at about 800,000*l.*, one-half of that sum is spent in labour and materials, but chiefly (that is, probably, 300,000*l.*) in labour, from that of the secretary, of course, down to that of the common porter, and that if labour could be had at the same rate as in Belgium, the company would be enabled to lower even their present moderate fares to the extent of 150,000*l.* a year.——The writer of some remarks on the subject of "winding up" railways, quoted in the *Times* as worthy of attention, asks what check a scripholder has on the expense of schemes in process of winding up previous to the passing of the "dissolution Act." Considering "the enormity in the charges of too many of these companies," he suggests that "there ought to be a power of taxing surveyors' and engineers', as well as solicitors' bills; and of making directors refund many choice pickings they have had at shareholders' expense."——M. Cornu, of Paris, proposes to remedy the twisting and warping of rails, rolled in the ordinary manner, by using only one single piece of perfectly rolled iron with a tongue of the same metal, and then passing them through properly shaped rollers.——The lightning has been at work on the line of electric telegraph between London and Portsmouth, and has put a stop to its operations for the present. At Farnham the lightning communicated through the wires a shock so powerful as to throw down one of the supports on the line; and at Gosport the dial has been deranged in its mechanism by the electric fluid, and rendered useless.——As had been foreseen, some difficulties have occurred in the working of the Stoke-hill tunnel, and the Stowmarket embankment, on the Ipswich and Bury St. Edmund's line of railway. The public road above the tunnel lately subsided at one part, and the bore of the tunnel was choked up with earth. A chasm on the surface, 30 feet wide and 8 feet deep, rendered the road impassable; but the damage, both to the tunnel and the road, has been repaired—at least the former, and a little time will complete the latter repair. The embankment north of Stowmarket subsides almost as quickly as it is formed, but the length of the line across the Morass is not great, and the embankment is not above six feet high.——The Wrea embankment, on the Lancaster and Carlisle line, near Carlisle, is said to be from 70 to 80 feet in height. There have been repeated slippings on this embankment also, and it is still in an unsatisfactory state, although it has lately been upheld by a substantial wooden frame-work. The still more secure fixing of this frame-work, previous to the opening, has been recommended to the consideration of the directors.——A royal commission is to be appointed to fix the site of a central railway terminus in Glasgow, so soon as the concurrence of the citizens is obtained.——The *Edinburgh Register* presents the following as a correct list of the number of labourers employed on the different railways now in course of formation within the limits of the county:—On the Hawick branch of the North British line, 2,325; of whom upwards of 1,300 are Scotchmen, 1,000 Irishmen, and only about twenty Englishmen. On the Caledonian line, 649; of whom there are 300 Scotchmen, the same number of Irishmen, and only about thirty Englishmen.——The *Journal de la Somme* states, that the tunnel of Port Noyon, on the Boulogne line, has been examined since the accident of the 18th ult., and although no damage could be traced as the cause of the crash heard on that occasion, it has been resolved that the head of the tunnel shall be entirely rebuilt, and the brick vault strengthened with bands of stone.——The *Journal des Débats* assures us, that the Pope has asked of the French government, and obtained, copies of all the laws and statutes anent railways; his holiness being anxious to establish throughout his dominions a complete network of railways.

* Vide page 328, ante.

Destructive Fires.—At Nantucket, in America, lately 180 buildings are said to have been destroyed by fire. The loss is at present incalculable, but there is no explicit intimation of the loss of life in consequence. In order to arrest the flames, it is said that twenty houses were blown up by gunpowder, the whole stock of that material in the town having been thus exhausted. Property to the estimated amount of 30,000*l.* has also been destroyed by fire at the Mauritius.

The Rebuilding of St. John's, Newfoundland.—An act has passed the legislature of Newfoundland for raising the sum of 250,000*l.*, to be appropriated to the rebuilding and improvement of the town of St. John.

GODFREY HOUSE, KENT.



GODFREY HOUSE, NEAR HOLLINGBOURNE, KENT.

Godfrey House stands a short distance from the town of Hollingbourne, about five miles from Maidstone. It is a very good specimen of the ancient Kentish wood noggen house. On its first erection it probably formed the residence of some respectable yeoman of the county; a tablet over the doorway states it to have been built in the year 1587. The building is not noticed in any topographical history, nor can any information be obtained respecting it. The owner, a gentleman, resides in an exceedingly ugly building in the neighbourhood; he permits Godfrey House to be occupied by several families of his labourers. The whole of its interior has been stripped of whatever works, ancient or interesting, it might formerly have possessed. The sound condition of the building at present proves it to have been originally carefully constructed, and some extremely good metal work remaining in the windows, shows that equal attention was paid to the decoration and finishing.

C. J. R.

*** We have in preparation a number of [illegible], illustrative of the progress of domestic architecture from an early period, both in England and abroad, which will be laid before our readers from time to time, and be connected by a general review of the subject when all are issued.

WORKS AT BIRMINGHAM.

The interior of the town-hall has been decorated in the polychromatic style for the approaching musical festival. The general tone of the ceiling and cove is a subdued buff, and in the grounds of the sunk panels blue and red, mingled with grey, are introduced. The main cornice has its parts brought out by contrast of colour, and in the frieze is an appropriate ornament. On the walls a deep brownish red, relieved with coloured frets, &c., serves to throw in high relief the pilasters, which are of a light tone of colour. The galleries are painted oak, the ornamental balustrade being in imitation of bronze partly gilt. The orchestra has been brought forward and coloured. The grand organ, it is thought, now assumes an appearance that accords with the vastness of its proportions and the power of its tones. The whole range of pipes is illuminated in vellum colour and gold, the framework being oak, of which the mouldings and ornaments are gilt.——It has been resolved to complete the town-hall forthwith, and to form two spacious streets around the northern and western sides of the building.——The Corporate Buildings Committee have been directed to complete the purchase of 4,000 square yards of ground near the town-hall, offered by the commissioners at cost price, and to advertise for plans for the contemplated erections.——The Lunatic Asylum Committee, anticipating a considerable saving by carrying on the building of the asylum in conjunction with the works of the borough gaol, have directed Mr. D. R. Hill to prepare the necessary plans. —— The Gaol Committee have caused their works to be proceeded with under the direction of the architect. The whole of the brickwork of the prison is now up to the level of the ground, and ready for re-letting. The Inspector of Prisons has approved of the works. The liabilities of the sureties of the late Mr. Walthew, the contractor, amount to 3,250*l.*, or 10 per cent. on the whole amount of the contract; and the council have decided to hold them fully liable, although the burden on the ratepayers, it is said, would be very trifling.—— The Poor Law Guardians were to determine on Friday as to the site of the new workhouse.

Free Exhibition. — The exhibition of works of art purchased by the Art-Union of London, will open on Monday next, at the Suffolk-street gallery. The collection is a good one; we shall notice it next week.

Blackburn and Preston Railway Competition.—A correspondent informs us that the directors have awarded the first premium, for a design for the Blackburn station, to Mr. Sancton Wood, of London.

STALL ENDS IN CHOIR, WELLS CATHEDRAL.

THE accompanying engraving illustrates one of the stall ends in the choir of Wells Cathedral, of which there are three varieties. That now given is the best in design. The execution of the carving of these stall ends and of the misereres is truly exquisite.

HISTORICAL ACCOUNT OF PAINTING AS FORMERLY USED IN CHURCHES.

As the discovery of painting on the walls of churches is now of daily occurrence, perhaps it may not be uninteresting to offer a brief history of the practice of decorating churches with religious pictures, from its gradual introduction until the period of the Reformation, when, in this country, at least, the practice received a death blow from which it has never entirely recovered.

The earlier Christian converts being Jews, carried with them all those prejudices against the representation of life, so rigidly guarded against by their law, as well as by the often denounced practice of the pagan nations by which they were surrounded. Their zeal, indeed, against the arts, so extensively used in the heathen temples, may be learnt from the strong invectives of their apologists. They even carried their enmity against the artists themselves, excluding them from their communion, if, as converts, they continued to practise the hated profession, and denying the rite of baptism to those candidates for admission unless they renounced it. As they obtained more power and influence, we have instances of fanatical rage similar to that of the Puritans of a later time; and, perhaps, the progress of Christianity more than any other cause hastened the downfall of the already declining art of antiquity.

But it is evident, that the accession of heathen converts to their communion must gradually have weakened this prejudice; and, indeed, I shall presently have occasion to shew, that it was from among them that the practice first obtained.

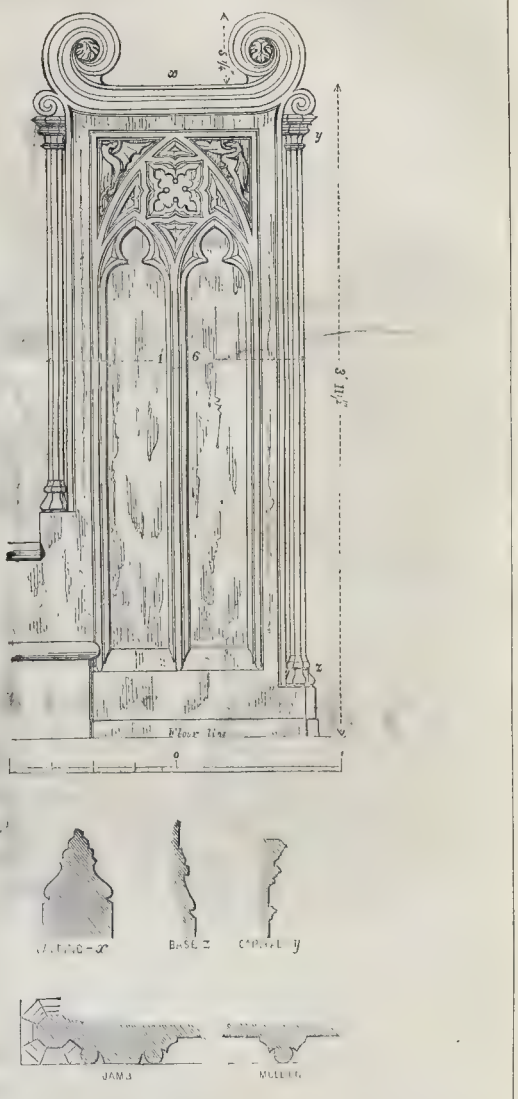
The first public notice that we find taken of paintings in churches, is among the canons of a provincial council, held at Illiberis, now known as the city of Elvira, in Spain. The precise date of this assembly is unknown, but it was near the close of the 3rd century. The words of the canon, by which the practice is unreservedly condemned, are emphatic and precise. It says:—"It hath pleased that pictures in churches ought not to be, neither may what is worshipped or adored be painted on the walls."

This condemnation of itself argues a somewhat extensive application of a principle, but it must be observed that in this sentence we must not recognize the voice of the church, for it is certain that it never received universal attention, and in all probability its influence was not felt beyond the province in which the council was assembled.

The first indications of a yearning towards representation in the Christian society, was evidenced by the use of symbolic forms; such, for instance, as the fish, the lyre, the dove, the lamb, the vine, the palm, the ship, the anchor, to which may be added the cross as probably the earliest of all, and the monogram of the holy name. It is in the catacombs of Rome, places consecrated so early to Christian worship, through the danger to which its early profession was exposed, that we meet with the earliest examples of the use of painting in the new religion. These are very evidently the productions of converts from the heathen, as they so closely resemble in style and character the previous pagan decoration. Indeed, this resemblance is so remarkable, that it requires a very narrow examination of the subjects to distinguish the one from the other. It is also observable that the selection of subjects betrays extreme caution and reserve, those having an indirect allusion to the doctrines of Christianity by way of antitype, being at all times preferred. Of these, the most frequent was the story of the Prophet Jonah, which was generally told in four compartments: the first shows a naked figure of the prophet reclining beneath a frame, on which the gourds are trained; the second shows the mariners casting him into the sea, and it must here be remarked that the idea of the whale is curiously expressed by an animal resembling the *sea horse* of classic antiquity; the third, the monster casting him upon land, and the fourth represents him seated.

A selection of miracles from the Old Testament was also of frequent occurrence arranged together; thus Noah receiving the dove returning with the olive branch, Moses striking the rock, the Manna in the wilderness, Abraham about to offer up his son Isaac, and a few others. Of subjects from the New Testament, though rarer, many were particularly selected, such as the paralytic carrying his bed, the raising of Lazarus, restoring the blind to sight: and the manner of treating these subjects was peculiar, and exhibited a symbolic tendency. The introduction of the figure of the Saviour is rare, unless it be under the form of the good shepherd carrying on his shoulders a lamb strayed from the flock; but there is no attempt at any peculiar elevation of character. Another popular subject belongs to this period of Christian art, and this only: it is that of Orpheus playing on the lyre, plainly taken from pagan art, although there was a strong inclination to give to the Orphic hymns a prophetic character. The earliest design in which the virgin and child are introduced is in the catacombs of S. Callisten Pope on the Appian way; this is the adoration of the magi, who are all represented in the Phrygian cap. It would be impossible in the brief space to which I must confine myself, to

STALL-ENDS IN CHOIR OF WELLS CATHEDRAL.



SCALE OF DETAILS — ½ full size.

enter as much into detail as this subject requires. I must be content with a very general glance, noting only that which is of particular interest.

I will therefore now pass from the consideration of the painting of the catacombs, to notice one of the earliest descriptions of the decoration of a Christian church that has come down to us. This is found in one of the epistles of Paulinus, bishop of Nola, who flourished at the latter half of the fourth century, the contemporary of SS. Augustin and Jerome. Paulinus was a native of Aquitain, of senatorial rank, and of great wealth; he became a convert to Christianity, and was exceedingly zealous in his new faith; in proof of which he constructed a magnificent church near Nola, in honour of St. Felix, the martyr, of which he has given a very interesting and minute description, both of the arrangement and of the nature of its decoration. Among other things he describes the paintings introduced on the walls and vaulting, all of which appear to have been selected from the Old Testament. He begins, "Now I will that you see the pictures in the painted aisles (porticibus) in a long company, and a little you may weary your supine neck, whilst with inclined countenance you read through all." Then he continues to enumerate and descant on the several subjects, from which it appears that it contained the story of Moses, the passage of Jordan, the story of Ruth and Orpah, and arranged on walls opposite to each other, the temptation of Job, story of Tobit, Judith, and Esther.

We also learn from him that the custom of affixing descriptive legends, or text illustration of the subjects, had already obtained, for he says, alluding to the subject, "which is expressed above by titles, that the letter may shew what the hand has explained." He concludes by asking his friend, if by chance he should require some reason for this new practice of painting the sacred houses, he will show it in a few words. He then goes on to say, that the place was frequented by a rustic crowd "not learned in reading," for whose edification it was intended, and that such had been the effect, that "behold! frequent vigils extend through the whole night."

In the 4th century the arts were rapidly declining; but if we could place confidence in descriptions, we might yet imagine a power existing of no mean character. Among the records of the second Council of Nice, there is an account of a painting of the martyrdom of St. Euphemia, given by Arterius, bishop of Amasia, belonging to this era, in which the diversity of expression is particularly noted and described, and the highest encomiums are bestowed upon the painter, not indeed undeservedly, if his work answered the description. "Greatly I admire," says he, "the painter who the effect of fighting nature, that is to say, modesty and manliness, could combine." And in another part he bears testimony to the faithful and expressive colouring thus:—"For so manifestly and evidently the painter has coloured the drops of blood, that you might swear it to flow from the lips, and with weeping you are compelled to depart." A similar testimony, drawn from the same authority, is given by Gregory Nyssen, who said he could not contemplate a picture of the Abraham about to offer up his son without shedding tears. We must, however, accept these testimonies with some reserve; for at a later time, when the arts were in the lowest state of degradation, it is not uncommon to meet with similar encomiums. There can be no doubt, then, that the close of this century saw the principle of decorating churches with paintings established far and wide, wherever Christianity was to be found. And it seems to have gone on silently, without encountering any opposition, except, perhaps, from small communions of heretics.

In this country there can be no doubt that it was introduced with Christianity itself, by the missionary St. Augustine. A pope, Gregory the Great, said it was chiefly for the sake of the heathen, instead of reading, that they might learn from them what they ought to worship. Thus, in the 7th century, we find two eminent men, St. Wilfrid and Benedict Biscop, both employing the arts extensively in the service of religion. Bede gives an account of the latter bringing paintings from Rome to adorn his church at Weremouth. The images of the Virgin Mary and twelve apostles were disposed on the roof at the east end, carried from wall to wall, aranged, apparently, in tablets or panels, for they were doubtless executed on wood and in distemper. Subjects of Gospel history were disposed on the south wall; the visions of the Apocalypse of St. John on the north.

That abuses, however, had crept in very early we have the testimony of St. Augustine, who says, that he knew many who were adorers of pictures and sculpture; but it was not until the 8th century that an attempt was made to suppress the practice: this, however, was attempted by the Emperor Leo, known thence as the Iconoclast. By him religious pictures were proscribed in the churches of Constantinople and the provinces; they were by his edict defaced and covered with a smooth surface of plaster; but so greatly were the popular feelings outraged by these proceedings, that civil war, embittered by theological controversy, raged throughout the Roman empire for upwards of a century. To settle the question, his son and successor, Constantine, called a council of the church at Constantinople, A.D. 754, which pronounced a unanimous decree, that all visible symbols of Christ, except in the Eucharist, were blasphemous, and that all such monuments of idolatry should be destroyed. Notwithstanding, however, this rigorous persecution of those who fondly clung to a practice to which they had been so long accustomed, this decree was found impossible to be enforced. The second Council of Nice, which took place in 787, finally settled the question as regards the church, and produced a very permanent effect on the practice of church decoration. The records of its proceedings contain a vast deal of information relative to the doctrine of the church on the subject; it asserted, contrary to historic truth, the continuous use of pictures from the time of the apostles; but its decrees respecting the relation of art to the church were the most important, because of the extraordinary influence that they had in reducing art to a mere convention, dependent on the theologian. The council decreed that the structure of images was not the invention of the painters, but the approved legislation and tradition of the church; and in another place he says, "the art alone is the painter's, but the ordination and disposition the holy fathers." The consequence was, that from that time art lost its mental activity, and remained stationary for centuries; and in the Greek church to this day it affords a most singular phenomenon of the repetition of the same form handed down from one generation to another, so much so that Messrs. Didron and Durand, the eminent French antiquaries, remarked in a tour in Greece in 1838, that the resemblance between works executed at St. Mark's, in Venice, by Greek, or as they are better known, Byzantine artists, in the tenth century, was complete even to the number of folds in the drapery, to works many centuries subsequent. The influence of Byzantine art was felt throughout Europe for many centuries. Their art, founded upon the decrees of the Council of Nice, remained, as before observed, a fixed type, without improvement, possessing but a limited mechanical power, and still less feeling for nature.

The freer spirit of the west naturally operated very powerfully in destroying this domination, which fettered the hand of the artist, for although convention can be observed even to the end of the fourteenth century, yet there were many departures from its influence. It is exceedingly curious to note this feature in mediæval religious art, which we have many opportunities of observing throughout the twelfth, thirteenth, and fourteenth centuries, whether seen in MSS. sculptures, or paintings on the walls of churches; even in the technical delineation of form down to middle of the last-mentioned period, there seems to have been a fixed rule. This may be partially noticed in the mode of drawing the features, which certainly for a whole century does not materially differ.

After the decision of the Council of Nice no serious opposition was made to pictures in churches, and there can hardly be a doubt but that every church had some kind of religious painting on its walls.

In the 12th century, when so great an impulse was given to the arts, we find the voice of eloquent St. Bernard is raised against those monstrous combinations of forms painted on the walls of churches. "Monstrous centaurs! half men, spotted tigers," &c.; he continues, you see under one head many bodies, and again on one body many heads. Here is observed the tail of a serpent on a quadruped, &c.; and he observes, the whole day is occupied in admiring these things rather than in meditating on the law of God. I should imagine that those grotesque figures common on Norman fonts, are similar to those alluded to by this father.

The improvement and advance in architecture in the 12th and 13th centuries, were accompanied by a corresponding progress in the art of painting and design, and our parochial as well as our cathedral churches received as much decoration as expense and circumstances permitted, and thus it continued until the 16th century, when one of the earliest acts of the reformation in this country, was the condemnation of paintings in churches; at this period, they were covered with whitewash and defaced, and their places supplied with texts of Scripture.

JOHN GREEN WALLER.

MASONIC HALL AT COWES.

HOT as the weather was, Mr. Editor, I have actually been thrown into a cold perspiration,—nay even positively congealed, transformed into a Hecla, and only this *eruption* can relieve me. Is it possible, that the Masonic Hall at Cowes is *designed* to be anything like the wood-cut in the *Illustrated News*? Why, it out-Pecksniffs Pecksniff! Though the place itself is called Cowes, there is no occasion for the people there, those at least concerned in this particular matter, to shew themselves downright *calves*. Most unlucky was it for the architect that there was any fuss at all on the occasion of laying the first stone, because had it not been for that highly interesting ceremony, the *Illustrated* would never have thought of illustrating him and his building as it has now done. What a delicious tit-bit would that same Masonic Hall be for Welby Pugin to show up, in a second volume of his "Contrasts," as a specimen of our classical Anglo-Grecian style! Why, Sir, surely the illustrious *Illustrated* must have had a wicked hoax put upon it by some malicious person; or else its architectural *artist* must have palmed upon us an idea, an invention of his own, as a veritable copy of the architect's own drawing, in which he *flatters* the Cowes building and its architect, by making the Grecian Doric pilasters twelve diameters high!

BUDOWNIK.

P.S. Can you tell me the name of the architectural journal which is published at Edinburgh? That there is some Scotch publication of the kind is evident, because otherwise, the canny Scotchmen would surely not fail to correspond and communicate with English ones, and to let us know who is the Scotch Barry, who the Scotch Smirke.

THE SAILORS' HOME, LIVERPOOL.

THIS building, the first stone of which has been recently laid with so much parade by the Prince Albert, is to be in the Elizabethan style, with gables, towers, vanes, and ogee headed roofs, and will stand near the eastern end of the Custom-house. Its site possesses a frontage to Hanover-street of 168 feet; to Paradise street of 53 feet; to Canning-place opposite the Post-office, of 95 feet; and to the back passages leading from Canning-place to Paradise-street, of 175 feet. The principal entrance front, opposite the Post-office, is divided by the bays common to the Tudor style, into five compartments. The centre one will contain the doorway, with a recessed porch, flanked by Doric pilasters and columns. At each of the four angles of the building there will be a square tower, 104 feet high, with ogee-headed roofs, surmounted with gilt spires and vanes. On each of the two sides fronting Hanover-street, and towards the back passage, there will be between the extreme towers, five breaks or projections. These, as well as the projected divisions of the other fronts, will finish with broken curvilinear gables, with brackets, pinnacles, &c. The whole of the four fronts is filled with mullioned and transomed windows, so arranged, that, the floors in the interior crossing them about the middle, they will light, at once, two stories

An open balustrade will extend round the top of the building between the gables and towers, and the roof will be asphalted for the purpose of forming a promenade for the sailors.

Mr. Cunningham is the architect, Messrs. S. and J. Blakley, the builders.

Calculating folks have found out that twice as much money as the building will cost has been spent in laying the first stone.

IS THE TOWER OF YORK MINSTER SAFE?

A RUMOUR of certain cracks in the great tower reached us a short time since, but did not seem to have much weight. The *Athenæum*, however, reports a conversation at a general meeting of the Archæological Institute, which confirms it:—

Mr. Browne, the historian of the Minster, began by making some remarks on the structure of the centre tower; which he contended was of Norman workmanship,—though the characteristics of its style were of a much later date. He had made, he said, a very careful examination of the tower, in every accessible part; and could distinctly trace many remains of Norman masonry,—particularly in the north-west angle. If John le Romayne had erected the tower anew from the foundation, we should never have had so much Norman work left as we now have. It is not correct to give the honour of erecting the tower to John le Romayne. He could observe Norman work from the very foundation, through the clerestory, up to the very battlements. All that John le Romayne did was to re-case the tower; and this Norman work, cased by Romayne, stands, he was sorry to observe, on very rotten foundations. You may take as much away of it as you like with your fingers—you may thrust a crowbar into it over the head with as much ease as you would into a tub of butter. He was sorry to observe, moreover, that the cracks in the Great Tower were increasing very rapidly. Something should be done, and at once, to insure the stability of the fabric. The removal of the 6,000 gallons of water from the tower would lessen the pressure very considerably. He knew very well why the water was placed there*—but "let us watch our cathedral carefully, and we shall have no further need of such a pressure on its top."

The Dean of Hereford confirmed the statement of Mr. Browne. The cracks were there, it was true; and he was assured that they were increasing. Mr. Browne had anticipated him, for it had certainly been his intention to have represented the state of the tower to the dean and chapter before he left York. He had observed similar cracks in the tower of Hereford Cathedral; and every architect was aware of the great repairs in progress in that cathedral. He had tested the cracks at Hereford by filling them up with plaster.

The Marquis of Northampton said:—He was sure that the proper authorities would take some steps to arrest the danger; and it would be prudent to consider whether the tower—hitherto thought, and, he believed, with reason, too insecure to carry pinnacles—should be made to bear so great a weight of water, at a time when its very foundations were in danger.

Mr. W. Vernon Harcourt wished to assure the gentlemen who were present that the guardianship of the cathedral had not been intrusted to careless and indifferent persons. The cathedral had never been in such thorough repair as it was at this very time. This was a new discovery of Mr. Browne. He had never heard of it before—the master masons had never heard of it—and the careful survey made by Mr. Sidney Smirke, a few years back, contradicted it altogether.

Professor Willis remarked that Mr. Browne's apprehensions were utterly groundless; that these settlements had existed for hundreds of years; and that if the cracks referred to were of any consequence, then all our cathedrals—Ely especially—were in the utmost danger. But he had no such fears. Nor was the test of the plaster of any great importance; for plaster generally contracted as it dried. It was a test, however, not to be overlooked. Nothing but what was good could result from a conversation like this.

* See BUILDER, Vol. III., p. 159.

NOTES IN THE PROVINCES.

NEAR the Slough Station, on the Great Western Line of Railway, a building for the temporary detention of prisoners apprehended in the Stoke and Eton divisions of the county is about to be erected according to plans prepared by the county surveyor and approved of by the magistrates.——The new church at Bednall, Staffordshire, was consecrated by the Bishop of Lichfield the week before last.——A new theatre is about to be erected at Leamington.——On the 24th ult., the new church in the extra-parochial district of the Deeping Fen, Lincolnshire, was consecrated by the Bishop of Lincoln.——The new church at Zeals, in the parish of Mere, is rapidly advancing to completion; it is in the decorated style.——The new and extensive works in progress at the Bristol docks, were suddenly destroyed on the 8th instant by the flooding of the Avon and Frome, mingled with a sudden and unusual rush of the tide, which many for the moment believed to be the result of an earthquake. The damage to the works (which have been in constant progress for several months, for the admission of shipping of the largest size, and the cost of which is estimated at 50,000*l.* or 60,000*l.*), is thought to amount to at least 5,000*l.*——Twenty-five houses in the vicinity of Aberayron, and Talsarn, Cardiganshire, have been destroyed and some lives lost about the same time by similar floods; and four bridges also, between Aberayron and Aberystwith, have been demolished.——The new market at Carmarthen was opened last week. Mr. F. E. H. Fowler is the architect.——The same architect is about to erect in the same place, a new Assembly Room, and to re-erect a monument to Sir Thomas Picton.——The first stone of the new church at Motcombe, near Shaftesbury, was laid on Monday, August 3rd, by Lord Robert Grosvenor. The style of the building is perpendicular Gothic; it consists of nave, aisles, chancel, west tower, and south porch, and accommodates about 460 persons. All the roofs are open, and the seats are uniform. Mr. G. Alexander is the architect, and Mr. Maskell, of Motcombe, the builder.——A prize of 50*l.* has been offered by Mr. J. H. H. Foley, through the Institute of Popular Science at Stourbridge, for the best practicable plan of improving that town by joint-stock companies.——At Sheffield, lately, the entire slate-work of two houses suddenly fell into the street. Its insufficiency had previously determined its removal at any rate.——On Tuesday week Lund Church was re-opened, after having undergone a thorough repair and cleansing.——The foundation-stone of the new church at Hixen, in the parish of Stowe, was laid on the 18th ult. by the Marchioness of Lothian.——The free church of Glass, Strathbogie, was opened on the 16th ult.——It is proposed to erect a Presbyterian college at Belfast. Public baths and washhouses are in course of erection there.——A church for seamen is about to be erected at Douglas, Isle of Man, partly out of the materials of a hulk lent by the Admiralty, and hitherto used as a church for seamen.——The roof of the Royal Exchange at Dublin was set fire to on the 4th current, by the negligence of some plumbers employed on it. Considerable damage was done to the roof and the lecture-room of the Mechanics' Institute, and much fear and excitement prevailed lest the fire should reach the vaults of the Exchange, which are stored with several thousand hogsheads of whisky in bond, and run along beneath the houses in Parliament-street, Dame-street, and Lower Castle Yard. It is really disgraceful to think how frequently the most valuable property is placed in jeopardy or destroyed by negligence of this same description.

BATH BRICKS.—It is singular that the only known substance from which these bricks can be made, is a sludge or mud, deposited by the river Parrot, and that of such deposits it is only that within a mile above and a mile below the town of Bridgewater that will do. They are used, as every one knows, for cleaning knives, &c.

PALM WOOD.—The Board of Customs, considering that palm wood comes under the description of furniture wood, have decided that it is to be admitted duty free.

WESTMINSTER COURT OF SEWERS.

ON Friday, the 7th inst., a court was held; Mr. Leslie in the chair. The cash balance at the bankers appeared to be 15,276*l.* 6s. 1d.

A great number of letters from all parts of the Westminster jurisdiction were read, complaining of the nuisances to the inhabitants arising from inefficient drainage, and the foul emanations from the sewers.

On the application of various individuals, liberty was granted for the building of 1,747 feet of new sewers and 101 house drains.

A motion, by Mr. Knight, seconded by Mr. Le Breton, "That all works estimated at not exceeding 200*l.* be in future done by the workmen in the employment of the commissioners, without advertising for contractors to do the same, notwithstanding any rule or bye-law to the contrary, provided the surveyor certify that the work to be done is of a pressing nature:" was negatived by 13 to 3.

The report of the solicitors as to the two trials against the sureties of Mr. Bird, the contractor, for the failure of the large sewer in Gloucester-road, Paddington, was then considered; and Mr. Willoughby, seconded by Mr. Le Breton, moved, "That the advice of the counsel employed by this court in the case of Donaldson *v.* Smith be adopted, and that they be instructed to move for a new trial therein." Upon which an amendment was moved by Mr. John White, seconded by Mr. Godrich, "That it is not advisable that any further proceedings be taken in the matter." Amendment carried by 11 to 7. The court then appointed Wm. Conquest to be drawing clerk, at 100*l.* per annum; salary to commence from 25th of March last.

Mr. Chalmers moved and Mr. Le Breton seconded a motion, "To confirm the order of court of the 24th July last, respecting Mr. Whitehurch's applications, and to sanction the expenditure therein recommended."

Upon putting which, the chairman said, that he felt it his duty to declare his opinion, that the proposed expenditure, however beneficial to the building speculation in question, was an illegal application of the sewers' rate. Carried by 17 to 1.

The surveyor reported two breaches of sewers, one crossing Regent-street at Major Foubert's-place, and one in Conduit-street, in the examination of which he had discovered that a very large quantity of sewage from the eastern division of sewers was, through this channel, carried into the western division, and ultimately into the King's Scholars' Pond Sewer. The reparations were proceeding, and the court approved thereof, and required that after the breaches were completely secured, the surveyor should report fully on the subject.

A motion was made by Mr. T. L. Donaldson, seconded by Mr. Baylis, "That a precept be now signed to the sheriff of Middlesex, to call out a jury to inquire into such things as shall be given them in charge, respecting the sewage of Monmouth-road, Paddington, for Tuesday, the 18th inst., at 10 o'clock A.M." Carried, and the precept signed.

HEAVITREE CHURCH OF ST. MICHAEL, NEAR EXETER.

THIS new or rather re-erected parish church, was consecrated on Saturday week by the Bishop of the diocese, supported by a strong corps of clergy. The architect is Mr. Mackintosh, the designer of several of the diocesan churches of Exeter. The contractor for the whole of the works was Mr. John Kenshole, of Heavitree, by whom Mr. Simon Rowe, of Saint Sidewells, was engaged to execute the freestone work. The church has been built by subscription, assisted by grants to the amount of 500*l.* from the Church Building Societies. The amount of accommodation it affords is sittings for 1,220 persons, of which number 513 are free and unappropriated. It is one of the largest churches in the county.

We extract the following abbreviated description of it from the *Exeter and Plymouth Gazette*:—

The style is that of the 15th century, and all the peculiar characteristics of the ancient church have been carefully maintained and restored. The dimensions internally are as follows:—Chancel, 25 feet by 16 feet; nave, 86 feet by 22 feet; north and south aisles each, 94 feet by 13 feet 6 inches, with a southern

porch and vestry at the eastern end of the north aisle. Externally it is faced with limestone from the quarries at Chudleigh, having the windows, string courses, cornices, battlement mouldings, and other dressings of freestone from Caen in Normandy. A granite basement or plinth is carried round the building on all sides, and the gables are surmounted with floriated crosses. Internally, this church is remarkable for its altitude, and for the high pitch of its open roofs, the principal timbers of which are of oak, and in the chancel roof are some ancient carved bosses, coloured and gilt as they were in the former church. The columns and arches separating the nave from the aisles are a restoration in every point as regards detail of those in the old church; they are especially rich, and varied in their foliage and capitals. There is a fine chancel arch, richly moulded, and of good proportions, on the north side of which is situate the pulpit, carved in Caen stone, and somewhat similar to the ancient one at Harberton. On the southern side of the chancel arch are the reading desk and eagle, the latter carved in old oak, by Mr. Winsor, senior verger of the cathedral. At the eastern end of the chancel it was originally intended to have refixed the former window; but on inspection it being found much decayed, as well as of a somewhat debased architectural character; the Rev. Dr. Warren, of Portview, liberally presented a new window of four lights carved in Caen stone; and the Rev. Arthur Atherley, the vicar, has filled the same with stained glass executed by Mr. Robert Beer, of Exeter, and comprising figures of the four Evangelists, &c. The south window of the chancel has a figure in stained glass, of the Virgin. In the south aisle there is a specimen of a memorial window of three lights; the first and third bordered after a specimen in Exeter Cathedral. The font is of Caen stone, large and highly enriched. The bowl is octagonal, having each panel filled with ornamental tracery, and the sides of the shaft are likewise panelled with cinquefoil-headed arches; springing from the shaft, to support the bowl, is a band of angels with expanded wings bearing shields. We hope," adds the writer, "to see ere long, an adequate tower and spire added, which will render the church complete."

HAYDON ON FRESCO.

The power of light, which the reflection of lime produces, shining through the colours placed on it, renders fresco, in spite of its deficiency of shadow, fitter for public decoration than oil, whose power lies in its gorgeous shadow. The power of fresco lies in light—the power of oil in depth and tone. Oil is luminous in shadow—fresco in light. A mighty space of luminous depth and 'darkness visible,' gives a murky splendour to a hall or public building. A mighty space of silvery breadth and genial fleshliness, with lovely faces, and azure draperies, and sunny clouds, and heroic forms, elevates the spirits, and gives a gaiety and triumphant joy to the mind. The less shadow in decoration the better. Fresco is not desirable, because it is practised on a despotic material, and therefore requires a resolute and unerring hand, a fixed eye, and steady brain. It is desirable for its beauties, not for its obstructions. It is more difficult to paint with your feet than your hands; but that is no reason such a process is desirable. It would be better for fresco if lime had the facilities of oil. It would be no disadvantage to be able to work up and retouch like Rembrandt, but it is not to be rejected because you cannot do it. You must take the process as it is; and as it has been done effectually by Italians and Greeks, as it has been effectually used as an engine by the modern Germans, though far from the perfection of Raffaelle, there is no reason on earth why it may not be also adopted by the British school.

Again, as colours are in reality tinted water, and as fresco and stucco have a tendency to imbibe water, colours ground in water become incorporated with lime, water, and sand; and when dry they are not to be dissolved again by water; and the basis of fresco and its colours thus become harder than the stone by drying. If the stucco dry too rapidly, as it always does in a hot climate, it does not dry through; and the hardness of the surface, from having imbibed carbonic acid from the atmosphere, hinders the interior from doing the same. The foundation of the stucco not being dry, very often, in its struggles to get at the carbonic acid, splits and blisters what has dried too soon over it as a skin. This was the reason that Vasari and the Italian artists were continually obliged to moisten as they went on; and this is the reason why, in my opinion, the climate of England, being moist, is more adapted for fresco than Italy itself. Here, certainly, we have no chance of fresco drying too soon on the surface; but mortar dries here as hard as in Italy, and wherever mortar dries hard, there fresco may be safely practised. All the cant about our climate is puerile and morbid, and the ingenious objections of a sect in England, who are alarmed at the prospect of a masterly style of design and thinking being established at last, are not to be regarded.

COLOURING AND POLISHING MARBLE, &c.

M. Henri Auguste Bex, of Great Titchfield-street, Marylebone, decorator, has obtained a patent for "A new method of drying, polishing, and colouring marble, stone, and certain other materials used in the construction or decoration of houses and other buildings."

According to the *Patent Journal*, these improvements consist: First, in polishing marble and stone by filling up the pores of such marble or stone with plaster of Paris or marble cement; then rubbing them with certain hard stones, applying a thin layer of plastic before each rubbing; and lastly rubbing them with wax, or a mixture of wax and turpentine. Secondly, in polishing certain other materials used in the construction or decoration of houses or other buildings by rubbing them with a varnish of gum lac. Thirdly, in dyeing and colouring marble, stone, and certain other materials used in the construction or decoration of houses and other buildings, by wetting them with certain acids, salts, and colouring materials or their chemical combinations, by means of a brush or sponge. The inventor then proceeds to describe the manner in which the said invention is to be performed. To polish marble or stone he first rubs the surface to be polished with a piece of sandstone, and afterwards with a sandstone of a finer description, in the same manner as is now ordinarily practised, but he does not claim this as part of his invention; he then stops up the pores of the marble or stone with plaster of Paris mixed up with a thin solution of gelatine and some colouring matter, to render it of same colour as the marble or stone to be polished, till it attains the consistence of cream, or else marble cement mixed with colouring matter, till it attains same consistence, and is similarly coloured. He lays on these mixtures, respectively as the case may be, with a brush, and afterwards scrapes them off with a wooden knife, taking care that all the pores of marble or stone are filled up. He then rubs the marble or stone with a kind of sandstone called Charley Forest stone; he then stops the pores, if necessary, in the same manner, again rubs them with the stone, and after that with a piece of stone called German stone, and, finally, with a piece of touchstone; before each of these rubbings he lays on with a brush a thin coat of plaster of Paris or marble cement, mixed with water to the consistence of milk; and lastly, should colour of the stone or marble be clear, he lays on a coat of wax, or mixture of wax and turpentine, and rubs it with a linen, cotton, or woollen rag, till the marble or stone becomes perfectly polished, but if the colour of the marble or stone should not be clear before applying the wax, or mixture of wax or turpentine, he rubs it with linseed oil till the colour becomes clear, taking care to remove all the oil before he applies the wax, but he does not claim the rubbing of the material to be polished with linseed oil or wax, or a mixture of wax and turpentine, as part of his invention. In addition to the above process, he sometimes rubs the marble or stone to be polished with a piece of jasper, if a very brilliant polish is required. He polishes the certain other materials used in the construction, &c., of houses in same manner as the marble and stone above described, till he has completed the rubbing with the Charley Forest stone; but he does not claim this as part of his invention. He then rubs them with linseed oil, taking care to wipe it off thoroughly, and then varnishes them with a varnish of gum lac in the following manner:—He takes a ball of wool, wets the surface of it with the varnish, and covers it with a linen rag. He then well rubs the material to be polished, adding a little oil occasionally, if the varnish should not work freely. To dye and colour marble or stone, and certain other materials used in the construction and decoration of houses, &c., he employs the same system of acids, salts, or colouring matter, as generally used by dyers in dyeing cloths and other textile fabrics. He applies the said acids, salts, or colouring materials, or their chemical combinations, in a liquid state, over the surface of the material required to be dyed or coloured, by means of a sponge. If he wishes the dyed or coloured surfaces to have the same polish as the rest of the surface upon which he is operating, he applies the said colouring materials before he begins to polish the said substance, or when the process of polishing is only half finished; but if he wishes the dyed or coloured matter to be dead or unpolished, he applies the colouring materials after the process of polishing is completed; but he does not claim as his invention the composition of the said acids, &c., but only the application of them, in the manner above described, to the dyeing and colouring of marble, stone, &c. The certain other materials alluded to in his title are plaster, stucco, scagliola, and a species of stucco invented in France, and introduced by him for the first time in England, and which is called, "stuc à la brosse." He claims as his invention the following:—First, the filling up with plaster of Paris, or marble cement, in the manner above described, the pores of the marble or stone intended to be polished, and rubbing them with certain hard stones, as hereinbefore described; secondly, the polishing of certain other materials used in constructing or decorating houses, &c.; and thirdly, in dyeing or colouring marble, stone, and other materials, as above described, by wetting them with certain acids, salts, colouring materials, or their chemical combinations, as above described, by means of a brush or sponge.

Correspondence.

FIRE-PROOF BUILDINGS.

Sir,—I observe in your valuable weekly journal, that, in your notice of the construction of various buildings, you frequently say, that such and such apartments are built "*fire-proof*." Although the making of buildings *fire-proof* is a matter of the very first importance, yet I believe the true principle that ought to be adopted to make any portion of a building *fire-proof* is seldom or never applied.

Some twenty-five years ago, I directed a building (near the end of Burlington-street), having a floor similar to that which is at present called *fire-proof*. The intention of the floor built under my direction was, that it should be water-proof; and in taking a view of the floor the other day, I found it has answered its intended purpose admirably. Now, with regard to fire-proof buildings, the choice and proper application of fire-proof materials are all that is required; they being also of the most simple kinds, namely, bricks, clay, and lime mortar. Brick or tile arches, turned with Roman cement, will not stand against the action of fire; there are also other materials now in use very carelessly applied.

I am desirous to be informed by any of your intelligent correspondents, what methods are taken to render a floor or ceiling fire-proof, and whether any attention is paid to the construction of the external or division walls, to render them also fire-proof.—I am, Sir, &c.

Wm. Smith.

4, Stockwell Common, Clapham-road.

ASPHALTE FOR STAINING WOOD.

Sir,—I see in your paper for last week, you mention the wood-work of St. John's Church as being stained with *asphalte*. Can any of the readers of your valuable journal inform me of the method of mixing it, and the preparation the wood receives before it is laid on? as I find a difficulty in making it dry.

I am, Sir, &c.,

A Constant Subscriber.

Miscellanea.

TRINITY CHURCH, PADDINGTON.—This church, which has been lately consecrated, was built by Mr. Higgs, under the direction of Mr. Cundy, the architect. It is in the perpendicular gothic style of the 14th century, and contains 1,000 pews, besides 403 sittings for adults and 200 for children. The chancel is covered, inside and out, with encaustic tiles, and the windows are of stained glass. The building originated with the Rev. John Miles, who offered 4,000*l.*, with the proviso that the church should not cost less than 10,000*l.* The contract for building it was 14,000*l.*, but by reason of extras, will be increased 4,000*l.* The Church Commissioners have given 10,000*l.*, and the Bishop of London and the trustees of the Paddington estate presented the ground both for the site of the church and for that of a parsonage house attached to it, besides having engaged to build the latter, to which also the Rev. Mr. Miles has contributed upwards of 500*l.* Mr. Miles has also given the eastern stained-glass window, which cost him 500*l.* He has also contributed the expense of the decorations of the chancel, amounting to upwards of eighty guineas. The building-fund committee, by subscription, put in the four stained-glass side windows, which cost 500*l.* Upwards of 2,000*l.* were sunk in raising the foundation on its low site.

THE LATEST EXCAVATIONS AT POMPEII.—While the Scientific Congress was lately assembled, a house was exposed which, according to the Italian journals, had evidently belonged to a rich citizen. The frescoes are said to have been well executed, but the other parts were not in any way remarkable. The house, known by the title of the "Hunters," is now entirely exposed. It is only remarkable for its pictures, which all relate to hunting. The house examined on the occasion of the visit of the Emperor of Russia presented nothing worthy of notice. A few amphoræ and some bronzes were found, but their quality was exceedingly ordinary. The visit of the Empress of Russia brought to light a portable kitchen. It was made of iron and prepared with cavities to receive the saucepans containing the meat and vegetables. A recent excavation has discovered a house, in one of the rooms of which was lying the skeleton of a man, and near him thirty-six silver coins and two gold ones. The latter were of the time of Domitian, and the silver pieces bore the likeness and the name of Vespasian. It is thought to be not unlikely that this man may have been a thief, who was overtaken by the fiery storm whilst making his escape with his booty.

STREET ARCHITECTURE.—A correspondent of the *Connoisseur*,* speaking of the changes apparent in our street architecture, remarks that "the only danger appears to be, as regards external ornament, lest, by avoiding one extreme, the taste of the day should tumble headlong into its opposite; and, while steering clear of the Scylla of Insipidity, it should be urged into all the Charybdis of complexities. Nor is this a mere visionary notion. A practical illustration presents the two extremes, even in one of our streets. Let any one contrast the two ends of Oxford-street, the old and the new; and the want of ornament in the one case, and the superabundance in one or two of the new buildings in the other, is self-evident. For my part, I would almost rather suffer from a plethora, than from inanition; but there are certain limits beyond which it is impossible to go, and these are soon reached: a reaction will take place; and, as in other matters, a standard, somewhat varying according to circumstances, will be the necessary result. Not that I would advocate uniformity of design: this would be as unsatisfactory to the eye, as monotony to the ear."

FALL OF HOUSES IN MIDDLE-ROW, HOLBORN.—The fall of the two houses in Middle-row, Holborn (on the 2nd instant), will, it is to be hoped, lead to the entire removal of the block of houses forming this narrow way. Many of those which remain are in a state of great danger, and should be taken down immediately to prevent accidents. Several houses fell last week in Round-court, Clerkenwell-green, undermined by a rise of water from the Fleet sewer.

* A monthly periodical, conducted with much ability.

SCULPTURE FOR THE LIVERPOOL LAW COURTS, &c.—It was moved, in the Liverpool Council on the 5th instant, by Mr. Stewart, that the council should confirm the proceedings of the Improvement Committee, recommending the council to order the design for the sculptured work for the south pediment of the new buildings, to be completed under the direction of Mr. Cockerell. Mr. Stewart in moving the resolution, observed that the payment would be spread over two or three years, as the workmanship would require that time for its execution. An amendment was proposed by Mr. Rathbone, "that the sculpture proposed to be procured for the embellishment of the southern pediment, beautiful as it is, and highly creditable though it be to the genius and talents of Mr. Cockerell, be declined, as its purchase would be inconsistent with the present state of the corporation funds." After a few miscellaneous remarks, however, the original motion was finally carried by a majority of 24 to 8.

THE GRAVEYARD QUESTION.—Mr. Mackinnon's Public Cemeteries Bill—having for its object, to prevent all interments within the precincts of large towns or populous places,—to prevent dead bodies from being kept in the rooms of the poorer classes for an indefinite time, a practice inducing many pestilential disorders,—and to limit, in some measure, the exorbitant charges of undertakers and others, which the poor are unable to pay,—has been withdrawn, on the understanding that his principle would be adopted by the Government next session. Mr. Mackinnon is much too yielding.

CHURCHES INJURED BY THE STORM.—The spire of the new church of St. George's, Leicester, was altogether destroyed by lightning during the late storm, as mentioned in a correspondent's letter, and the roofs and staircases of the church itself were also partly destroyed by the falling of the spire. The pinnacle of the tower steeple of the church at Dedham, was also struck by the electric fluid and shivered into fragments. The steeple itself too, is very much shaken and rent.

HOW TO CUT AND BORE GLASS LIKE METAL.—Dr. J. Ryan has been of late revealing to his hearers, at the Polytechnic Institution, "a secret well worth knowing." By moistening the usual instruments with a solution of camphor in turpentine, instead of emery, or sulphate of copper, he has proved, practically, that glass may be cut and bored as readily and as safely as if it were one of the metals.

BUCKINGHAM PALACE AND THE PAVILION AT BRIGHTON.—It is proposed to make additions to Buckingham Palace, at an estimated cost of 150,000*l.* To defray this in part, the marine pavilion, with the ground on which it stands, is to be sold. The alterations will be made under the direction of Mr. E. Blore.

SITES FOR DWELLINGS FOR THE POOR.—Lord Morpeth has withdrawn his Bills empowering the Woods and Forests to dispose of land, at reduced prices, for the dwellings of the humbler classes.

IMPROVEMENT OF THE MANSION HOUSE.—It has been resolved to expend 1,000 guineas on the improvement of the entrances to the Mansion House.

NOTICES OF CONTRACTS.

[We are compelled, by the interference of the Stamp Office, to omit the names of the parties to whom tenders, &c. are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent Garden.]

For the erection and completion of retorts, hydraulic mains, condenser, purifiers, valves and connections, street mains (turned and bored), with necessary bends and syphons, for the Downpatrick Gas Company, at per ton, delivered in Downpatrick, with an accompanying tender

For erecting and fitting the above complete at the Downpatrick works, if required. Separate tenders will be received

For a gas-holder and suspension complete, fitted up at the Downpatrick Gas Works. Also separate tenders

For the erection of the necessary buildings of the Downpatrick Gas Company, including retort-house, purifying-house, coal and coke sheds, dwelling houses and offices, fence, wall, tank, and chimney.

For the supply and erection of metal lamp-posts in the town of Lurgan (Scotland).

For lifting, removing, and depositing materials for the formation of the embankment of the Shaws' Water Company, at Greenock.

For a malleable iron retort-house roof, 52 feet span, for the Carlisle Gas Light and Coke Company.

For two hydraulic mains, each consisting of 11 lengths of flanged pipe, for the Carlisle Gas Company.

For a set of condensers, consisting of 48 ten-inch pipes, &c., for the Carlisle Gas and Coke Company.

For cast-iron lime-mixing and water cisterns, for the Carlisle Gas and Coke Company.

For three slide valves for the above company.

For 1,000 lengths of 2½ inch rain-water pipe, and 100 heads for Mr. H. C. B. Brunell, London.

For 500 lengths of 3-inch pipe, and 50 heads, for Mr. H. C. B. Brunell, London.

For the execution of the works remaining to be done on the Morley contract of the Leeds, Dewsbury, and Manchester Railway.

For the letting of stone quarries at Potternewton, near Leeds.

For the execution of the works on the first contract of the 19¼ miles, or thereby, from Keighley to Skipton and Colne, on the Leeds and Bradford line, including fencing, earthwork, masonry, roads, and permanent way.

For the execution of the works on the second contract of the 19¼ miles, or thereby, running from Keighley to Skipton and Colne, on the Leeds and Bradford line, including fencing, &c., as above.

For making the necessary alterations and additions at the building called the Peoples' Hall, at Wednesbury, in Staffordshire, for converting the same into a police station-house.

For the disposal of a long-established general and furnishing ironmongery business, at Wells next the sea, Norfolk, with stock and fixtures.

For the erection and completion of the lodges at level crossings on the Waterford and Kilkenny railway, between Kilkenny and Thomastown station—a length of about 11 miles.

For the letting of an old-established and thriving carpenters and builders' business, at Hammersmith; stock and good-will 150*l.*

For the disposal of blue clay, from a depth of from 50 to 100 feet, at Camden Town.

For the construction of sewers, drains, tanks, &c., at South Milton, near Gravesend.

For the erection of a public house at Hackney.

For the erection of the proposed Queen's College, at Galway.

For partnership in an extensive engineering and ironmongery business in town, comprising also the general business of a smith and a stone manufactory.

For additions to, and alterations of, the Farnham workhouse.

For alterations and additions at the Aldershot workhouse.

For the disposal of the steam-engine and machinery of a saw-mill.

For building sewers on the Cloth Workers' Company's Estate, Islington-fields, and in Bridle-lane, for a length of about 1,300 feet.

For building sewers in Nicholas-street, New North-road, Hoxton, to the extent of about 950 feet.

For building sewers in Worship-street, Shoreditch, for a length of about 650 feet.

For building sewers on the north side of Bedford-square, Bloomsbury, for a length of about 840 feet.

For the disposal of an ironmongery business at Lynn, Norfolk.

For all the works required in the erection of the Wesleyan Schools at Wednesbury.

For the disposal of the lease and good-will of a deceased person's extensive plumber's, painter's, carpenter's, builder's, and decorator's premises, in Great Portland-street.

For some good second-hand glass cases, with glazed doors, 10 feet by 6 feet, and also counter-cases, &c.

For sundry repairs and decorations to be done to the parish church of St. James's, Westminster.

For the letting of Bordesley Iron Works on lease with condensing engine, machinery, &c.

For the disposal of the lease and fixtures of an oil and colourman's business in London.

For the erection of a new theatre at Leamington.

For the sale of a retail ironmonger's business at Royal Leamington Spa.

For the disposal of an old-established builder's business near London.

For the sale of 20,000 to 80,000 blocks of round redwood sleepers.

For the erection of schools at Walton Churchyard (Liverpool).

For the disposal of a plumber's, painter's, and glazier's business, in a market town twenty to thirty miles from London.

For about 35,000 feet of new 3-inch best Yorkshire paving, and for paving with it a footpath at Mile-end-road.

For the purchase of the whole apparatus lately erected at the Coventry Union Workouse, for making gas.

For building sewers in various streets at Birmingham.

For 150 to 200 cast-iron pans, to hold from 150 to 220 gallons each—enamelled preferred.

For the disposal of a deceased ironmonger's business and stock at Pembroke.

For a supply of 80 fathoms of yellow deal ends and boards for the Islington workhouse.

For the disposal of a small tubular, high-pressure, eight-horse power steam-boiler.

For the construction of a well for the Union Workhouse, Old Windsor.

For the disposal of a three-horse power portable condensing engine, by Messrs. Bramah.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At Leith: a quantity of Honduras and Cuba mahogany, and Bahia and Rio rosewood.

At Greenock: a cargo of elm and pine timber, spruce deals, &c.

At Yarmouth: a cargo of white battens in small lots.

At or near Lochwinnoch, Scotland: about 120 lots of larch and Scots fir.

At the kitchen of the Hon. Soc. of Lincoln's-inn: all the surplus fixtures and fittings.

At Cambridge-street, Birmingham: a stock of mason's and other tools, with marble chimney-pieces, various sorts of marble in slabs and scantlings, and of stone and flags, &c.

At Smithfield market: in lots, the building materials and fittings up of 20 houses, comprising about 500,000 excellent stock bricks, several tons of lead, slates, tiles, &c.

At Deptford, near the railway station: the building materials of 50 houses.

At Belfast: a cargo of white pine and oak timber, spruce deals and lathwood,

TO CORRESPONDENTS.

"*S. B.*" (*Barnstaple*).—See advertisement on first page of BUILDER, No. 182.

"*W. C.*"—The date of the building at Malines should be given.

"*Subscriber from No. 1.*"—We will find an opportunity to give him some information on ice wells.

"*J. D.*"—We can scarcely reply without a specimen. The proposition seems good.

"*G. R.*"—The letter is destroyed.

"*R.*"—Next week.

"*T. W.*"—We will endeavour to call.

"*J. J.*"—Ditto.

"*H. F.*"—Will our correspondent favour us with a sight of the work?

"*Cementa.*"—A correspondent wishes to know a cement that will withstand the acid in beer. It is to be used in the joints of a stone tank. Roman cement has failed.

Received.—"R. S.," "Professor D.," "Hugh J. L.," "R. T. S.," "W. D.," "Messrs. B.," "A Traveller," Peschel's "Elements of Physics," translated by E. West, vols. ii. and iii. Longman & Co.

Erratum.—In Professor Willis's account of York Cathedral, p. 362, 2nd column, for "ache" read "apse."

ADVERTISEMENTS.

COLOURED PHOTOGRAPHIC PORTRAITS.

"We have recently inspected a number of portraits taken by Mr. BEARD, which are quite beautiful. The colour is uniform, and so transparent as not to affect the likeness in any degree."—*Builder.*

Mr. BEARD'S establishments are 85, King William-street, City (where application for license should be made), 34, Parliament-street, Westminster, and the Royal Polytechnic Institution, Regent-street.

HERRING'S PATENT SAFETY WINDOW.—All danger from cleaning or repairing windows at an end. No housekeeper should be ignorant of this invaluable invention. Simple, cheap, and effectual; will repay the cost every two years; add 5 to 10 per cent. to the value of houses. No one should buy or rent one without it. Now in full operation in most parts of the kingdom. Builders and the public can inspect its real merits, and have licenses, at the Patent Steam Bed-feather Factory, 14, Kings-gate-street, London.—JOHNSON and PASK, Makers.

CHAS. WM. WATERLOW,



Manufacturer of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square. Well-seasoned materials, superior workmanship, lowest prices. Upwards of 400 Doors and a large variety of Sashes and Frames always on Sale. Glazed goods securely packed for the country.



Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged on building.

GLASS for SKYLIGHTS and other purposes, British Sheet and Crown Glass in Squares or Crates, 10s. per cent. cheaper than any other house for cash; every quality and substance ready at a minute's notice.—R. COGAN, 48, Leicester-square, London.

SASHES primed, glazed, and sent to any part of London at 5d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.

FOREIGN SHEET. BRITISH SHEET.
BRITISH CROWN. PROPAGATING GLASSES.

Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Shew-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.

Dry and Good Colours of the best quality; Brushes Dryers, and every article used in the Trade Warranted.

VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.

For complete lists priced.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

BRITISH and FOREIGN SHEET GLASS for Horticultural purposes, &c., may be had at JAMES BROMLEY'S, 315, Oxford-street, London, at the following reduced prices:—

In crates, containing about 250 feet, of coarse 13 oz., at 4½d. per foot, or fourth quality, 5d. per foot; ditto, 16 oz. coarse, 5½d.; ditto, fourth quality, 6d.; or cut to any size not exceeding 40 inches long by 10 inches wide at 6½d. per foot extra. Also Microscopical Glass, French Shades, Plate and Crown Window Glass.—A discount to the Trade.

TO THE PLATE GLASS TRADE.

THE BIRMINGHAM PLATE AND CROWN GLASS COMPANY, "Registered," beg to inform the Trade and Public, that the extension of their Works at Smethwick, near Birmingham, being now completed, their Warehouse, 141, Fleet-street, London, is now open for the Sale of their Crystal Plate Glass, which will be found to stand unrivalled by that of any other manufactory. They are also in a position to supply Rough Plate of any substance for Skylights or Floorings on the shortest notice.—Orders addressed to B. MOSS, Company's Warehouse, 141, Fleet-street, London, will be promptly attended to.

WINDOW GLASS, LEAD, VARNISH, and COLOUR MANUFACTORY.—Crown Window Glass, in squares under two feet, 4½d. per foot; glazing, 5d. per foot; sheet glass, 4d. per foot; best white lead, 26s.; seconds, 24s.; thirds, 22s. per cwt.; linseed oil, 2s. 3d.; boiled oil, 2s. 6d.; turpentine, 3s. 9d.; fine oak varnish, 10s.; carriage, 12s.; copal, 14s.; body copal, 20s.; gold size, 10s.; paper varnish, 10s.; linseed oil putty, 7s. 6d. per cwt. per firkin; patent dryers, 42s.; black paint, 28s.; lead colour, 24s.; Oxford ochre, 42s. per cwt.; best pan water-closet, 34s. complete; 2-brass cocks, 2s. 8d. each. Milled sheet lead, patent pipe, beer-machines, tapping-cocks, and brushes and colour of every description. Thomas Millington being the manufacturer, can supply a much better article than most other houses. Address, THOMAS MILLINGTON, 87, Bishopsgate-street Without, London.—Established upwards of 90 years.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

STAINED GLASS, Manufactured in the style of the middle ages, for church windows and Gothic edifices, by JAMES ALEX. FORREST, 19, Old Haymarket, Liverpool. Designs given free, where the work is executed.

SHEET and CROWN GLASS for HORTICULTURAL PURPOSES, at the most moderate prices, may be obtained in any quantity, and at the shortest notice, at CLAUDET and HOUGHTON'S Wholesale and Retail Glass Warehouse, 89, High Holborn.

PATENT PLATE GLASS, Sheet and Crown Window Glass, Coloured and Painted Glass, wholesale and retail, at CLAUDET and HOUGHTON'S, Window Glass Warehouse, 89, High Holborn.—Lists of the reduced prices forwarded free on application.

TO CARPENTERS AND BUILDERS.

W. WARD, Glazier, 125, Union-street, Borough, is enabled to Prime and Glaze new Sashes with Crown Glass at 4½d. per foot; sent to any part of London at 5d. per foot.—For CASH ONLY.—All letters post-paid.

GLASS SHADES.—For the Preservation of CLOCKS, ALABASTER ORNAMENTS, WAX FLOWERS, or any other articles which may be spoiled by dust or flies, are since the repeal of the duty on glass sold at very reduced prices at CLAUDET and HOUGHTON'S Wholesale and Retail Glass Shade Warehouse, 89, High Holborn.

FOREIGN SHEET GLASS, &c.—C. JARVIS has a Large Stock of Foreign Sheet Glass in cases of all sizes, of the Stoutest kind, at very reduced prices. Also BRITISH SHEET GLASS of various substances. Small Glass, &c., on the Lowest Terms. For Ready Money only. At his Old Established WINDOW GLASS WAREHOUSE, 38, Great Castle-street, a few doors from Regent-street.

COLOURED GLASS for WINDOWS.—CLAUDET and HOUGHTON, 89, High Holborn, beg to notify that they are now able to supply COLOURED GLASS at prices so greatly reduced as to make it available for many purposes from which it has hitherto been excluded on account of its expense. They have always on hand the largest variety of colours which can be obtained, of which they invite an inspection.—Lists of prices may be had upon application.

CHEAP ROMAN CEMENT is sold in Casks that will not contain five bushels, even by some manufacturers of a very respectable name. Consumers should see that the standard size cask is 29 inches long by 17½ across the head, outside measure. Any workman with a rule in his pocket can ascertain this.

ROMAN CEMENT.

J. M. BLASHFIELD, successor to Wyatt, Parker, and Co., the original Patentees, begs leave to acquaint Architects and Builders, that they may be supplied with the genuine Roman Cement as heretofore, at Albion Wharf, Holland-street, Surrey, foot of Blackfriars'-bridge; and also Atkinson's Cement, Plaster of Paris, Tessellated Pavement, &c.

J. M. Blashfield especially calls the attention of Builders to the size of the cement casks, which are warranted to hold five bushels.

KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Millbank-street, Westminster.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
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JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, produceable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

The Builder.

No. CLXXXV.

SATURDAY, AUGUST 22, 1846.

ARCHITECTURAL and artistical matters have occupied the attention of the legislature and the public, during the last few days, to a much greater extent than usual. A foreigner reading the parliamentary reports during this period might really be led to suppose, that the House of Commons did sometimes give a thought to the Beautiful, were slightly interested in the architectural appearance of the metropolis, and had at last attained a notion, that they had other things to do besides striving to keep one party in or drive another party out.

Is Buckingham Palace a worthy, or even endurable habitation for the Queen of England? Or can it be made so? Have we not power to prevent one or two well-meaning but mistaken individuals from injuring one monument at Hyde Park corner by the sacrifice of a second? Shall Westminster Bridge, a ruinous nuisance, once the world's wonder! be taken down and rebuilt? If so, how obtain designs in order to secure a perfect structure? and where should it be placed, to give the best effect to the new Parliament Houses? Can Mr. Barry and Dr. Reid be reconciled, and the aforesaid Parliament Houses be finished at last? Lastly, shall the British Museum, and other national collections of works of fine art, be opened to the public on Sundays, during such hours as the pot-houses are open? Our *representatives* don't assert now that knowledge is dangerous to all but the rich; that the contemplation of works of fine art has no good effect; that to talk of educating the public through the eye is nonsense, or if practical is unnecessary, not to say dangerous (though *all* this they asserted once, and were willing to burn for their opinions). But they still doubt as to smoothing the way for the acquisition of this knowledge, or giving opportunities for this contemplation; and so they think it better, at present at all events, not to afford the worker, on his weekly holiday, the choice between the healthful excitement of an instructive ramble with his family amongst the noble works of past times, and the destructive excitement of the pot-house, with its separating influences, and its other baneful, fearfully baneful, attendants.

These, however, are the questions which have been, and are still, before them,—all affording us matter for comment—indeed, calling for our attention now and again. Mr. Blore's report on the insufficiency of accommodation in Buckingham Palace, shewing the dreadful shifts to which our royal mistress is reduced to find room for her Majesty's family, guests, and servants, would be a most amusing document if it were not true. Noise, bad smells, confined and ill-ventilated apartments, kitchen a nuisance, no room for balls, and withal imminent danger of fire, are set forth as some of the discomforts and risks amidst which the Queen has lived; and brought down, as might be expected, a nearly unanimous vote of 20,000*l.*, in part of the 150,000*l.* at which the whole cost of the alterations is estimated.

Now we do not find fault with this. If the Queen is not properly lodged, she should be. The London royal residences are a disgrace to the nation. But what we would urge is, that no more public money should be spent, in addition to the large amount already wasted on this site, without the fullest assurance of a satisfactory result. The alterations proposed, include the building of a new east front to the palace; clearing out and re-arranging rooms in the south wing; new kitchens and other offices with ball-room over; decorations and painting; and *taking down the marble arch:* and we do hope that before these be attempted, some means will be taken to satisfy the public that they will not be called on twenty years hence, to pay for removing what they are now called on in the dark to pay for putting up.

The marble arch is a case in point. The erection of this tasteless and unsatisfactory structure, of a material quite unsuited for exposure to our atmosphere, cost an enormous sum of money, nearly as much, if we remember rightly, as was voted for the erection of the National Gallery, yet it is now to come down, and will not be grieved for by the judicious.*

George IV. and Mr. Nash together, concocted to their own satisfaction the present palace,—a precious example of the would-be magnificent: without beauty, grace, or dignity. With such a warning before them, surely the public may fairly ask to be informed what the building will be like when the 120,000*l.* are spent, and be enabled themselves to judge whether or not it will then efficiently answer the purpose. A letter from a correspondent on this same subject will be found on another page.

In the matter of the "bronze horse," Lord Morpeth, let it be said with all respect, has disappointed us. The colossal figure of the Duke of Wellington is to be placed, by the force of Woolwich dock-yard, on the top of the archway for three weeks, and then if it be not approved of *by the Government*, it is to be taken down, and placed on the ground again. If this be not a mere blind, it is the most nonsensical arrangement we ever heard of; and, moreover, is not in accordance with the pledge made to the House when the works were stopped. The effect of the figure all can estimate but those who have raised an image in their own minds, which they mistake for the truth, and it needs no such costly experiment as is about to be tried, to prove that the result cannot be satisfactory. Once up, however, it is to be feared there will be little chance of relieving the arch of its incubus: to recal "all the Queen's horses and all the Queen's men," to put humpty-dumpty on the ground again, will be a task of no ordinary difficulty; and, like the old man of the mountain, in the Arabian tales, it will stick tight to its victim, and ride him to death. We bide the event.

The report of the committee appointed to consider the present state of Westminster-bridge, offers several points of interest, to which we must refer on another occasion. The only question in reality unsettled, appears to be the design for the new structure, and the best mode of obtaining it. The committee recognize these two principles, firstly, "That a suspension bridge is inexpedient, and (secondly) that irrespective of expense, a granite bridge is expedient." They took Professor Hosking's opinion as to a mode of securing the first talents in the production of the designs, and as this is a matter which immediately presses, we give the greater part of Mr. Hosking's statement in this respect.

"The essential matters should be defined by the proper authorities, in the first instance, and before attempts are made to obtain designs. A specification of what is required should then be made; and this should be more or less particular, as it may be determined either to fix a sum of money as the limit of expense, or, on the other hand, to receive designs with reference to the object, and without limiting the expense. Such a specification should be put into the hands of a reasonable number of competent practitioners, with a request that they would each make a design for the contemplated work in accordance with the stated conditions. All the designs so obtained may be examined and investigated with the advantage of the presence of their authors, to explain what they may have intended, and to correct what may be misunderstood. In this manner the best energies of competent men would be applied to the work, and it is probable that the best results would follow. . . . A general competition would end in general disappointment. . . as none of the persons who would be recognized as most competent would send designs without being specially applied to for them. . . . At the time London-bridge was in contemplation, advertisements were issued for designs, with offers of some three or four premiums. Drawings were sent accordingly by seventy or eighty persons, and the premiums were awarded to the three or four which were said to be the best designs, but not one of them was used; they were immediately thrown away, and a design was taken up which had not been in the competition; but which, indeed, had been in the hands of the Bridge Committee beforehand, and the author of which was already dead. The late Mr. Rennie's design was executed. In order to avoid this apparent invidiousness and unfairness, and to secure the real benefits of a competition among competent men, the selection of the architects and engineers should be limited, and each should receive a certain remuneration for the work which he might send in. No man can afford to work for nothing. Every design asked for should be paid for; and no one ought to be asked, either directly or indirectly, to make a design unless it be intended to pay him for it. If this system were adopted, the property in the designs so sent in would belong thereafter to the authority by the directions of which they had been sent in, so that the good parts of one design might be accommodated to the good parts of other designs, and the combined result of the whole would be something superior to that of any one individual design. This is one of the advantages from requiring designs from persons of known ability, and paying for them, so that all the designs obtained may be turned to account. It is the parties seeking designs, and who desire to derive advantage from the application of many minds to the same subject, that are to be benefited; and they who seek a benefit must be contented to pay for it. It can never happen but that in several designs for the same thing there will be some points or parts in some of the designs, other than that which may be generally the best, better than the same points in the best design. When all are paid for, all may be used; and the best design in a "concurrence" may be greatly improved by the incorporation of the excellencies of the others."

We select this one point the more particularly because we hear whispers that plans are already commissioned, and are most anxious that the design should be architecturally as well as constructively efficient; too little attention in this point of view having been heretofore paid to our bridges.

The sum named as the probable cost of the bridge is 360,000*l.*

CHICHESTER CATHEDRAL.—It is with much pleasure we are able to state that the effigy and table tomb of Richard, Bishop of Chichester, who died 1252, which was in a sad state of mutilation, has, after some months of labour, been restored by Mr. E. Richardson, the sculptor, and replaced in its late position under the shrine, in the south transept of the cathedral; where, with much pomp and ceremony, Edward I. with Queen Eleanor and the court, witnessed the translation of the bishop's remains and the setting up of the present tomb, in the summer of 1276. A rose window has been placed in the east gable of the cathedral

* Whether or not it will be re-erected cannot be said; it is to be [illegible] with great alteration.

THE ROMAN, ROMANESQUE AND GOTHIC ARCHITECTURE OF ITALY.*

It would be interesting to consider the proper meaning, and use of the term, Romanesque. By many, who have not examined the history of art with more than ordinary attention, it is applied generally to all styles, which grew obviously out of that of the Roman empire. Particularly, it is used either for the debased Roman of the Christian basilicas, or the style of Lombardy and the Rhenish churches, with which it is common to associate, but perhaps erroneously, the early architecture of France, and that of the Normans in various parts of Europe. The names Lombard and Byzantine have equally required an accurate definition. The writer in the *Quarterly Review*,† rightly ascribes a higher merit to the "style of the Roman Christian basilica" than would be given by the name Romanesque; it is nearer allied to the Roman style of the empire. Indeed, the principal alteration in the Christian basilicas consisted in the use of arches, springing directly from columns; though this practice was not universal; whilst the omission of the entablature had examples long before the time of Diocletian, judging only from the archivolt springing from a pilaster, of which the arch of Hadrian at Athens is an example. In fact, it is almost surprising, how numerous were those features, usually considered peculiar to later styles, which found precedent, at some time or other, in the architecture of the empire. The diminutive columns of the churches of Lombardy, and the Pisan cathedral, have their prototypes at Bäalbec and Spalatro, and were actually taken from Roman buildings, as there is the best reason to suppose. The arches without archivolts, which were considered by Mr. Knight, to prove the late origin of a particular building, are found in the theatre of Marcellus, and the coupled columns at Palmyra.

The writer, above referred to, has not entered into the explanation of the term Romanesque, though he would appear to apply it to all the styles in question, exclusive of that of the Christian basilica. "The Lombard style" may define that variety which prevailed in Lombardy, and with which the style of the Rhenish country is, in fact, identical,—taking care, however, to separate it from a similar kind of architecture in France. The reviewer and Mr. Knight do, however, differ in one important respect. Whilst the latter describes the Lombard style, as existing in Italy previous to the dynasty of Charlemagne, and adduces evidence tending to shew, that through that emperor it became the style of Aix-la-Chapelle, and the Rhine; the former gives evidence, also important, that its course was in an opposite direction. The cathedral of San Michele, at Pavia, which city was the seat of Government both during the Lombard rule, and that of the later dynasty, is placed by Muratori in the 7th, or 8th century, which would warrant the conclusion respecting many examples, were the date of the cathedral unquestioned. But, as to this, even the 11th century is sometimes mentioned, whilst the reviewer finds the prototype of the style in the Porta Nigra, at Treves, a building, however, respecting the date of which there is also some difficulty. According to the latter writer, the church of San Michele did not exist during the occupation of Pavia by the Lombards. The bell-tower was probably of tramontane birth, but the opinion that the architecture of Lombardy was of "Teutonic" *origin* does, we think, require further proof.

The style of the basilica has been appropriately termed "a *transmission*, by usage and practice of Roman art;" the Romanesque style, "an *imitation* by barbarous hands." The former style was not without influence, even to the time of the revival, whilst at Ravenna, Venice, and Florence, complete churches were erected, although the local style was at each time entirely distinct. In Ravenna, this is most remarkable. The church of San Vitale, and that of Sant' Apollinare ad Classem, were both erected by Julianus, the minister of the Greek emperor, Justinian; yet whilst the former church is Byzantine, the latter has the style of the Christian basilica. This singularity would, however, be accounted for, by supposing the one building to have been devoted to the service of the Greek, and the other to that of the Latin church; for there is no doubt that the schism between the two churches created a feeling of acrimony so great, that whatever was practised by one was studiously avoided by the other. The basilica style was constantly exerting a similar influence, either, as in this case, by its complete adoption, or by reflection and influence upon the style, which had originally grown out of it, of which Pisa cathedral forms an instance.

The main features of the early architecture of the Lombards—which varied little from the style which they found in the country—were in additional decoration, as in the slender compound piers or buttresses, carried from the ground to the eaves, up the fronts of churches, in the small arcades, which follow the shape of the gable or crown the apse, in the multiplication of the sinkings and mouldings of portals, in the crowd of imagery with which these mouldings are enriched, and in the neglect of the proportions of pillars. In the interiors of churches, compound piers were formed instead of single pillars; the capitals were dissimilar, but had grotesque images in nearly all cases. The style which had existed previously was that displayed in the "Palace of Theodoric," at Ravenna. Small pillars projected from the walls, sometimes supported on brackets, and one was occasionally employed as a division for two openings, as in many Saxon and Norman examples;—an arched door was also, for the first time, used. But, the reviewer doubts whether this building be of the age usually claimed for it—about 500—and gives the difference in style between the *palace* and the "authentic sepulchre," as a reason for his opinion. It must be allowed, that there is great difference of style; but supposing the tomb to be "authentic," the palace may still be of the date generally given to it. During several centuries in Italy, the ordinary rules for physiognomy of style are quite inapplicable, of which there are instances enough at Florence, and of which we have just seen a remarkable instance in this very city of Ravenna. In the desire to prove the "Teutonic" origin of the Romanesque style, the reviewer has not given sufficient importance to the influence of Roman architecture in the country, in which were not only its finest specimens, and precedents for the use of small columns in the Romanesque manner, but also the very materials, shaped and finished, out of which the Romanesque style came to life, and from which, as in the case of Pisa Cathedral, its examples were constructed.

In the 11th and 12th centuries, in Italy, a great number of churches were built, the Lombard Romanesque style being that generally adopted. In Tuscany, however, the return to classical principles, observable in the churches of San Miniato and Degli Apostoli, seems to have had sufficient influence over the architect of Pisa cathedral to make him eschew many of the errors of the Lombard style, and impart to the original Romanesque much of classical feeling and elegance. We have already referred to this style, of which the churches of Pisa in their original state were striking examples; and the conflicting evidence respecting the cathedral has been incidentally alluded to. It would require more space than we are at present allowed, to consider all the bearings of the question, one on which the best authorities are so much at variance. In architectural, as well as in other investigations, we frequently find, that the desire of affording a short answer to an inquiry tends to the omission of much important evidence. In England, we all recollect, how at one time a Gothic building was classed either as "Early English," "Decorated," or "Perpendicular;" it was considered to belong to only one of these styles. But it was discovered that architecture had a gradual progression—that sudden alterations were the exceptions in its history; and we then spoke of "styles of transition." Still there was some misconception, for as we may see by the reports of Professor Willis's lectures in former numbers of THE BUILDER, even in a window of which every part had the same date, all the details are not necessarily to be referred to the same style. Thus, in the Cathedral of Pisa, in seeking the answer, Italian or Greek, we possibly forget that both styles may have had influence.

The plan of a building, when its original state can be discovered, affords the best grounds for a definite answer; and in the Pisan structure we should be warranted in ascribing the chief influence to Italy, because the plan is not Greek, but Italian. But, the architect may have been directed to avoid the Greek plan, and therefore the present plan still does not prove that he was an Italian. But, the altar towards the east may have been derived from the Byzantine practice, as it is not clear when the original method in Italy was changed.* But, whatever his nation, he must have been one of the most able architects of his time; we find in his work all the peculiarities of style and plan, which were really valuable, adopted and improved upon, the license of the early Lombard school being rejected.—The cupola had been adopted by the Lombards from the buildings at Ravenna.

The love of arched and curved forms, amongst the architects of that school, has been the main reason with many for classing the cathedral as Byzantine; but there is every reason to suppose that the use of arcades, as here found, did not necessarily come from Greece. There were, indeed, many Greek artists in Italy about the time of the building, though they were rather operators than designers, but, it had been a reason for supposing the mosaics of the cathedral would prove its Greek origin, either from their execution by Byzantine artists, or, as Messrs. Cresy and Taylor ingeniously suggest, from an acquaintance with the polychromatic decoration of Athenian temples. But, the use of coloured marbles must have been familiar to any architect, who had examined Roman buildings, or perhaps even remains of the baths of Hadrian, which would be found on the site of the cathedral; and the Byzantine mosaic was mostly of small tesseræ. In the cathedral, the coloured decorations, not in courses, are slabs of marble, bedded in cement, and may have been added to the original building, as in some other instances, accounts of which may be met with.

The late Mr. Hope, and Mr. Gally Knight have so completely described the characteristics of Lombard architecture, that we need add little to what we have already said. But the former writer, instead of confining the name to that variety, which prevailed in Lombardy and the Rhine country, has made it synonymous with the general term "Romanesque." Under the head "Lombard Architecture," he has included not only what we have described as Lombard, but Norman examples, with many others in France and England. The constant progression of architecture renders any system of nomenclature inadequate to that, which it is designed—to supplant, description, or representation; and what we have spoken of as Lombard, we might readily shew, contained within itself, during its long continuance in Italy, modifications similar to those of Gothic architecture, in other countries. The names affixed to styles of architecture, originate, either from the nations who have practised them, or, from an attempt to express their chief characteristics. "Roman Architecture" was applied in the manner first mentioned, but has become a recognised term for a particular character of design. "Romanesque," in the same, way is best used as a general appellation for all styles, which display their Roman *origin*. We exclude the term from the style of the Christian basilica, because we contend that it is not Romanesque, but *Roman*,—later perhaps than Constantine, yet produced whilst the empire existed, and differing not more from the style, which prevailed at Bäalbec and Palmyra, than the architecture of that epoch did from the almost Grecian style of the Pantheon. The terms "Christian" and "Pagan" will sufficiently distinguish the style of the ecclesiastic basilica, and that of the judicial basilica and the temple. The term "Lombard" is applied to the style of Lombardy and the Rhine, country, not only because they were united under the dynasty of Charlemagne, and the connection subsisted long subsequently, but because there are marked characteristics, distinguishing that style from other varieties of Romanesque, as we have shewn in the case of Pisa Cathedral. The Romanesque, or its Lombard variety, remained long subsequent to the introduction of Gothic architecture. Lucca Cathe-

* See the "Architecture of Pisa," page 375.

† *Quarterly Review*, March 1845, "Gally Knight, and Bunsen, on Ecclesiastical Architecture," noticed at length in THE BUILDER, Vol. III.

* The author of the "Theatrum Basilicæ Pisanæ" has some remarks on the position—eastward, or westward—of altars.

dral was erected in a style of great magnificence, the façade following the general arrangement of that at Pisa; the style intermingled with the Gothic, and is discoverable down to the time of Bramante. Few churches are there, which are entirely Gothic, of which the origin is not directly traceable, as at Vercelli and Milan, to foreign influence. The vertical principle was scarcely reached, and the horizontal never discarded. The architects seem to have been unwilling parties to the innovation, or consoled themselves by a devotion to the sister art of sculpture, which Gothic architecture in Italy strikingly exemplifies. Indeed, the Romanesque style, and that of the Revival, are often confounded, because the one is in fact the continuance of the other. When Brunelleschi strove to supplant the Gothic style—EXOTIC, though then, Rome excepted, paramount in Italy—he recurred, not to the style of Lombardy, but to the cœval Roman architecture of the church degli Apostoli, at Florence, and to the ancient remains, and the existing practice of that, which had thus proudly asserted itself "the eternal city." Succeeding masters added new inventions, and thus "Italian architecture" became a style, whose wonderful variety, and capability of modification, we are too apt in the ardour of archæological investigation to forget. E. H.

NEW WAREHOUSE IN THE LONDON DOCKS.

A NEW warehouse for general produce is now being built on the west quay, under the direction of Mr. W. J. Nesham, the resident engineer, and deserves a note for its size and the soundness of its construction. The length is 234 feet 6 in., and the width 189 feet 3 in., so that it covers more than an acre of ground. The whole space is vaulted underneath, and is divided into five compartments by walls, having openings filled by double wrought-iron doors. It is five stories high, each story being 11 feet from floor to floor. The capacity is, for general goods, 14,000 tons, and there is room in the vaults for 4,300 butts of wine, if piled two high, if three high, one quarter more. The centre is lighted from a well-hole 68 feet by 35 feet. This is roofed over immediately above the ground story, having a continuous skylight, and is vaulted underneath. The windows opening into the well-hole have iron hutters.

The bottom of the concrete on which the walls and columns stand is from 17 to 18 feet below the vault floor, and is laid in trenches, to the depth in some places of 11 or 12 feet.* The walls are five bricks thick at basement, and gradually diminish to two bricks at top floor, faced with malim paviors, and strengthened by inside piers, projecting 9 and 14 in., which take the ends of girders.

In each story is to be constructed, in cement, a belt of brickwork, 12 in. high, having eight tiers of $1\frac{1}{2}$ by $\frac{1}{16}$ in. wrought-iron hoop bond, well lapped at the joints, and at the level of each floor, iron bond 4 by $\frac{1}{4}$ in. is to be built in cement; the joists connected with this by wrought-iron straps 2 feet 6 in. long by 2 in. by $\frac{1}{2}$ in.

The arches in vaults are "waggon-headed," and spring from cast-iron girders. They are about 18 feet span, 3 feet 6 in. rise, and formed with $1\frac{1}{2}$ brick in cement; in every alternate bay are $1\frac{1}{4}$ in. wrought-iron tension bolts, passing through the arches at half their height, and screwed to the girders.

The columns which support the different floors are of cast-iron, hollow, and are placed 11 feet 10 inches apart longitudinally, and 18 feet apart transversely; the diameter in the basement is 15 inches, and in the top floor 7 inches.

The iron girders in basement are laid longitudinally with the building, and are fish-backed, and of an inverted Y shape; the upper portion is 2 inches thick, and the legs $1\frac{1}{2}$ inch thick, jointed over every column; the depth at ends is 2 feet, and in the centre 2 feet 3 inches. The floors have wood girders laid transversly with the building; these are in two flitches 14 inches by 12 inches each, and are supported by wrought-iron festoon bars in the manner of a truss, secured at the ends to columns.

The roofs are about 36 feet span, and have a quarter pitch. The principal timbers are 9 inches by $4\frac{1}{2}$ inches; purlins 7 inches by $4\frac{1}{2}$ inches; common rafters 4 inches by 2 inches; and struts $4\frac{1}{2}$ inches by 3 inches. The framing is tied with wrought-iron queen bolts having cast-iron heads, plates, and nuts; the principal timbers have cast-iron shoes and abutment plates.

The ground story will be paved with $2\frac{1}{2}$-inch Rockhill stone in large pieces, and the joints sawn, laid on concrete over the arches and bedded in mortar.

The amount of the contract, as entered into by Mr. William Cubitt, of Grays-Inn-road, is 81,000*l.*; the time allotted for its completion, is twelve months from the date of commencement.

It is worthy of remark, in these competing times, that, duly appreciating the integrity and skill of their builder, Mr. William Cubitt, the directors and their architect were contented to receive his tender alone, and upon that to give him the execution of the works. We applaud them for such a course, and are glad of the opportunity to express our opinion of Mr. William Cubitt's worth.*

* The concrete is formed with one part of ground stone-lime and six of clean Thames ballast.

* In Mr. Nesham's office we examined with much interest, a model of the docks and surrounding neighbourhood, made, in spare time, to a scale of $1\frac{1}{2}$ inch to 100 feet, by Mr. F. Barnes, Mr. Nesham's assistant. Those who thus apply themselves, enter warmly into the business entrusted to them, and so finding their duty their pleasure, deserve commendation.

CIRENCESTER CHURCH AND TOWN-HALL.

THE length to which the notice of the proceedings of the British Archæological Association extended, prevented us from dwelling at the time on the architectural peculiarities of the edifices visited by them at Cirencester and Tewkesbury. A few words now will not be out of place, and may be useful.

The parish church of Cirencester is an extremely interesting building, and deserves to be more fully illustrated than it has yet been. The main body of the church is of the 15th century (perpendicular), but there are parts at the east end, particularly on the south side, which belong to the 13th. The aisles of the nave and chancel are exceedingly lofty, and the proportions of the columns and arches, which separate them, very beautiful. The wood roofs, of which there are several varieties, are extremely fine: that in the Trinity Chapel (north side the nave) is peculiarly interesting, and may be studied with advantage. The carving in this, especially at the east end of it, is excellent. In the body of the church there is also some extremely good carving in screens and elsewhere. The wood work of some of the roofs is in a very bad state, and should be attended to in time.

The stone corbels which receive the wood roofs, consisting generally of angels holding shields, are very large: one of them commemorates Alice Avening, who contributed largely towards the erection of the church, and died in 1501. The tower of the church is remarkable for its beauty.

The most striking feature of this church is the noble south porch, fronting the market place, a valuable example of civil architecture of the late perpendicular period. The front is 38 feet wide and above 50 feet high to the top of the parapet. It is divided into three irregular compartments by buttresses (terminating with pinnacles), on the face of which are twelve canopied niches once filled with figures of the Apostles. The whole face of the building, where not occupied by doors and bay windows to light the apartment over the porch, is covered with panelling and enriched with carving.

Within the porch, on the east side, is a stone table projecting from the wall, the purpose of which is obscure.

A few years ago, the whole of the front was taken down and then replaced stone by stone, apparently with good discretion. Mr. P. F. Robinson, the architect, was in some way concerned, we believe, in this restoration; but the account given on the spot is, that it was effected by a mason of the town without professional assistance.

The upper part of the building, over the entrance to the church, is the town hall, and is used for parish meetings.

Mr. Mullings, of Cirencester, to whom the association were much indebted for aiding them in their examination of the town, forwarded to one of the meetings a translation of an extract from the vestry book of the parish, being a permission from Bishop Nicholson to the rector and churchwardens to "dispose of the building aforesaid to such public uses as might be approved of by the bishop," provided that the profits thereof be applied to the restoration of the "said famous parish structure." This is dated August 23, 1671, and the following memorandum is added:—"Upon this grant of my Lord Bishop Nicholson, by the fitting up of leases, this place was repaired and fitted for a town hall, wherein the general sessions for the peace for this county was held this year, April 16th, 1672."

The grant commences thus:—"William, by divine permission, Bishop of Gloucester, &c. Whereas a noble frontispiece hath anciently been annexed to the parish church of Cirencester, in the diocese of Gloucester, on the south side of the said church, piously founded by the munificence of Alice Avening, commonly called the *Vice*, instead of *Device* (*quasi* device), because, as is reported, the said frontispiece is so contrived that only one window of the church being darkened thereby, it wonderfully adorns that magnificent structure, and appearing with great splendour before the ancient porch or entrance into the said church, it doth extend itself toward the market place in a stately pile."

It seems to us that the derivation here found for the name by which the porch was then known, the Vice, can scarcely be correct. It was more probably an abbreviation of *Parvise*, or *Pervyse*, an old word which signified both the porch, and the court in front of a church or other large structure.

In "A description of the form and manner, how and by what orders and customs the state of the fellowship of the middle temple is maintained," written in the reign of Henry VIII., a complaint is made that the learners have no place to walk in and confer their learnings but the church, "which place all the terme-times hath in it no more quietnesse than the *pervyse of Paul's* (cathedral), by occasion of the confluence and concourse of such as are suters in the law."

The room over a porch was sometimes called a parvise; and, it would seem, was occasionally used as a school-room or a law-court. Chaucer speaks of—

> "A sargeant-at-law ware and wise,
> That had often been at the *parvyse*."

Parvis is current French for a court before a church porch; and if we remember rightly, there is written on the outside of the west end of the cathedral church of Paris,—*Le Parvis de Notre Dame.*

In Cirencester there are many other objects of interest besides the church, chiefly relating to that early time when the Romans had dominion there, and called it *Corinium;* a fine Corinthian capital, in Miss Master's grounds, with figures in the foliage, a tesselated pavement at Barton Farm, of beautiful workmanship, and an extensive Roman amphitheatre. The column to which the capital belonged must have been from thirty to forty feet high—shewing, with the pavements found in the neighbourhood, and other *vestigia*, the former importance of the place, the degree of excellence achieved there in building operations, and the extent to which they were carried.

Enough, however, for the present, of Cirencester; and in our next we will say a few words on

TEWKESBURY.

LOODIANAH BARRACKS.—Much interest is still excited by the question how it came to pass that barracks built for British soldiers should be blown down, while every other house—those of officers included—stood the storm which sacrificed so many of the "common Europeans," as our Indian nabobs call many of their own fellow-countrymen. It seems that a large fortune has been amassed (and if thus no wonder) by an ignorant half-caste, to whose architectural acquirements the executive engineer is said to have trusted, in the erection of these barracks, and who was afterwards turned out of employment for roguery.

TO MAKE TRACING PAPER.—Mix six parts (by weight) of spirits of turpentine, one of resin, and one of boiled nut oil, and lay on with a brush or sponge. We find this produces a tracing paper that leaves nothing to be desired.—*Mechanics' Magazine.*

EXHIBITION OF WORKS PURCHASED BY THE ART-UNION OF LONDON.

The number of works of art gathered together in the Suffolk-street Gallery on the present occasion is 264, and includes the selected model for the 500*l.* premium ("The Dancing Girl reposing," by Marshall, A.R.A.), and "The First Whisper of Love," executed in marble by the same artist, for Sir Erskine Perry, a prize-holder of last year — both charming works. David Roberts, R.A., Danby, A.R.A., Witherington, R.A., A. Cooper, R.A., Lee, R.A., Ward, R.A., Hurlstone, Severn, F. Stone, Pyne, J. Allen, Bright, Bentley, Mrs. McIan, Woolmer, Tennant, Goodall, T. F. Marshall, Herring, Anthony, Topham, Lauder, Elmore, Clint, F. R. Pickersgill, Wingfield, Wilson, Clater, Linnell, Fraser, and in the water-colour room, H. Warren, Gastineau, Copley Fielding, Edward Corbould, Prout, Oakley, Callow, De Wint, Robins, Stephanoff, Jenkins, Absolon, and many others equally well known, have pictures in the collection. It is an exceedingly interesting exhibition; and, when it is considered how limited after all the range for selection is, through the prior arrangements of the now greatly increased number of private purchasers,—speaks very satisfactorily for the intelligence of the prizeholders. Many of the pictures are now *seen* for the first time, although previously exhibited elsewhere, and give striking evidence of the importance to an artist, of proper hanging.

Of the pictures here exhibited, it is not too much to say, three-fourths would have remained unsold but for the Art-Union of London, a fact more important still to artists, although not all-important in the eyes of those who view the important operations of the society rightly, and see that its great purpose is to lead the public to love art and study it, a truth, which some members of Parliament who spoke against the bill (now we are happy to say, the Act) for legalizing Art-Unions, seemed strangely ignorant of. Increase the capacity of the judges, elevate the standard of judgment, make the artists' public larger, and his profession more stable and honourable, and art can scarcely fail to be advanced.

We look on the free exhibition provided annually for the public by the Art-Unions, as a most important feature in the scheme, calculated to produce great results. For the next fortnight, persons will be admitted by tickets, easily obtainable from any member (more than a hundred thousand have been issued), and between the 6th and 12th of September all who apply will be admitted without restriction.

The Duke of Cambridge was present at the private view on Saturday, and was attended round the rooms by Mr. Lewis Pocock. His Royal Highness continues to manifest the warmest interest in the progress of the society.

We may take this opportunity to mention, that the committee, with the view of expressing the good opinion they entertain of a model exhibited in their late sculpture competition under the title of "Innocence," and found to be the production of Mr. Foley, have awarded to that gentleman the sum of 100*l.*, on condition of receiving from him a reduced copy, to be executed in porcelain for distribution.

Another of the models, "Iris Ascending," by Mr. Kirk, is to be reduced for the purpose of casting in bronze.

CONSTRUCTION OF RAILWAYS.

THE PERMANENT WAY.

Sir,—It appears now to be the general opinion, that one of the greatest obstacles to the safe increase of speed on railways does not arise from the construction, power, or capability of speed of the locomotive engine, but from the manifest imperfection of the permanent way: the resistance of the atmosphere limits the aspiring genius of the engineer.

The numerous accidents that have occurred on railways, which have proved so fatal in their nature, have been too often attributed to some defect in the engine or the carriages, whereas in all probability the cause has arisen from a badly constructed road.

Many of the accidents might doubtless have been avoided if a better system of supervision had been adopted, and inspectors appointed at frequent intervals, (not by the contractors for the permanent way, whose object is to get work done at as cheap a rate as possible,) but by some more responsible party, whose sole duty should be to examine every part of the line of railway *daily*, and cause to be remedied immediately any casualty as soon as possible after it appears.

Engineers are at great pains in setting out railway curves with mathematical accuracy, (and even learned and abstruse works have been published on the subject,) and when those curves are so set out, the roadways are composed of a series of straight bars or rails forming a series of tangents to those curves, thereby creating numerous rigid points that must add considerably to the friction, and consequently the wear and tear of the engine, carriages, and permanent way. On curves of small radius this is an evil of considerable magnitude, and should be remedied by having the railway bars formed or set accurately to the curve, as laid down for the line of railway.

It is evident the more perfect the road is laid in all its parts, the less will be the liability to accident; and no expense or trouble ought to be spared in rendering the permanent way of a railway the most perfect possible.

Accidents sometimes occur from bad joints, or in consequence of one rail projecting slightly before the other at the joint; rails should be truly fitted where they butt together, and made perfectly flush with each other; and to preserve them in that position, I would recommend them to be dovetailed into each other, at the same time making a small allowance for the expansion and contraction of the metal longitudinally.

It has been stated, that accidents have occurred in consequence of the ends of rails working out of the joint chairs; but as this could not occur where the system of continuous bearing is adopted, I presume it has been where transverse sleepers or blocks are used; and the simple remedy I would recommend of driving short piles on each side of the joint sleeper or block would, I think, prove effectual in such cases; or the end of each rail might be keyed to the joint chair, and the hole in the rail slotted (made oblong) slightly, so as to allow it to expand or contract with the changes of the atmosphere, and without disturbing the roadway, which would answer a similar purpose.

I am, Sir, &c., B. Baylis.

Merthyr Tydfil, Aug. 10, 1846.

FOREIGN ARCHITECTURAL AND COLLATERAL INTELLIGENCE.

Origin of Architecture.—The celebrated German architectural writer, J. Andrew *Romberg*, in a very interesting work commenced some time ago,* makes the following remarks on the above subject:—"The question whether stone or wood structures be more ancient, and whether the building endeavours of man *originated* in caverns—is, after all, an idle one, as it was the locality and nature of the country which, in all cases, *determined* its architecture. When only wood was at hand, it certainly served as the primæval material of construction. When stone was to be met with, it was combined into walls, first for mere protection from weather, &c. Where, like in the steppes and saharas of Asia and Africa, neither wood nor stone was to be found, tents of beasts' skins served for the dwellings and temples of man, or they dug out holes in the soil to live in. It is certain, moreover, that the most simple and easiest construction is always the *oldest*, as the more complicated pre-supposes great practice and many helps of mechanics and art. Mr. Romberg, therefore, contends throughout his work for the opinion, that the huge Indian cave-temples are *not* the oldest, but of a later date than the pagodas built in the open country. For excavating caves and caverns into such huge spaces, great mechanical power, many complicated calculations and computations, and much refinement of art were required; far more, indeed, than for the piling up those pyramid-shaped structures of the plains. The latter, therefore, were the first constructed, which Mr. R. also finds confirmed by other collateral testimony. Mr. Romberg's work treats first of the pagoda-temples, and describes every one of any consequence. Then follow the cavern-temples. The chapter on Indian cities and fortresses is very interesting, shewing that that country possessed larger and finer cities before our era, destroyed by the Mahomedan invaders. This part of the work concludes with a theoretical disquisition on Indian styles of architecture, in which its many *orders* are detailed, partly after *original* Indian sources, which have not yet been generally resorted to by architectural authors.

* *Romberg* und *Steger*' Geschichte der Baukunst—History of Architecture from the earliest period up to the present time. Vol. I. Introduction and History of Indian Architecture. Leipzig, 1844. fol.

The Royal China and Painted Glass Manufactories of Munich.—Those two important *State* establishments of art which had been hitherto combined in one building—probably for no other reason than that of both requiring the same *element*, have now been divided; and that for glass painting has been removed to an especial building in Louisa-street, behind the Glyptothek, which has been executed by Architect Professor Voit, advised by the director of the establishment, Mr. de Hess, and Inspector Ainmüller. Of the forty-two larger and smaller spaces, the greater portion is appropriated to the execution of the glass paintings, the dwelling of the director, &c. There is a chemical laboratory for the preparing of the colours, a great *furnace-hall*, with a number of stoves, in which the paintings are fired, and many rooms for their successive preparation. The chief space, however, is the large exhibition, or rather *viewing-hall*, in which, at a window, forty-two feet high and twenty feet broad, the largest glass paintings are placed in their single parts, and then, as a whole. For judging and arranging their final grand effect, three galleries, placed around at different heights, afford a view of these huge pieces from different angles of vision; and there is a machine in the room, by which a scaffolding is moved in every direction, so that the artists and workmen can approach any portion of the huge glass paintings with perfect ease. Great progress has been made in this establishment even since the first astonishingly successful trials for Regensburg, and that so much admired cycle of pictures executed for the church of St. Mary in the *Au*; and the adhering to a perfectly *stern* style, as well as the choice variety and solidity of the colours, have raised this establishment above all others of a similar kind. Besides the huge windows ordered by the King of Bavaria for the Dome of Cologne, there are now making five large ones for the cathedral of Agram, besides others for St. Petersburg, England, &c.; all which give honourable employment to a number of artists and workmen, and trumpet forth the fame of the art-school of the Bavarian capital.

Restoration of the Old City Hall of Aix-la-Chapelle.—This hall, of great antiquity, possesses at its west end two recesses, which, separated by lattice work, served for the reception of the orchestra, servants, &c. These spaces will now be united to the whole, and, adorned by frescoes, will form a most striking and beautiful town-hall. The statues of German emperors, which encumbered once this place, will not be again replaced by the Prussian Commission of Arts.

Architect Osten, from Hanover—who had sojourned for a considerable time at Rome, has returned home to execute several important structures, and to publish a work on Longabardic architecture in North Italy.

Monument to the ancient Architect, John Hülz.—The sculptor, Andrew Friedrich, at Strasburg, who had previously executed at his own expense a monument to Erwin, the builder of the Strasburg minster, at the native place of the latter, Steinbach, near Baden, has made to the corporation of Cologne the offer to execute a statue of John Hülz, a native of that city, who had completed the top of the Strasburg Cathedral. It is to be made of Kronthal sandstone, and placed in St. Andrew's Church, near the dome.

The Mineral riches of the Isthmus of Panama.—At the present moment, when either the cutting of a canal through the American Isthmus, or the making of a railway, or both, are nigh to be accomplished, a report on the mineral riches of that locality has been widely circulated in the French periodicals, which, as the name of Baron Thénard has been introduced therein, deserves some attention. It is said that a distinguished French engineer, on surveying the Isthmus for professional purposes, has discovered gold in the sand of the seashore, the amount of which he calculates at five milliards of francs. The construction of a canal or railway would be paid a hundredfold by the gaining of this precious metal, &c.

Late Excavations at Pompeii.—The locality chosen for the late excavations made in honour of the Prince of Fürstenberg was that adjoining the large house which had been opened at the meeting of the late Scientific Congress in Naples. After the stratum of *Lapilli*, about two feet high, had been removed, a number of door hinges, locks, nails, screws, and the like were found, all covered with a thick brown crust of oxide of iron. Amongst the many other objects, a door-knocker, with the underplate appertaining to it, both of fine workmanship—the mountings of several garden implements, the bronze ornaments of chairs, armchairs, *Lectisternia*, hoops, and postaments of flower-pots — a cylindrical waterpail of lead, 4 feet high and 1½ feet diameter, with tasteful garlands and ornaments in embossed work, were brought to light. The terra-cottas which had once adorned the roof of this mansion were numerous; spouts which sent forth the water in the shape of lions' heads, &c. In one room were found fourteen slabs of different kinds of marble, and they were placed on the wall, just as they had been sawed asunder, eighteen hundred years ago! They were 8 feet by 4, and consisted of Phrygian and Bythinian marble, African *breccia*, verde antico, and a very rare sort of serpentine. The excavation was ably directed by Mr. Carlo Bonucci; and to complete the success of this operation, some beautiful and very interesting wall-pictures (frescoes) were found, whose description will be shortly given by Mr. B.

Dome of Cologne.—The completion of this vast ancient structure is the *punctum saliens*, around which all architectural endeavours of Germany are at present oscillating. A very important question was mooted, of late, at Cologne—viz., whether the meetings of the *directing committee* should be public. It seems that the activity of that body has been somewhat cramped, which was thought to be remedied if their resolutions were tested and supported by the *public voice*. Other considerations, however, seemed to prevail, and the publicity above alluded to was *negatived* by 1,900 against 500 votes. The construction goes on, notwithstanding, prosperously, and the entrances of the south and north portal are already arched over, and both will probably, by next autumn, be raised up to the first gallery, and then the lateral naves of the side wings will also be arched over. The construction of the portals has given rise to a curious controversy, as it was asserted on several sides, that a socle, found on the north side of the dome, exhibited the plan intended by the original builder; and that the commenced construction of the south portal was not in accordance with that socle, and therefore with the original plan. Much pains had been taken to controvert that assertion, oppositional to the intentions of the dome building committee. The truth of it is, however, best confirmed by the now progressing construction of the north portal, which is done in accordance with the clearly proved original plan.

Imperial Academy of Sciences of Vienna.—It seems that this tardy concession to the demands of the Austrian *savans*, will be of a very narrow and restricted character, comprehending *merely* natural history and philology. The *sciences morales et politiques*, which, implying the whole system of *social* improvements of the age, and on the culture of which the Institute of France and Belgium lay such great stress, will be altogether *avoided*. The donation also of 7,000*l.* per annum, seems to us very inadequate, as half of the members, besides the president, are to be salaried. The Institute of France receives at least double that sum from Government, besides large bequests, &c.

The Iron Foundries of Sweden.—The taking off of the restrictions with which hitherto *national* industry has been shackled in most countries, is to be also applied to the above important branch. Up to the present time, only those forges in Sweden were permitted to make wrought iron which produced a certain annual amount of cast-iron. This restriction is now to be taken off, which will especially benefit the smaller sort of producers.

Large Tunnel in the Styrian Mountains of the Vienna Trieste Line.—Austrian journals call the tunnel of the Leitersberg a giant's work of subterraneous architecture. The way from Gratz to Marburg is said to abound in objects of well-executed workmanship, amongst which the above excavation of 353 klafter (cubits) is the most important. The tunnel is 25 feet broad by 24 feet in height, and is thoroughly vaulted in. This tunnel was excavated by miners, and the *débris* of the mountain, which was not solid rock, but brittle sandstone, carried out by several pits sunk to the depth of the tunnel. The construction was the more difficult, as the plane of the rails lies 25 klafter under the surface of the surrounding terrain, and the pressure of the superjacent strata of soil, exercised, especially in the wet season, an uncommon pressure on the vaults in construction. Still, as it is, it is the greatest structural work of the kind in the Austrian realm.

*Progress of Stereochromy.**—This new process of mural (fresco) painting, has received a great impulse, by its being, of late, adopted by Kaulbach, who, after a few trials, has so far identified himself with this new method, that he manages it with the same ease as oil or fresco colours. Mr. K. has exhibited several stereochromic pictures in his atelier, which have been generally approved of. It has assumed under his hands a lustre and warmth of colour, as well as a pliability of execution, which surpasses every expectation, and he will now execute a large stereochromic fresco picture, for which he has completed the cartoon. J. L——y.

* Page 422, Vol. III.

RAILWAY JOTTINGS.

A RAILWAY BOARD has been recommended in a recent report of the Select Committee on Railway Acts, as a distinct department of the executive Government, with engineers and other officers of its own, and "possessing all the powers, and executing all the duties now possessed and exercised by the Board of Trade, and such additional powers as may be necessary" in the "supervision of all railways and canals in any way connected with railways."——From tabular details (exclusive of additional and still more recent and considerable items), it appears that the royal assent has been given during the present session of Parliament, to Acts authorizing the construction of no less than 3,672 miles of railway, with a capital of 90,540,938*l.*, besides power to borrow 38,688,829*l.* more, making the total amount *to be raised* (how, it is not for us to guess) little less than 130,000,000*l.* sterling, a sum equal to a very considerable proportion of the whole of that enormous incubus which we already labour under, and *cannot raise*, viz., the national debt itself.——The Earl of Clarendon has declared his intention of providing a remedy against the practice of opening parcels on railways, claimed by certain companies, as recently complained of.——The wholesale advantages derivable from railway conveyance were somewhat strikingly evinced on a recent occasion, when a large body of poor Irish labourers engaged a number of trucks for their own accommodation (at the usual charges, we presume), and in which they were conveyed from Liverpool to Rugby, *viâ* Birmingham, at a cost of four shillings per man, for a distance of 128 miles, or at the rate of one farthing and a half per mile for each. There were five trucks, each accommodating fifty-seven men.——The South Western Railway Company, it is said, have contributed 100*l.* to the fund for defraying the local expenses connected with the approaching congress of the British Association at Southampton.——The *Railway Times* gives the following account of the improvements, extensions, and other works originating in the recent fusion of the London and Birmingham, the Grand Junction, and the Liverpool and Manchester Railway Companies into one grand undertaking, named, the London and North-Western. "At Euston-square and Camden Town whole streets are to be demolished in order to extend the means of public accommodation. At Wolverton a little colony of men is busily at work building new and extensive houses for the reception of the immense number of locomotives belonging to the company. At the smaller stations between London and Birmingham, the welcome hand of improvement is every where to be seen. In Birmingham alterations and improvements are about to be commenced which will be worthy of the importance of the place as the central locomotive station of the country. Further on at Crewe, vast extensions are being made, and noble buildings being erected to accommodate the traffic which, in an unbroken stream, flows to that great 'railway fork'—three pronged at present, but which, ere long, will have three or four additional teeth. At the great terminus in Liverpool the alterations are being conducted on the most magnificent scale. The great tunnel, which from Liverpool is the outlet to all the world, is being ripped up for a portion of its length, in order to admit of new stations, extensive sheds, and commodious offices of all descriptions. The alterations in Liverpool are upon the most tremendous scale. They include a tunnel right under the town—a tunnel of some miles in length. Altogether, the steps which are being taken for the accommodation of the public are most extensive, and must, ultimately, be highly beneficial."——Contracts have been taken for 8,000 tons of plates of the best description, for the construction of the iron tunnel by which it is proposed to pass the Menai Straits for the passage of railway trains. Of these 8,000 tons, 2,000 have been taken by Mr. Walter Williams, 1,500 by Messrs. Bramah, Barrows, and Hall, 1,000 by Messrs. Thorneycroft and Co., 1,500 by Messrs. James Foster and Co., 1,000 by the Coalbrook-dale Company, and 1,000 by the Butterly Company.——An iron bridge, erected over a chasm in the line of the Waterford and Limerick Railway, broke completely down on Wednesday week, while fifty persons, one horse, and a cart where on it. Fortunately the only life lost was that of the horse. It is said that the bridge was but temporarily and hastily erected (chiefly by night) for the accommodation of passengers at the Limerick cattle show. The efficiency of the principle on which it has been constructed is said to have been already fully tested in America.——A great many masons hitherto employed on a railway line at Markinch, in Scotland, have struck for an advance of wages, from 23*s.* to 24*s.* a week, with no deductions for doctor's fees; and if not paid fortnightly, for 25*s.* a week with monthly payments.——In the United States of America, 10,500 miles of railway are now open to traffic.——From a long engineering report to the East-India Company, on the practicability of introducing railways into India, it appears that "the great extent of its vast plains, which may in some directions, be traversed for hundreds of miles without encountering any serious undulations, the small outlay required for Parliamentary or legislative purposes, the low value of land, cheapness of labour, and general facilities for procuring building materials, may all be quoted as reasons why the introduction of a system of railroads is applicable to India." And as to obstacles peculiar to the climate and circumstances of the country, such as periodical rains and inundations, violent winds, ravages of insects and vermin upon timber and earth-work, rapid growth of underwood on earth and brick-work, open state of the country, &c., these, it is thought, are by no means insurmountable. A comparatively short line is suggested to begin with, between Calcutta and Mirzapore; continued, perhaps, between Mirzapore and Delhi.——A new claimant for the original invention of the electric telegraph has appeared in the person of an aged gentleman, Mr. Samuel Porter, of Hill-house, Harrow-weald, who, in a communication to the *Times*, of date 13th inst., prompted by the very natural and justifiable desire to connect his own name with his own invention ere he die, declares that, twenty-one years since, he laid the project of the electric telegraph before the Lords Commissioners of the Admiralty; but that, for ten or twelve years thereafter, "it was regarded as the wild effusion of a deluded fancy; and when its virtues began to be unfolded, its origin was attributed to persons merely engaged in constructing apparatus for the working of it."——The commercial advantages derivable from this noble invention were strikingly tested between Leeds and Birmingham on Monday last, at twelve, noon, when the Leeds Commercial Banking Company suspended business. In a quarter of an hour the fact was proclaimed in Birmingham, through the Midland line of telegraph, and the intimation was immediately made to the various banks and public offices; and much confusion, and many lawsuits, in all probability, nipped in the bud.

COTTAGE, SUTTON VALENCE, KENT.



COTTAGE AT SUTTON VALENCE, KENT.

In the ancient wooden or half timbered houses of England, we find that a particular kind or class predominated in or was peculiar to each county. In the north, in Cheshire and Shropshire, the half timbered house was very much ornamented, the small quartering was formed into geometrical or Gothic patterns, the posts or uprights carved to represent either pilasters, columns, or buttresses. Several large first class mansions still remain in the above counties. In the south, in Kent, Sussex, &c., few houses can be found above the class occupied by the yeoman or country squire, although there can be little doubt, that at the period when "None-Such" existed the southern part of the country, and the metropolis itself, abounded in the richest specimens of this picturesque style of architecture.

In Kent, the half timbered houses are called woodnoggen houses, and the pieces of timber or quarters used in their construction, are called wood-nogs. The woodwork is not formed into ornamental patterns as in the ancient houses in the North; but the gables, plates, and beams, are often ornamented, the windows have projecting cornices, sometimes very bold, and the door frames are moulded and enriched in a very peculiar style. The framework of the building is filled with brick nogging, which is plastered; this, in the best buildings, is ornamented by patterns stamped in it while wet, and afterwards coloured. Several examples remain where the plaster is covered with white flowers on a red or black ground.

The plaster in some cases is covered with small bits of glass of different colours adhering to its face—which when the sun shines has a very good effect. A substructure of rag stone or brick was always made, upon which the sills of the framing are placed. A good example of the Kentish wood noggen house of the latest class is given in the annexed print. This house is probably not above 180 years old. It stands at the end of the village of Sutton Valence, near Maidstone, and is occupied by a brewer. It is very little ornamented, but the large gables and the projecting porch render it an extremely picturesque object. Nearly every village of the county contains examples of a similar character. C. J. R.

THE STATE OF HENRY VII.'S CHAPEL, WESTMINSTER ABBEY.

Many have doubtless observed with concern, the effects of the late violent storm upon Henry the Seventh's Chapel: rotted portions of the stonework have been disengaged, or crumbled away, and the general and rapid decay of the exterior structure is now more than ever apparent.

The comparatively recent and costly restoration of this building affords a lamentable instance of the disregard to durability of material, or indifference to any sentiment of permanence, so widely manifested in our architecture. From this defect not only is the charge of sustaining and renewing ancient works one of serious magnitude, but their identity as scenes of the past becomes from the necessity of renewal gradually lost, and the valuable associations connected with them thereby weakened or put to flight.

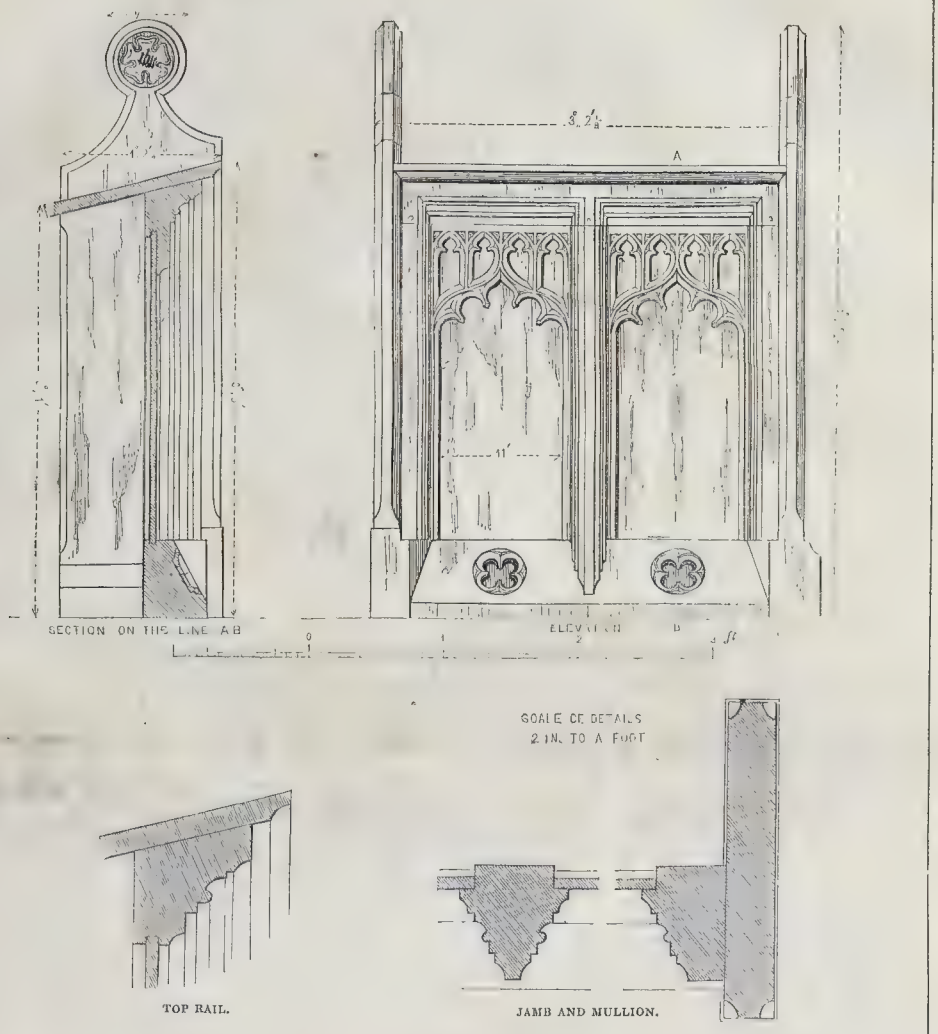
Could not, however, some means be adopted to secure the above beautiful fabric from further deterioration? The decayed parts supplied, and the whole of the present porous and perishing surface entered by a preparation, which might enable it to resist the corrosion of the weather?

If a repair of some kind be determined on, an opportunity would be also afforded to correct any errors discovered to have been committed in the last restoration; nor would the replacing in the niches their appropriate statues, as of old, detract from the beauty and spirit of the edifice. H.

National Gallery.—The visitors to the National Gallery, it is shown in a Parliamentary paper yesterday printed, numbered 456,105 in 1843; 681,845 in 1844; and 696,245 in 1845. The pictures purchased for that institution amounted to 114,804*l.* 16s., for twenty-seven of which 57,804*l.* 16s. were paid.

British Museum.—By an amended return yesterday issued, it appears that in 1843, 604,318 persons visited the British Museum; 660,529 in 1844, and 763,831 in 1845.

LITANY DESK, WELLS CATHEDRAL.



LITANY DESK FROM WELLS CATHEDRAL.

The accompanying details of an original litany desk, which for a long time was amongst lumber in the crypt of Wells Cathedral, will be found useful. It belongs to the 15th century, and is simple and effective.

THE GOVERNMENT SCHOOL OF DESIGN.

On Wednesday last the annual meeting was held in Somerset House to receive the director's report and distribute the prizes, when Mr. Bellenden Carr was in the chair, and Mr. B. Hawes, M.P., and Mr. Etty, R.A., addressed the meeting. The report set forth that the drawings rewarded, and which were exhibited, had not been made in competition, as heretofore, but were selected from the work of the year, and that no prizes had been expected. Mr. Hawes made some very judicious remarks on the value of the institution, and said its progress was identified with the progress of our manufactures. We regret that we cannot use the tone of gratulation adopted throughout the proceedings. We do not think the result such as a Government school of design, with Messrs. Townsend, Horsley, and C. J. Richardson for masters, might and ought to produce. Many of the drawings exhibited are admirably executed, but with one exception, we are speaking now of the male school, they are all copies; the exception is a set of three finger plates designed for the Duchess of Sutherland by Mr. Pearce. The system pursued is not equal to the wants of the pupils; it is copy, copy, copy, and nothing more. No development of principles, no endeavours to elicit original ability,—and the result is, that the pupils as they reach a certain stage, finding they can go no further, leave the establishment, which remains therefore a simple drawing school, and, under the present arrangement, will never get beyond it.

In the ladies' department, the exhibition is far more satisfactory; Mr. Etty even said, that some of the specimens were as good in their class as any thing he had ever seen, and reflected the highest credit on Mrs. McIan, the mistress. Indeed, we would not have it inferred, that no credit is due to the masters in the other school; the reverse is the case, and our remarks apply only to the system by which they themselves are trammelled and kept down. We were informed some time ago, that the director, Mr. Wilson, had forbidden the appearance of The Builder in the school, on account of the part we took on a former occasion. If this be true, it is very foolish, to say the best of it. We have no personal feeling in the question; our sole aim is to induce the adoption of such a system as may ensure the most perfect results, and in a matter so important as the National School of Design, we should fail in our duty to the public, if we allowed consideration for individual feelings to interfere with the honest expression of our opinion.

Previous to the meeting on Wednesday, a handsome vase was presented to the director by some of the pupils, leading us to suppose that a better feeling exists in the school than was the case some time ago. We heartily trust it may be so, and shall look anxiously for some important changes when the pupils again assemble.

THE YOUNG ARCHITECTS OF ENGLAND.

No. IV.*

Sir,—I have tried to shew what Art is—*real Art*. I have asked, what is Architecture? And I have many answers (No. II.) And I have at last declared, amidst much laughter from the Opposition, that it is a Fine Art.

Question, What is the Fine Art Architecture? Answer, It is a Fine Art. Nay, we could have guessed as much without thy teaching. Strange then, I reply, that you did not guess it. I ask, what is the Fine Art Architecture? and you answer me with half a dozen things that are no more Fine Arts than the Apollo Belvidere is a red herring, or Yorkminster a proposition in Playfair's Euclid. The Fine Art Architecture is a Fine Art;—shew me that you know this (I will not take your word for it),—shew me that you comprehend—feel this, and I say you are truly an Architect—an artist. If you cannot shew this *you are not so*. Is building a Fine Art? Is the contrivance—the planning of houses a Fine Art? Is looking after builders a Fine Art? Is the copying of "orders" from Vitruvius or Stuart and Revett a Fine Art? Is the study of antiquities a Fine Art? Is a scheme of design confined and set by a system of *styles* a Fine Art? Although this is the most nearly so, is it *fully* so—*the* Fine Art Architecture? But *is* Architecture a Fine Art? How strange that men should call it so and all the while speak of it as something so different! This is how it is. Your common "Architects" are *not artists at all*. *Their* Architecture is *not a Fine Art*. But there is *an* Architecture that is: and these worthies are intelligent enough to take advantage of this that they may claim the dignity of Artist. They are planners of houses, your "Architects"—"the profession"—the *Artist-Architect* is quite a different actor in the scene. Would that I could persuade you that the Fine Art Architecture *is* a Fine Art! Instead of *copying* your books and plates and authorities, you would *criticise* them: instead of worshipping rules and styles, you would seek the Temple of Nature: instead of bowing to the *dicta* of Antiquity you would do as men did in the antiquity ages, wiser in this than ours,—you would look into the human intellect for your rules. Did Phidias copy the Parthenon from *authorities*? Did he who sketched the first outlines of the lovely monument of Lysicrates measure it all carefully out of a book? Did your old freemasons count deviation from rule heresy? The rule-and-regulation system of our age they never dreamt of. To say that architecture is bound by those rules of yours is to pretend to hold the ocean in a sieve! The "orders" of *Architecture*? Orders of the *Imagination of man*? Thou shalt not imagine any thing but according to these *orders*? Can a man have intellect who says so? Or is it rather that he does not comprehend what Architecture is,—prates of it merely as a parrot would,—speaks as he has been taught to speak, careless of what it is the rote-speech means?

The Opposition. But tell me what you would do, now, when you discard *the styles* as you contemptuously call them?

Not contemptuously, my friend. They are valuable for their own worth, I say, but no more. What would I do? First, I am afraid that the study of them and the training in them which my youth has seen, must be a sore obstacle to the free exercise of imagination *pro re nata*, if I were to attempt what is called a new style. As "*nihil est in intellectu quod non prius fuerit in sensu*,"—as that which the imagination produces it produces by the combination of simples previously known; so also that which is once admitted into the storehouse of the fancy will be ever ready to influence the future work, and to supplant the less factitious means which otherwise would naturally arise. A habit is more easily acquired than quitted; and he in whose intellect the styles have become systematically fixed, cannot throw off their influence except by an effort, and so great a one that few could make it. Then again, independently of this, I have not pretended to be able intellectually to invent a new style; I cannot say that I have ever attempted it; and I have shown above, that great obstacles are in the way. But this is what I affirm that the true principles of criticism are not comparison with authorities, but abstract test by principles of nature and reason. I say, when you design go to your own intellect to guide your hand by *its* regulations, not to books and dogmas, and rules of styles; go to nature and the principles of human judgment and taste. "He who would really become an Architect must leave the special discussion of styles, and steadily look to the true end and aim of his art." So says Professor Cockerell;* and it is a gleam of living light appearing in dead darkness when he says so. May it increase and increase till men can see by it. But how strange that it should be so wonderful a thing to find an artist telling artists to go to Nature! Vague and weak as are the words, yet hear them, hear them and *ponder them*—"*the end and aim of the Art*." The ancients went to Nature when they produced those very authorities you go by; the originator of every style in your registry must have gone to Nature for his principles; and I say, instead of tethering yourself by these, go *you* to Nature also.

Opp. Ha! the ancients went to Nature, you say. Very well; they succeeded, and we profit by their success,—they did the work, we reap the benefit. For my own part I have no hope of excelling them, or even of equalling them. Look at the new styles—the inventions which *have* been made—what are they? Mere modifications of the standards. And unsuccessful too; the more so the farther the deviation from the model. Show me a new style—really new, show me a new order,—and then—

Then what my friend?

Opp. Then I'll call you a clever fellow, that's all.

Ah! I'm afraid that *is* all. But pursue your argument. Do you say it is impossible to invent another style—another order?

Opp. Do it, and then I shall admit it possible.

But without its being done, is it possible or is it impossible?

Opp. Why, it has been often tried, but has never succeeded.

I shall not press you to answer the question. One word on your "orders." The only plausible reason I ever heard urged for the *perfection* of their system is that given by the priest Villalpanda, that they were revealed to King Solomon in the design of the Temple at Jerusalem, the drawings for which were made in Heaven by the hand of God himself! If it were so, your pretensions would perhaps be reasonable; and my calling the system Fiddlededee might be a blasphemy; but whether the doctrine of that offuscated individual, or mine, has most of reason on its side, I leave yourself to judge. Your old gentlemen whose creed it is that "there are five orders in Architecture" certainly speak as if they had some Villalpanda for their chief, with a system of logic at his inspired back, like the system of that most illustrious fish out of water in this degenerate age, our beloved Ecclesiologist; else how they can persuade themselves into such contracted thought I for one must say I cannot tell.

London. R.

* Our correspondent wishes it to be intimated, that in the exercise of editorial discretion his last article was somewhat abbreviated. We willingly comply with his request.

* Fourth Lecture, 1840, as reported in The Builder.

THE STORM OF THE 1st OF AUGUST.

Frightful as is the amount of damage done by the late storm, in the shape of broken glass and injured works, it must, nevertheless, be regarded as a providential event in a sanatory point of view, for which we should be grateful. The purification of the air effected, and the cleansing of drains and sewers, to say nothing of the highways, were of the utmost importance. One of the minor advantages to London housekeepers, is the destruction of large numbers of rats washed out of the sewers by the floods. Some notion of the loss experienced in various quarters may be formed, from the vote of 4,500*l*. taken in the Commons a few nights since, to make good the damage to palaces and public buildings, by the storm in question. Strong efforts are being made in favour of the florists on whom the loss falls ruinously heavy. This loss will, perhaps, be the means of effecting a further alteration in the glass duties. A considerable importation of glass from Belgium is said to have been made. Glaziers are, of course, "looking up," but are so busy, they have little time to do so in.

PROVINCIAL NEWS.

The consecration of the newly-erected church at Bradpole, near Dorset, took place on Tuesday week. It is larger than the old one, having 400 sittings mostly free.——St. John's church, Bridgewater, was to be consecrated on Monday last.——The church of St. Michael, Gloucester, is to be repaired and restored. The parishioners have voted 600*l*. towards the work.—— Sir John Jervis, the Attorney-General, has contributed 50*l*. towards the liquidation of the expense of the recent improvements in the interior of Chester cathedral.——Nearly 7,400*l*. have been already contributed towards the erection of the new churches in the four districts formed at Liverpool under Sir Robert Peel's Act.——The Liverpool Sanatory Bill, which comes into operation in January next, contains clauses for compelling manufacturers and owners of steam-vessels, to consume the smoke generated in their furnaces.—— It has been proposed to convey 300,000 gallons of water a distance of forty miles, into Liverpool, "without pumps, engine, aqueduct, or turncock," from the stream which descends through Llangollen-bridge, out of Bala Lake.——The opening of the three new Manchester parks is fixed for the 22nd instant, when the public baths and wash-houses lately instituted there are also to be opened. The inscription at the public gardens at Mayence, namely, "This garden is created for the advantage of the public, and it is committed to the public for protection," has been recommended for adoption at the Manchester-parks, in preference, at least, to the puerile address put up at the Prince's-park, at Liverpool, namely, "If you carefully avoid walking on the grass, it will remain green and beautiful for you."——The contract entered into with Mr. George Taylor for the erection of the Grecian chapel in the cemetery at Coventry, at the sum of 1,194*l*. has been accepted; and it has been resolved, that in consequence of the delay in the execution of the contract of the cemetery lodge, the committee have power to rescind the present contract, and to enter into any other which they may deem necessary. An engine is to be erected at the water-works or an agreement made with Sir T. White's trustees, for the use of the water.—— St. John's church, Woodbridge, is to be consecrated on the 27th inst. ——The new jetty, at Cromer, was opened to the public on Friday week; the other works are not yet completed.—— On opening the tenders made for the erection of a wall to enclose the ground lately consecrated at the churchyard of St. Gregory, Sudbury, it was found that the lowest sum was 97*l*. 15s. 6d., "much less than the cost price of the materials only," and the tender for that sum was accordingly accepted. The building of the wall depends, however, on assistance from St. Peter's, the parishioners of which bury their dead at St. Gregory's. —— The construction of the water-works at Lincoln is to be shortly commenced.——Numerous plans have been under consideration for the formation of the proposed new markets at Hull, varying in expense from 10,000*l*. to 22,000*l*. for the cost of building alone, or from 30,000*l*. to nearly 48,000*l*. including ground and other buildings to be removed; but as neither the consent of the council, nor the countenance of the inhabitants, have been yet obtained in favour of any one or two of them in particular, we need not enlarge on this point further in the meantime. We may remark, however, that amongst the more prominent, including total cost with buildings—according to the architect's statement and values are—Mr. Lockwood's, on Leadenhall site, No. 1, 45,668*l*., No. 2, 39,830*l*.; Mr. Cuthbert Brodrick's, on Silver-street site, 30,280*l*.: according to Mr. David Thorpe's statement and values, Mr. Lockwood's, No. 1, 47,641*l*.; No. 2, 41,830*l*.; Mr. Broderick's, 47,882*l*.; J. H. B.'s, on Silver-street site, 33,800*l*.—— The inhabitants of Hull have of late been undergoing a process of general purgation through the instrumentality of the oceanic salts with which their household supplies of water have been grossly impregnated. Complaints have very reasonably been made against the water-work authorities for presuming thus to usurp the functions of the "faculty."—— Mr. Steel's of Edinburgh's, statue of Sir Walter Scott being completed, is very shortly to be placed on the pedestal in the monument. Sir

Walter is represented in a sitting attitude, with the ample folds of a Scottish plaid hanging loosely about him, and his favourite hound, Maida, at his feet. The work is of Carrara marble, and is highly spoken of.

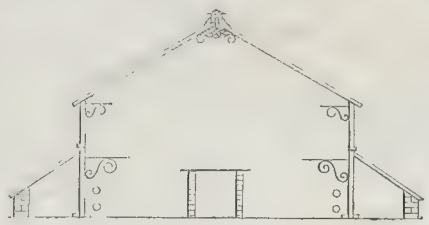
ELY CATHEDRAL RESTORED.

Great progress has been lately made with the restoration of Ely cathedral, although the dean and canons have no funds appropriated to repairs, and have therefore defrayed the very considerable expense of the restorations out of their own private means, except where aided by individual benefaction. From a communication to *The Times* of Saturday last, we obtain the following particulars :—

The alterations and improvements have been very extensive. Since the accession of the present dean more than forty windows have been opened and restored. The heavy combination of plaster and wood work which concealed the tomb of Cardinal de Lidanborgh, the tabernacle work of Bishop Alcock, and a considerable portion of the eastern window, has been removed. The tomb itself has been restored, and other works are in contemplation. The vaulting of the nave and side aisles of the east of the great lantern has been scraped and cleaned, and where wanting restored. The Purbeck marble shafts of the triforium and clerestory, which were disfigured with paint, have been repolished, as also the great marble piers, and the corbels and string-courses. Decayed and broken portions have been replaced with Purbeck marble. The restorations are supposed to be preparatory to an extension of the choir as far as the great lantern, and to an entire change in its arrangements. The tomb of Bishop Alcock has been restored, and the chapel itself cleaned and partially restored. But the most important of the new restorations are at the west end, erected by Bishop Riddell, at the close of the 12th century. The northern portion had fallen and the southern been left in a ruinous state in consequence of a subsidence of the great western tower, which is presumed to have been occasioned by the addition of the octagon portion of it at the close of the 14th century. Nearly every portion of this end of the church was in a state of ruin or dilapidation; but the whole has been restored and opened to the church. It is proposed to add an appropriate painted ceiling, from designs already prepared. As soon as funds can be provided, it is proposed to restore the ancient chapel of St. Catherine, which opens into the newly restored transept. At the east end of the cathedral the southern pinnacle, which was never finished, is in process of erection at the expense of Mr. Hope. The eastern cross, and the crockets, which it is proposed to put on the gable, are to be restored at the expense of Lady Mildred Hope. The dean has restored the chapel of Prior Croaden. Two painted windows have been placed in the cathedral, the gift of the Rev. Edward Sparke, and others are to be similarly adorned. The communication does not name the architect.

CONSTRUCTION OF GREENHOUSES.*

A thoroughly good, practically useful greenhouse is a constant source of pleasure, and indeed profit, to the possessor; but unfortunately, in very many instances, either from erroneous plans, or an extravagant and needless waste of material, it is made as nearly the opposite as though such had been the intention of those who contrived it. Exorbitant charges and bad construction have done more injury to gardeners and gardening than may be readily conceived. The house we should prefer for general purposes is one which has a span-roof, standing east and west, in an elevated dry situation, sheltered somewhat from the north-east wind, but by no means surrounded with trees; and to explain our ideas more fully, and render them perfectly tangible, we shall call in the aid of the engraver. The sectional figure given below represents a house of considerable size, sufficient for the growth of a large collection of plants. Its length is forty feet, entire breadth twenty, and the height to the ridge plate ten feet. The roof in this is also a fixture—that is, the sashes are made to remain stationary; the advantages of which are manifold. In the first place, lighter material is sufficient, as all the wear and tear is removed; the frames and glass therefore last longer, requiring little or no repairs for many years, beyond the annual coat of paint which these places should always receive. A considerable amount of labour is also saved, and the general appearance of the erection greatly improved; the ventilation being effected in this case by an ingenious contrivance, invented by Mr. Farmer, greenhouse-builder, Newington Causeway. It is thus managed; a space is left open between the open rail of the sashes and the ridge plate on either side, for the entire length of the house; over this, at a slight elevation outside, is placed a protection board, to throw off rain, &c., while descending from it to the rail of the



lights is a valve-board on either side. These boards, by being hung on pivots, are easily drawn up by means of a cord and pulley, and thus egress for heated air is instantly obtained in the most proper place for ensuring a thorough yet moderate current of fresh air from the open lights in front. Along the sides of this house are shewn dwarf pits, the most appropriate receptacles for small plants, and here an important improvement presents itself. Instead of wasting nearly half the entire cost of the erection in useless brick walls, it is proposed to support the house by continuing the upright timbers through the sill down to the ground level, where they enter a plate laid on a footing of bricks. These stanchions will be found equally as secure and lasting as a nine-inch wall; and in front of them, proceeding from the under side of the sill, are the lights, which project about three feet to form the pits before spoken of. An interior connection existing between them and the main body of the house, beneath the front shelves, in consequence of there being no wall, the apparatus intended to supply the required heat to the house, by occupying its usual position, will at the same time, and at no greater expense, impart a sufficient warmth to the atmosphere of these pits, while the gardener will have the very great advantage of attending to his young nurslings in bad weather, without the trouble or danger to be feared from the sudden rush of cold air consequent on opening the lights on the outside. The cost of the necessary lights and framework for the pits is considerably less than the expense of a wall; and thus money is saved—the additional standing of the very best and most useful description positively gained for nothing—the proper strength of the house left unimpaired—and the general appearance of the erection, both externally and internally, greatly improved.

We present this plan to the notice of the public, feeling convinced that its many advantages will be certainly seen and appreciated. The paths, stages, shelves, and tanks for containing the water collected from the roofs of all horticultural erections, should be formed of slate, as we find it to be the cheapest and most durable material that can be employed; it is easily cleaned, does not become green from the moisture which surrounds it, and, if of good quality, will last for ages: for floors and narrow shelves or stages, slabs of half an inch in thickness are sufficient. These cost, with the fixing, from fivepence to sixpence per square foot; but for wider stages, intended to carry large pots, it will be advisable to have the slates fully an inch thick, to ensure a proportionate strength. The arrangement of the stages must be determined by the taste or convenience of the proprietor. In our figure the principal one is flat, and placed in the centre of the house, having a walk all around it; on the other side of which, and next the glass, is a smaller shelf, of about two feet in width, and over this, at the pitch of the roof, a still smaller one, for young plants which require to be kept close to the light. The centre stage is supported by two walls of four-inch brickwork, running lengthwise of the house; and if inch-slates are used, no other bearers will be necessary; and by leaving the ends open, access is had to the under part of the stage, which forms an excellent store for roots in winter, and sundry articles at all times. The other shelves are supported by iron brackets, which have a light appearance, and cause no obstruction in getting to the front pits. The cost of a house of the size and description of that mentioned is about 120*l*.

Leaving the particular mode of heating to the discretion of the owner, we particularly recommend hot water as the medium. The price of four-inch iron pipe, which is most commonly employed, is about 3s. 6d. per yard, to which is to be added the expense of fixing. The gutter pipes made by Messrs. Burbridge and Healy are very good, but are rather more expensive. They are made in two sizes; the larger are charged 30s. the length of nine feet, and the smaller 26s., exclusive of fixing. Tanks of iron, slate, or even wood, may be employed where a command of atmospheric moisture is desired, and for bottom heat they are unsurpassed. On the subject of boilers we scarcely know how to advise. The whole of them appear to us excessively dear, and we have expectations of shortly causing an alteration which may possibly surprise some of those who at present are making fortunes in the line. That form which is most economical of fuel must necessarily be the best, and this is the great objection to all the conical-shaped boilers. They do not burn freely without being fed with superior fuel, and much of their heat is lost by radiation from the sides; otherwise they are the cheapest, inasmuch as the expense of setting is saved; they are easily fixed or removed, and are cleanly in their operation. A great deal of the mystery with which dealers are anxious to surround themselves must shortly be removed, and their prices brought down to a more reasonable level.

* From the "Florist's Journal" for July. Published by Groombridge and Sons, London.

EXCAVATIONS AT STAMFORD.

DISCOVERY OF ANCIENT REMAINS.

The curiosity of the inhabitants of Lincolnshire, in the vicinity of Stamford, has been much excited of late, according to the local papers, by the discovery of various traces of the former existence of an extensive religious house, which is known, historically, to have once occupied the site of the railway excavations now in progress there. Some portions of an arch, of narrow space, which has probably formed part of a subterranean passage, have been discovered; and large pieces of stone were of late continually dug up; but the chief objects of popular curiosity which had hitherto presented themselves, were pieces of stained glass, stone coffins, Danish or Saxon coins, and other articles. These were found near a building called "The Nuns;" and one of the coffins contained a skeleton in a state of great perfection. Several skulls and other human bones were then dug up. These remains of other days, says a local paper, have been found on the site where once stood the Austin Friary, of which scarcely a vestige is now to be seen, unless the tenements standing there were built of stone taken from the Friary ruins—a supposition which is at least doubtful.

Human skeletons and antique reliques have frequently been dug up in this vicinity. In 1711, a Mr. Richard Feast procured leave of the then Earl of Exeter to dig for stone out of the ruins, for the purpose of building a barn there; at which time, besides what stone sufficed for the barn, he also took up as much as built a court wall in his yard at Sempringham Hall, on St. Peter's-hill, where he then lived. Some of these stones were curiously carved, representing birds, beasts, fruit, and flowers. At the same time one of the workmen picked up two ancient seals. Not long after this some excavations were made for a

saw-pit, and in the cloisters were found a number of skulls and human bones. On the 22nd of February, 1712, were dug up a large parcel of glazed tiles of different colours. A great number of them were taken to the house of Mr. Walburg, of Pilsgate, and there employed, as they had been before, in flooring a room. From stone pillars and windows which were also dug up, Mr. Walburg describes the structure as having been very magnificent, and is of opinion that some of the rooms, whether for convenience or curiosity, had been paved with glazed tiles, of different colours, such as those dug out of the ruins. Several pieces of painted glass were found during these excavations also, and one piece, it is thought, must have been used for flooring, as it appeared of too thick a substance, and too heavily painted, to be available as a medium for the admission of light. The ascertainment of such a fact, as far as possible, would certainly be interesting at the present moment, when glass is about to be applied *as a novelty* for various purposes.

A general idea of the dimensions of this ancient edifice may be formed from calculations made by Mr. Walburg, though his description may be, what it is alleged by Mr. Foster to be, somewhat florid and imaginary. "The west front," he says, "appears to have been 80 yards long; the fourth front 10 yards. The chapel, standing on the north side, may easily be discerned to have been 60 yards long and 20 yards wide; and the end of the chapel westward seems to have ranged along the cloisters, which are the same length and breadth with the chapel, which seems to range even with and join to the last front, as the cloisters do to the west. The last front is also 80 yards long—so that the whole has been an entire square, and in the middle thereof very plainly appears a curious and complete court, being exactly 30 yards every way."

This convent was founded by one Fleming, a wealthy inhabitant of Stamford; and the care of finishing it was committed to the Archdeacon of Richmond. The precise date of its erection, however, is quite uncertain. It was granted,—6 Edw. VI.,—by the King to Edward, Lord Clinton. The Lord Treasurer Burghley died possessed of the site in 1598; and it latterly became the inheritance of the Marquis of Exeter.

Religious houses such as this were very numerous in Stamford and its vicinity, there being no less than eight or nine. The following quaint extract is from the "Survey and Antiquitie of the Towne of Stamford," written by Richard Butcher, Gent., "sometime towne clerk of the same."

"To manifest the profitable and pleasant scituation of this towne, the monks, friars, and nunnes of those superstitiouse times (like so many rats or mice, which make choyce to feede of the daintiest cheese) made choyce of this place to build several receptacles. As one observes of them—

> They plant themselves in fairest plott,
> For pasture, wood, and spring:
> Nor grief, nor care, come to their lot:
> When others sigh they sing.

For in and about this towne they had no less than eight several cells or monasteries."

Engineers not Agents binding Companies.—In the case of Mr. Sykes, a levelling engineer, engaged by Mr. Higgins, the acting engineer of a projected South and Midlands Railway, against Major Leonard Moss Cooper, a provisional director, it was found by Mr. Justice Erle, on the western circuit, at Bristol, 14th August, that "he could not hold that an engineer had an implied authority to bind a company as its agent. It was analogous to the case of a person employing a builder to erect a house. It could not be said that the builder was his agent, with authority to bind him in the employment. Artisans would be required to erect the building, but if they wished to be employed upon the credit of the principal, they must apply to him." The plaintiff was accordingly nonsuited.

Cooling of Sun-heated Roofs. — A simple and obvious sort of remedy, for an evil, which, we understand, has caused much inconvenience and probably disease during the present hot summer, has been lately suggested; namely, whitewash applied over the outside of the roof.

Correspondence.

FALL NECESSARY IN EGG-SHAPED SEWERS.

The Editor of The Builder would oblige a regular subscriber by informing him what fall is considered sufficient in egg-shaped street sewers to keep clean by means of surface and roof water *only*, entering therein from various house drains and street grates.

August 5, 1846.

*** The greater the body of water flowing the less fall, and conversely, the less the body of water the greater the fall required. But in ordinary cases, the fall should not be less than 3 inches per 100 feet.

THE QUEEN'S LONDON PALACE.

Sir,—A parliamentary paper just published states that the sum of 150,000*l.* is to be laid out on Buckingham Palace, and that it is contemplated to advance the east front and take down the marble arch. Whether the latter should ever have been erected is not now the question, but it appears, after it has cost an enormous outlay (I believe 70,000*l.*), to be an act of wasteful expenditure to take it down. The palace itself has been the subject of critical censure ever since it was altered from its former plain character, and all the money which has been or may be expended upon it will never render it suitable for a royal residence, for the circumstances connected with its situation must always remain the same. Surely it would be wiser, instead of throwing good money after bad, and laying out still further sums upon a low, damp, unhealthy spot, to erect at once a proper London residence for our sovereigns; and what situation can be fitter for this purpose than the site of Kensington Palace, high, dry, and healthy, with the finest of our parks in its foreground; and I would put in a word for the palace to be built in the style which was brought to such perfection by our Tudor rulers, a style preeminently English, and one in which the favourite royal architect is more conversant than with the classic styles.

My scheme is not so expansive as may appear at first sight, for, firstly, the expense of keeping up Kensington Palace would be saved; secondly, I conceive that an additional 100,000*l.* would be quite enough beyond the sum proposed for enlarging Buckingham Palace, since we know how much more costly lofty columns and heavy architraves are than Gothic enrichments; thirdly, I would devote Buckingham Palace to the purposes (among others) of the National Gallery, for which the state rooms on the upper floor of the Palace would serve admirably. They are 32 feet high, and could be lighted from above, and these alone would form a suite of seven splendid rooms: and as there has been long since an impression afloat, that at some time or other the national collection of pictures, and the Royal Academy exhibitions, must be in different buildings, this would be an opportunity of effecting the separation. And by removing the national collection from Trafalgar-square, observe what a great improvement may be made in the interior of the building for the purposes of the Royal Academy. As it would be no longer required for two distinct objects, the floor might be filled up in the central hall to the level of the two present sets of rooms, and the partitions between the small rooms being removed, there would remain a magnificent suite of nine rooms, extending upwards of 450 feet in length. A few hundreds would effect this alteration, which would permit a larger admission than usual of works of art to the annual exhibitions; and, what is of more consequence, the walls would not be so crowded with pictures, nor the rooms with spectators as heretofore.

I have thus pointed out a plan, which seems to embody several objects, highly desirable to all concerned. The sovereign would obtain a properly planned palace (*ab initio*) on a healthy spot, instead of a patched-up affair; the public would have an additional and delightful place for exercise in the gardens of Buckingham Palace, almost equal in extent to the Green Park; our exhibitions would have ample space, and the cost saved in erecting a new national gallery (which has been talked of) would pay for the additional outlay at the New Palace.—I remain, Sir, &c.

17th August, 1846. G. R. F.

Miscellanea.

The Coliseum, Rome.—"It is no fiction," writes Dickens, "but plain sober, honest truth, to say—so suggestive and distinct is it at this hour—that, for a moment, actually in passing in, they who will, may have the whole great pile before them, as it used to be; with thousands of eager faces staring down into the arena, and such a whirl of strife and blood and dust, going on there, as no language can describe. Its solitude, its awful beauty, and its utter desolation, strike upon the stranger, the next moment, like a softened sorrow: and never in his life, perhaps, will he be so moved and overcome by any sight not immediately connected with his own affections and afflictions. To see it crumbling there, an inch a year; its walls and arches overgrown with green; its corridors open to the day; the long grass growing in its porches; young trees of yesterday springing up on its ragged parapets and bearing fruit—chance produce of the seeds dropped there by the birds who build their nests within its chinks and crannies; to see its pit of fight filled up with earth, and the peaceful cross planted in the centre; to climb into its upper halls, and look down on ruin, ruin, ruin, all about it; the triumphal arches of Constantine, Septimus Severus, and Titus; the Roman Forum; the Palace of the Cæsars; the temples of the old religion, fallen down and gone; is to see the ghost of Old Rome—wicked, wonderful old city—haunting the very ground on which its people trod. It is the most impressive, the most stately, the most solemn, grand, majestic, mournful sight, conceivable. Never in its bloodiest prime, can the sight of the gigantic Coliseum, full and running over with the lustiest life, have moved one heart, as it must move all who look upon it now, a ruin. God be thanked—a ruin!" Again; "By way of contrast, we rode out into old ruined Rome, after all this firing and booming, to take our leave of the Coliseum. I had seen it by moonlight before (I never could get through a day without going back to it), but its tremendous solitude that night is past all telling. The ghostly pillars in the Forum; the triumphal arches of old emperors; those enormous masses of ruin which were once their palaces; the grass-grown mounds that mark the graves of ruined temples; the stones of the Via Sacra, smooth with the tread of feet in ancient Rome; even these were dimmed, in their transcendent melancholy, by the dark ghost of its bloody holidays, erect and grim, haunting the old scene; despoiled by pillaging popes and fighting princes, but not laid; wringing wild hands of weed, and grass, and bramble; and lamenting to the night in every gap and broken arch—the shadow of its awful self, immovable!"

The Middle Row Obstruction, Holborn.—We are glad to observe, that our suggestion that this nuisance ought now to be altogether cleared away, has been so far already acted on by the Holborn Paving Commissioners, some of whom have waited on the Lord Mayor, as a Commissioner of Public Improvement, and more especially interested in the clearing away of all obstructions in the way of the principal entrances to the city, and have succeeded in at least engaging his lordship's interest and good wishes to the cause. Lord Morpeth also has specially visited the spot, and considers the project a highly important one.

Gas for Illumination derived from Water.—In a paper in the *Bulletin du Musée d'Industrie*, M. Jobard, in describing the result of his experiments on gases for illumination, states that he caused hydrogen gas, obtained by the distillation of water, to take up hydrocarburets produced by the distillation of coal gas at the moment of formation; and that twice or thrice the quantity could be obtained than by the ordinary method. The necessity of purifying, he remarks, is done away with, and particularly when fish or other oils are employed. In experiments made with more than 1,500 feet of gas, watched for several hours, it was found that 111 feet of gas were produced from every pound of oil.

Decorations, Birmingham Town-hall.—A correspondent complains justly, that in the local accounts of this work the architects and decorator are not named. They are Messrs. Edge and Avery of Birmingham, and Mr. Crace of London.

THE ALBERT DOCK AND WAREHOUSES, LIVERPOOL.—This gigantic work was commenced in 1842. The water space of the dock is seven acres, 2981 yards; its area is nearly square, and its quays are surrounded with continuous ranges of warehouses, 66 feet high. The quays are 40 feet above the pile-heads, and the foundations lie 11 feet below the old dock sill. The height of the warehouses from the foundations is, therefore, 106 feet. The number of piles is about 14,000; they are made from beech trees of the very best description, and reckoning their length at 36 feet each, they would reach over 48 miles. The *Liverpool Mail* says, that "in the construction of the warehouses about 24,000,000 bricks have been laid, in 47,350 tons of mortar, of a quality which when dry is as hard as the bricks themselves. The floors of every story are of brick, turned on pillars and rafters of iron; of which metal the doors, window frames, &c., are all constructed: indeed there is not a particle of wood in the whole of these immense buildings. The quantity of iron used amounts to 10,000 tons, and the number of flooring tiles 1,130,000. The ground floor is open to the quays, and there are 45 centres, with cranes, the largest of sufficient strength to carry ten tons. The entire floor space is 115,230 yards, or about 24 acres. The roofs are of galvanized iron. The total cost, including the cut into the Canning Basin, by which it is entered, is 800,000*l.*"

DISFIGUREMENT OF TEMPLE BAR.—The west side of Temple Bar has been placarded, during the past week, with huge invitations to her Majesty's lieges to "use diamond dust" as the only means of putting an edge on blunt razors. The parties who permit this disfigurement, as they evidently want sharpening, cannot do better than avail themselves of the article in question: they must be dull blades, and want touching up.

CATHEDRAL OF CANICE, IRELAND.—Messrs. Hodges and Smith, of Dublin, announce for publication, "The Architecture, History, and Antiquities of the Cathedral Church of St. Canice," by the Rev. James Graves. This cathedral was erected about the middle of the thirteenth century, and is one of the best examples in Ireland of the early English style. The work will be sent to press when 200 names are enrolled.

NOTICES OF CONTRACTS.

[We are compelled, by the interference of the Stamp Office, to omit the names of the parties to whom tenders, &c. are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent Garden.]

For the mason and brick work of the Sailors' Home, Liverpool.

For the carpenter's work of the Sailors' Home, Liverpool.

For the plasterers' work of the Sailors' Home, Liverpool.

For the slater's, plumber's and glazier's, and other work of the Sailors' Home, Liverpool.—Tenders will be received either for part or for the whole of the different departments of work to be done in the erection of the Sailors' Home.

For 643 square yards of good granite, required at Windsor.

For 1,200 yards of pitcher-paving for the streets of Faversham.

For the building the National School-rooms at Great Chesterford.

For the iron railing to surround the proposed Church of England Cemetery at Warstone, Birmingham.

For the Kentish rag mason's work of two buildings in London—labour only, at per rod, with good new scaffolding.

For the works about to be undertaken at St. Martin's Church, Leicester.

For the building of a public-house near the entrance to the Victoria Park, Hackney.

For the disposal of the lease, stock, and fixtures of an oil and colour shop at the west-end—coming in, 150*l.*: has another concern.

For the disposal of a three-horse power high-pressure engine, with or without a boiler; also tubular and other boilers, &c.

For the supply of gas lanterns for public lights, with glass tops, for the new cast-iron gas-posts and columns in the parish of Hackney, at per lantern.

For the supply and affixing of the necessary gas-pipes and fittings to the new gas-posts and columns to be erected at Hackney, at per post and column.

For lighting certain lamps at Hackney with naphtha or essential oil of tar.

For 150 carpenters and joiners at Sheffield: 24*s.* to 26*s.* per week.

For the sale of the materials of the Half-way Public-house, Kensington-road, to be pulled down and cleared away by the purchaser.

For a dredging-machine, in perfect working order, suitable for the Thames.

For the disposal of an old-established country plumber's business—retiring.

For the erection of the new workhouse for the Hungerford Union (short extension of time).

For two or three marble masons, constant employment, near Langport.

For the disposal of the lease and general jobbing business of a plumber, decorator, &c., at the west end.

For the disposal of an ironmongery country business, established half a century.

For the mason and brick work of a vicarage-house near Merthyr Tydvil (promptly).

For the carpenter's and glazier's work of a vicarage-house near Merthyr Tydvil.

For the plumber's slater's, and other work of a vicarage-house near Merthyr Tydvil. Tenders for the whole works necessary in the erection of the vicarage-house will also be received (promptly).

For the sale of 60 marble chimney-pieces at Covent Garden.

For certain repairs and alterations in St. Mary's Church, South Bailey, Durham.

For lowering a bank, filling up a hollow, and widening a small portion of a turnpike-road at Lydham, near Church Stoke.

For the erection of new schools with master's house, &c., at Harrold, Bedfordshire (promptly).

For the disposal of a cheap one horse-power, high pressure engine, &c., at Newington Causeway.

For the working of the Southampton Sewers' steam-engine, and triple pump, including all labour, coals, oil, &c.

For a fire-brick maker to contract for the making of all kinds of fire-goods by piece, at Newcastle-on-Tyne.

For the sale of a cargo of Nos. 2 and 3 Caithness flags and sleepers (half rubbed and natural face), also of a large quantity of Baltic and Scotch sleepers, at Newcastle-on-Tyne.

For the sale, duty free, and customs measure, at Portsmouth, of portions of a cargo of pine and elm timber, deals, and lathwood.

For the sale of yellow pine, rock elm, and spruce deals from Quebec, at Southampton Docks.

For the sale of a four-horse power, portable, high-pressure engine, with tubular boiler, &c., at Greenwich.

For the erection of the new school houses at St. John's, in Bedwardine.

For the disposal of a choice cargo of timber at Douglas, Isle of Man, comprising planks, balks, boards, spars, poles, &c.

For the sale of a 24-inch cylinder steam-engine, with eight tons of boiler, &c., at Camborne.

For the execution of the Morley contract on the Leeds, Dewsbury, and Manchester Railway.

For the execution of the works from Skipton and Colne to Keighley, on the Leeds and Bradford Railway; a length of nineteen miles and a half.

For the sale, together, or in lots, of a quantity of timber, consisting of oak, ash, elm, and beech, near Derby.

For the disposal of a fourteen-horse power engine, at Louth.

For the whole of the works on that part of the Aberdeen Railway from Heatherwick to the North Esk, a length of about four miles.

For the whole of the works on that part of the Aberdeen Railway between Water of Bervie and Redhall; a length of three miles and upwards.

For the erection of a retaining or quay wall, at or near the Bay of Quick, Greenock.

For a supply of 50,000 or more cylindrical pipe-tiles for land draining, deliverable at Johns-haven, Kincardineshire.

For the letting of an extensive field of superior fire-clay, at Gartsherrie, Old Monkland, Scotland.

For the lease of an excellent granite quarry in Argylshire, near the sea.

For the sale of a quantity of memel, crown, and middling timber, oak and pine timber, battens, deals, Welsh double slates, Arbroath pavement, and Balachelish slates—Scotland.

For the sale of a large quantity of mountain pine and larch sleepers, at Belfast, deliverable at any English port.

For the sale of valuable freehold iron-works, at Tipton, Staffordshire; engine 40-horse power.

For the letting or sale of the Wem gas works, with the lamps, fittings, &c.

For painting the principal suite of rooms and grand staircase of the town hall at Brighton.

For the sale of a steam saw-mill, or any portion of its machinery.

COMPETITIONS.

Designs are wanted for the enclosing of St. Mary's churchyard, Southampton, and the public paths therein in a substantial, ornamental, and economical manner. Five pounds for the selected plan.

Plans, specifications, and estimates are wanted for a new vicarage house in the parish of Braddan, Isle of Man, to contain, above the basement plan, five or six bed-rooms and attics, and not to exceed 400*l.* when completed. The most approved plan only will be paid for.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At or near Kilbarchan, Scotland: about 120 lots of larch and Scots fir.

At Kilpatrick, Scotland: 300 lots of larch and Scots and spruce fir forty years old.

At Upper Cenvamore, Cork: about 30,000 timber trees, consisting of growing larch, Scots, spruce, and beech, and about 15,000 other trees, comprising ash, elm, beech, larch, &c., all about twenty years' growth.

At Aylesbury, near the railway: 50,000 capital building bricks.

At Aberdeen: the whole works and plant of the Aberdeen Gas Light Company. Adjourned sale.

At Brick-lane, Shoreditch: in lots, the building and other materials of eighteen modern houses.

At 80, Fore-street, Cripplegate: all the building materials and fixtures of a dwelling-house, workshops, &c.

At Oatlands-park, near the South Western Railway: the building and other materials of coach-houses, stables, offices, &c.

At New Bond-street, London: the building materials of No. 47.

At Liverpool: about twenty marble chimney-pieces, table tops, &c.

At 99, Great Portland-street, London: the lease and goodwill, of an old-established and lucrative painter's plumbers', and glaziers' business.

At Compton-street, Liverpool: two wrought-iron water tanks, one 4 feet 4 by 4 feet 10, and 2 feet 5 deep: the other 7 feet 2 by 4 feet 4, and 2 feet 5 deep. Also twelve iron columns 24 feet long, 8 inches diameter, with caps, bases, &c., and a quantity of iron smiths' hearths, tools, timber, bricks, &c.

TO CORRESPONDENTS.

"*W. S.*" The party having paid money on account of the extras without objecting to the claim, would have no case to resist it now. If your statement be correct, W. S. can enforce a settlement.

"*J. K.*" Declined.

"*A Poor Landlord.*" A covering of light zinc will be the cheapest course in the end. To patch such a roof (apparently badly done in the first instance) is to throw away money.

"*G. H.,*" "*Constant Reader,*" &c. We cannot afford the time that would be required to answer their inquiries.

"*Asphalte Staining.*" In reply to correspondents, the asphalte (depot Stangate) ground on a stone, like other preparations for paint, and mixed with a little varnish, makes good work.

"*Beer Tanks.*" A Correspondent recommends the same material, in reply to inquiry last week.

"*Architectural Shadows.*" A continuation of Professor Davies's article will appear next week.

"*W. E. S.,*" "*London Church-yards,*" "*W. Wood,*" "*W. T. W.,*" next week.

Received.—"R. F. B.," "A. B." (Hackney), "B. B.," "Remarks on Architectural Character, by the Rev. J. L. Petit, M.A. (Parker, Oxford); "Remarks on the Principles of Gothic Architecture, as applied to Parish Churches," by same author (Parker); "Round Rail *versus* T Rail," by Geometrius (Richardson, Cornhill).

ADVERTISEMENTS.

INVENTORS and DEPOSITORS of WORKING MODELS and of other Specimens of the Useful Arts (as well as the Visitors of the ROYAL POLYTECHNIC INSTITUTION) are respectfully informed that the Directors have given their anxious consideration to the new appointment of Demonstrator in Mechanics, whose duty will be to explain to the Visitors the principles and uses of the above Specimens with clearness and simplicity. The Lectures now comprise the Electric Telegraph, as well as other objects of present interest. The beautiful Optical Instruments, &c. &c.—Admission, 1*s.* Schools, Half-price.

TO CIVIL ENGINEERS, SURVEYORS, &c.

HENRY POPE, Wholesale Stationer, desires to return his best thanks to the Profession for their support, which has secured to him so large a sale of his mounted drawing papers, and from which he has made arrangements to keep a large stock always on hand, as well as tracing, drawing-papers, and every description of general stationery, which may be had at the wholesale prices.

N.B. Maker of the Metallic, Levelling, and Surveying Field Books, with Patent Pencil. 22, Budge-row, Watling-street, City.

TO ARCHITECTS AND BUILDERS.

DOOR SPRINGS AND HINGES.—GERISH'S PATENT DOOR SPRINGS, for CLOSING every description of DOOR, consists of Single and DOUBLE-ACTION BUTT HINGES in Brass and Iron for Doors to open one or both ways, and Rising Hinges for the convenience of Doors opening on uneven Floors. Likewise Swing Centres, which consist of a combination of power unequalled by any made at present. Manufactured by F. W. Gerish, East-road, City-road; and sold by all respectable Ironmongers in the United Kingdom.

R. GOODLAD and Co., Paper-hanging Manufacturers, 1, Southampton-street, two doors from the Strand, London. R. G. and Co. beg respectfully to express their thanks for past favours, and solicit their friends, and the Trade generally, to inspect their extensive assortment of the choicest Patterns, which they can vouch ranks second to none in the metropolis, either as regards extent of stock, variety, or moderate charges. A liberal allowance to Builders and the Trade. For cash only.

TO ARCHITECTS, BUILDERS, & BRICK MAKERS.

PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Roads, Gardens, and for Liquid Manure. BRICKMAKERS' PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to 12-inch bore, kept for Hire.

BENJ. FOWLER, 63, Dorset-street, Fleet-street.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

SAMUEL CUNDY begs to inform Architects, &c., that every description of Stone, Marble, and Granite work is executed at the cheapest possible rate. Estimates given for Mason's Work in all its branches. Gothic Work, Tombs, Monuments, &c.

MARBLE WORK for Halls, Dairies, Tables, Columns, Vases, at most reasonable prices.

A large collection of Designs for Mural and other Monuments.

CHIMNEY PIECES from Twelve Shillings upwards.

Depôt for CAEN STONE, &c.

CAEN STONE.

TUCKWELL'S Norway Sufferance Wharf, Greenwich.—Architects and Stone Merchants are informed, that this stone may be procured at the above Wharf in any quantity, in blocks up to 12 tons. The stone, which is exclusively the product of the Allemagne Quarries, and of the very finest quality, is consigned solely to W. TUCKWELL, who is prepared to execute orders to any extent, having a Large Stock always on the Wharf.—Orders received by, and further information with samples may be obtained of Mr. R. A. WITHALL, Surveyor, 89, Cheapside, and of Mr. W. TUCKWELL, at the Wharf.

N.B. Cargoes shipped direct to any Port.

MORTGAGE AND ANNUITY OFFICE, No. 123, CHANCERY-LANE.

PERSONS requiring LOANS by way of MORTGAGE or otherwise upon any available security, may at all times procure an advance to the extent of from 100*l.* to 150,000*l.*, or so much as the property will bear, by applying to Mr. BRAY, surveyor, at the offices as above, where a registry for the sale of estates, houses, land, life interests, and reversions, is kept for inspection.

N.B. To expedite the procuration, personal application at the office would in all cases be better, the party bringing with them the abstract of title, plans, &c.

WILSON'S PATENT
VENTILATING
SPIRAL CHIMNEY POT,



For the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success.

This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance.

The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory,

Southwark-bridge Iron Roofing Works.

DAY'S PATENT WINDGUARD, for ventilating

Churches,	Shops,	Kitchens,
Hospitals,	Bed-rooms,	Offices,
Factories,	Smoking-rooms,	Ships,
Theatres,	School-rooms,	Mines,
Breweries,	Nurseries,	Vaults,
Malt-houses,	Stables,	Tunnels,
Club-houses,	Larders,	&c. &c.

Also for preventing down draft; and is guaranteed to cure all smoky chimneys caused by wind; and entirely supersedes the use of revolving cowls, or any thing moveable or unsightly on the tops of chimneys or ventilators.

The object of this invention is to create a draft where otherwise it would not exist, by the spontaneous action of the external air. The Windguard forms a pleasing octagonal pillar, and by its peculiar construction to carry out the principle on which it is based, which consists of the wind giving a disposition for a vacuum within, thereby causing a continual upward current about equal to the velocity of the wind at the time acting upon it, which averages about six feet per second thirty days out of thirty-one; therefore, will nearly at all times ensure a continual change of air, being no impediment to spontaneous ventilation, even on a perfectly calm day. One five feet square will ventilate a building containing upwards of 1,000 persons. The Windguard applied to ships and steam vessels, in the form of a sky-light, prevents rain or the sea entering within, however boisterous the weather may be, thereby affording excellent ventilation as well as light. The Windguard is simply applied for effectually ventilating bed-rooms, nurseries, smoking-rooms, offices, &c., causing the air of the apartment to be at all times as pleasant as can be desired. It is fixed at the top of the chimney, in addition to which a cast-iron frame and valve (about one foot area), made to open or shut at pleasure, is let into the flue, near the ceiling of the room, to allow the constant ascending vitiated air being immediately carried off. The opening is guarded by a neat venetian blind or grating; and so powerful is the effect on a windy day that if a handkerchief be thrown up to the grating, it will remain there—i. e. if the valve be open. In winter the valve would be only partially open, to allow the smoke from the fire to ascend, but if the room be found too cold, can be entirely closed. The Windguard applied to the tops of chimneys prevents all annoyance from smoke (caused by wind); indeed, where it does not, nothing else applied at top will (of the same size); care, therefore should be taken to have the proper size applied. It is simple in its application, reasonable in price, ornamental in appearance; no machinery or anything moveable in it, therefore, cannot get out of order; free from noise or any unpleasantness whatever; not liable to choke up with soot; no obstacle to the machines used for sweeping chimneys. May be had of all respectable ironmongers in town and country; and may be seen daily in operation, where its powers and usefulness are exhibited by the severest tests, at THE PATENT VENTILATING WORKS, COMMERCIAL-ROAD, PIMLICO, LONDON; where also may be seen Mr. G. T. DAY's plans (illustrating the different applications of his Patent Archimedian Ventilator and his Portable Water Apparatus) for effectually Ventilating, Warming, and Cooling the Air of Buildings, Ships, Mines, &c. &c. By the use of these inventions many thousand cubic feet, or any quantity of pure warm or cold air, can be guaranteed to be continually exchanged per minute, day and night, winter and summer; thereby insuring, at all times, free ventilation to the rooms and passages of buildings, &c. from the basement to the roof, at the same time in such a manner as shall not be inconveniently perceptable. The size of the apparatus depends on the nature and use of the building and its occupants. The Patentee has been honoured by his inventions being applied at the following places:—

Windsor Castle,	Trinity House,
Buckingham Palace,	Ordnance,
Saint James's Palace,	Greenwich Hospital,
Claremont Palace,	Christ's Hospital,
Walmer Castle	Westminster Hospital,
The Houses of Parliament,	Bethlehem Hospital,
New Conservative Club,	Surrey Lunatic Asylum,
White's Club,	New Royal Exchange,
Travellers' Club,	Mansion House,
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"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.

"The wood appears to be fully and deeply penetrated by the metallic salt; I have found it in the centre of a large prepared paving block.

"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the crystallizable salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.

"After being long macerated in cold water, or even boiled in water, thin clips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Toplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the lignceous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotised principles it contains, by entering into chemical combination with them.

(Signed) "THOMAS GRAHAM."

"University College, 25th October, 1845.

From Professors BRANDE and COOPER.

"London, 4th November, 1845.

"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.

"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.

"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.

"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.—(Signed) "WILLIAM THOMAS BRANDE,

"JOHN THOMAS COOPER."

"To Sir William Burnett, K.C.H., F.R.S., &c. &c."

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The Builder.

No. CLXXXVI.

SATURDAY, AUGUST 29, 1846.

THE suggestion which appeared first in our columns, that Buckingham Palace, unfit for her Majesty's residence, should be appropriated as the National Gallery, has been received with favour universally, and reiterated in various quarters. Notice has been given by Sir Frederick Trench, that he will, at the commencement of next session, move that Buckingham Palace is no longer a fit residence for her Majesty and her family, and cannot be made so; but that there is a desirable site for a palace at the south terrace of Kensington-gardens, near some venerable chesnut trees, on which a new palace ought to be built [subject, we should conceive, however, to her Majesty's approval]; and that the House will make good the necessary expense for the erection, *if any shall be needed*. And another honourable member, we understand, is ready to move, with the concurrence of part of her Majesty's Government, that the present palace be appropriated to the purpose we have suggested.

Independently of the long complained of shabbiness of that edifice, which, above every other secular building in the realm, ought to be magnificent, both without and within, especially in the eyes of foreign visitors, many of whom have ridiculed both it and us for allowing it to stand as such,—every one now appears, as it were by simultaneous intuition, to have become convinced that such an erection as Buckingham Palace, *in the face of the truly noble and Briton-worthy accommodation now being afforded to the Lords and Commons* of the realm, can and must no longer stand as the chief accommodation of the royal *superiors both of Lords and Commons*. Hence the ready reception of any feasible suggestion, by means of which an end so amenable to even our own self-respect, and to a proper respect for us in the estimation of other nations, independently altogether of our loyalty as subjects, would appear to be most easily, surely, and speedily accomplished.

The remarks of a sensible and able critic of the last century on St. James's Palace, are not only still applicable to the present question, but appear to have been written with peculiar and prophetic reference to the present moment.

"'Twill admit of no debate," says the author of the *Critical Review*, "that the court of a monarch ought to be the centre of all politeness; and a grand and elegant outside would seem, at least, an indication of a like perfection within: we may safely add, that this is necessary even in a political sense; for strangers very naturally take their impressions of a whole people by what they see at court, and the people themselves are, and ought to be, dazzled by the august appearance of majesty, in every thing that has any relation to it. I could wish, therefore, that ways and means could be invented to bring about this necessary point; that Britain might assert her own taste and dignity, and vie in elegance, as well as power, with the most finished of her neighbours."

Unluckily, however, for the new proposition, the grant of 20,000*l.*, in part of the estimated cost of the alterations in the palace, proposed to fit it for the Queen's residence, is made, so that unless there be some act of will on the part of the Government and her Majesty, the works will be far advanced before the next session of Parliament, and will afford a strong argument against the proposed change. On many accounts it is much to be regretted that the vote was so hastily come to. There was no satisfactory assurance before the House, that the building would be made quite fit for its purpose by the expenditure proposed, but, moved to pity and indignation by the architect's touching picture of their royal mistress's miserable home, they at once in a fine frenzy of loyalty, cried "aye" to the question, in spite of the warning voice of Mr. Hume, and began to think of its *in*expediency directly afterwards.*

We trust that some member of the House will inquire of the Government, before the close of the session, whether or not any change has been made in their intentions, relative to the matter in question. If the reply be in the negative, some fuller information should be afforded, and facilities given for the examination of the plans proposed. When the public money is to be spent, the public have a right to demand an assurance satisfactory to themselves, that it will be wisely applied.

The necessity for this supervision on the part of the public is made evident, amongst numerous examples, by the new façade of the British Museum, now rapidly progressing. We have all proper respect for the architect of that structure, Sir Robert Smirke, and are not about to offer any hasty remark on the elevation *per se*, at this moment. Surely, however, if the design had been made public before the works were commenced, some alteration would have been insisted on, and instead of *repeating the Post-office*, Sir Robert would have been led to design a new building, to the great improvement of the metropolis and his own manifest advantage as regards posterity. Something might still be done to improve it.

The refusal of information in this case, which was loudly asked for in various quarters, was taken very quietly by the public, but, taught wisdom by the past, they may probably not be so soon satisfied in another. It is premature, however, to complain till the grievance is certain.

THE DETACHED BAPTISTERY OF ITALY,

ILLUSTRATED FROM THE EXAMPLE AT PISA.†

THE custom of grouping together the cathedral, the campanile, the burial ground, and the baptistery, was one peculiar to Italy. The cathedrals on this side the Alps, or such as were abbey churches, afford examples of a similar combination, but with these points of difference, that the buildings were not detached, and that the baptistery was peculiar to Italy. It is true, that within the church, it was not unusual to *inclose* the font;‡ and Elgin Cathedral furnishes a solitary instance, where the octagonal baptistery groups with the cathedral. It seems, that great importance was attached to the rite of baptism at the hands of the bishop, and wherever there was a cathedral, we usually find a round or octagonal structure for the purpose. In the early ages of the Church, baptism was practised by total immersion. Adult baptism was usual, and as the rite was in that case united to that of confirmation, and the chrism, or oil of unction, could be imparted only by the bishop, the ceremony required a large building for the crowds, who presented themselves at Easter, Penticost, and Epiphany. Subsequently, a change took place in the ceremonial, and the baptisteries were almost deserted. The circular form was well adapted for the ceremony, and the more usual form of the octagon, if it had a symbolical meaning, also presented less difficulty in construction. Sometimes the external outline was circular, and the internal octagonal, and in the octagonal baptistery at Parma, the interior had sixteen sides. But it is not improbable that the plan had an origin distinct from that of adaptation to the purpose. It is commonly thought, that the circular temples, such as that of Vesta, at Rome, gave the idea of the circular church to Constantine. This may have been the case, though the notion has been ridiculed;* and, indeed, the form of the circle would hardly require to be suggested by any building. The detached columns of the Temple are external, with an entablature, not internal, as in the baptistery, where, generally, they support arches. The circle, probably, was not generally employed in a baptistery, before it had been used in a building of different origin. We, of course, allude to the church of the Holy Sepulchre; and if it be recollected, that the sepulchres of Hadrian and Cecilia Metella had the circular form, we can hardly resist the conclusion, that Constantine took the plan of the Christian church from one which was generally adopted. Moreover, the circular building, now the church of Sta. Constanza, is undoubtedly that, which was built for, or used as a baptistery by Constantine, and afterwards converted into a sepulchre for his daughters Constantia and Helena. It would be interesting to determine satisfactorily, whether this use of the building preceded or succeeded the erection of the Holy Sepulchre; but, at least, we are at present in possession of some clue to the origin of the use of the circular plan, and to the relationship of the baptistery and the circular church. Indeed, the baptistery, though not always styled a church, had its separate altar, and was essentially the same. The baptistery of San Giovanni Laterano, erroneously called the "Baptistery of Constantine," was probably not built till after the death of the emperor, and, therefore, would not afford us any assistance.

The baptistery at Pisa stands immediately opposite to the western façade of the cathedral, and is an edifice of great beauty, but of very peculiar style. Its plan forms a circle of nearly 100 feet diameter, inclosing a peristyle of four piers and eight columns, within which stands the font. The walls are eight feet seven inches thick above the lower plinth, and stand upon a platform, ascended by steps. There are also three steps, next the wall, in the interior. The lower story, externally, is surrounded by twenty columns, one foot eleven and three quarter inches in diameter, having Corinthian capitals, and supporting arches, their distances being unequal. There are four doors, one at each point of the compass, and sixteen windows. In the second story, there is an arcade of smaller columns, sixty in number, which project one foot four inches from the wall. The arches in both these stories are semicircular, but those of the second range are surmounted by decoration of a character entirely distinct, consisting of triangular canopies, alternating with lofty tabernacles and pinnacles. In each tympanum is a half figure, and upon each capital is a bust. The third story is a polygon of twenty sides, with walls five feet seven inches thick, and is occupied by windows of two lights each, divided by a mullion, supporting trefoiled arches under a circular head. Between the windows are flat pilasters, surmounted by small Gothic canopies, and above them a pointed gable, rising above the parapet. In the cupola are dormers with gables and crockets. The dome and its conical termination, along with some other parts of the building, are so much like similar portions in the old College of Physicians, War-

* The *Morning Herald* says on this subject,—"It is proposed to make Buckingham Palace inhabitable by alterations and additions, which, we fear, will add to the deformity of that unfortunate edifice without increasing the comfort or happiness of its illustrious inhabitants. We would entreat Ministers before they commence their patchwork to be warned by the remonstance of Mr. Hume. It is no idle voice that they hear—no spendthrift who offers his money—no reckless arithmetician who knows not that thirty pence make half-a-crown, and that a penny saved is a penny earned. Mr. Nash, the first architect of Buckingham Palace, acknowledged the whole building to be 'a mistake.' Mr. Blore has been trying for some time to repair it, but according to his own 'report,' with very little success, and no satisfaction; for, as far as we are able to judge, the very kitchens and offices which he added, the attics that he raised, and the arrangements that he made, constitute many of the inconveniences which he exposes, and which render a residence in the palace less commodious to the Queen than an abode in the royal yacht."

† Vide pp. 375, 399.

‡ In Vol. III. of THE BUILDER will be seen an engraving of a curious font case, from a drawing by Mr. Truefitt.

† *Quarterly Review*, March, 1845, Gally Knight and Bunsen on "Ecclesiastical Architecture."

wick-lane, that we can hardly suppose that Sir Christopher Wren was unacquainted with the baptistery, whilst the internal cone of brickwork, supporting the dome, differs from that of St. Paul's only in having its springing from the arcade of the interior, instead of at the springing of the dome. The original covering of the dome was lead, but tiles have since been substituted. The conical, and the hemispherical portions are both of brickwork; the former is two feet six inches in thickness at the base, and the latter one foot six inches. The cone is surmounted by a small hemisphere, which retains its original covering, and supports a statue of St. John the Baptist. The dome is divided, perpendicularly, by ribs of marble at intervals. The total height, internal, is about 163 feet, and that of the two internal arcades eighty-eight feet six inches. The upper arcade of the interior forms a gallery, from which the ceremony could be seen, and was reached by stairs in the thickness of the wall. One of the arches of this range is filled with mullions and tracery. The building is ornamented with horizontal bands of blue marble, but which are omitted above the second arcade, and in the outer wall of the second story in the interior. In the centre of the area, on three steps of white marble, stands the font, which is octagonal, and composed of different kinds of marble. The basin is about fourteen feet in diameter, and would contain six or eight full-grown people. From the centre of the font rises a pedestal, whence the water issues, supporting a statue of St. John the Baptist in bronze. On each of four sides of the basin, within, are smaller basins, supposed to be for the immersion of children, that practice having been introduced in the thirteenth century. Another font stands opposite to the altar, adapted to the ceremony as now practised. The altar stands west of the font, so that the bishop, when officiating, would face the east. Above the altar was a vase, in which, according to Martini, the eucharist was placed for those newly baptized.

But the pulpit is the greatest ornament of this baptistery. It forms a hexagon in plan, and stands upon nine pillars, two of them being for the staircase. The material is marble or alabaster, and the whole is elaborately enriched with sculpture. The desk for reading the Gospel is supported by an eagle, and that for the Epistle, which is lower down, and rises from the staircase, rests upon a bracket-column. The leaves of the capitals are Corinthian in general character, and worked with great delicacy. The alternate columns stand upon lions, and that in the centre upon sculpture representing St. John and his eagle. The arches springing from the columns are circular, and the mouldings have a Roman outline, but a Gothic character is given to the work by the cusps, which, say Messrs. Cresy and Taylor, were perhaps added at a later period. The basso-relievos exhibit great purity of design, and are a fine specimen of the sculpture of the 13th century. The last in the series, the Last Judgment, is a surprising work, from the great labour which has been devoted to it, and the variety of expression which it contains. This pulpit was so much prized by the Pisans, that it was placed under the protection of the government, and it was the duty of the Podestà to send a guard during the Holy week, to preserve it from injury. How much does this contrast with the apathy of the present government of Tuscany to the value of their antiquities, and with the indifference to theirs, of an English government. Niccola da Pisa, the architect and sculptor of this pulpit, was the founder of the Pisan school of sculpture, and contributed mainly to that important influence, which the art exercised over that of architecture, and which distinguishes the Gothic architecture of Italy from that of other countries. At the period when painting had made slight progress, sculptors were numerous in Italy. They united the practice of sculpture to that of architecture, or to the art of the goldsmith, and not unfrequently left evidence of great abilities in all. Niccola da Pisa practised from 1225 to 1297, and Messrs. Cresy and Taylor consider, that there is no indication of the pointed style in his works, though Mr. Knight gives some of his buildings, as examples of pointed architecture.—The exterior of the baptistery is rich in carved decoration, and much of it has been taken to prove that the artists of Pisa were admirers of the Greek style; but it is probable, that this resemblance would not have been discovered, but for the supposed Byzantine origin of the cathedral.

Had the buildings of Pisa been erected, studiously to afford a subject for controvesy, their origin and dates could hardly have been more disputed. The baptistery was commenced in the year 1153, Pisan style, the architect being Diotisalvi, and much discussion has been occasioned by the reference of the Gothic portions to the same date. In Vol. XV, of the "Archæologia," Mr. R. Smirke, Jun., F.S.A., published an essay, in which he endeavoured to prove that the Gothic portions in the baptistery and the Campo Santo, were of the same date as the semi-circular arches. He believed, that there were no examples of this style of decoration in Italy, at the time, and said that the Gothic architecture of an early period attained great richness. He noticed, that the round arches were cuspidated, but that the crockets on the pinnacles had no resemblance to foliage. His assertions were replied to, in the same volume, by Sir H. C. Englefield, Bart., who argued that the Gothic parts must be later, because the campanile, built in 1174, had no Gothic features, because the interior of the baptistery was not Gothic, and because the pediments above the columns of the second story, caused great irregularity in that part of the design. He also remarked, that the bands of blue, which were continued through most of the decorations, were not through the Gothic pediments.—In some further remarks, Mr. Mr. Smirke ventured to assert, that crockets of earlier construction, alluded to in our previous paper, were found in the cathedral, but, he ably supported his original statement by saying, that one style did not so much characterize each particular era in Italy, as in England, that there would be constructive difficulties in continuing the bands, and that the interior of Sta. Maria, at Florence, was equally remarkable for simplicity in the interior. He also thought, that the pediments were required for the proper carrying out of the first design. But, Mr. Arthur Taylor, who had made a very careful examination of the construction of the building, reported in the "Archæologia," Vol. XX., that all the Gothic parts were additions, except the windows and pediments of the third story, which were of the same date as that story, at all events. He thought, that these parts, though Gothic, might be earlier than the other Gothic parts, and compared them with "the early, or half Gothic style of Lombardy." The one arch filled with tracery, was the only Gothic part in the interior, but he discovered traces of an intended groined roof, which would have taken its commencement from the termination of the old work, and there was a change in the materials, just where the trefoil windows are seen in the third story of the exterior. He found from Morrona, and other records, that the building was carried on with several interruptions, and the conclusions which he finally arrived at, were, that there were *three* different styles, viz. 1st, the pure Romanesque of the first and second stories; 2nd, the "Lombardic, or mixed Gothic," of the third story; and 3rd, the Tedesque, or florid Gothic, of the accessory details; and that these were the work of separate ages. Messrs. Cresy and Taylor make use of the argument, that the Campanile would have had gothic parts, which, as we have shown, is not convincing, but they were fortunate enough to discover two inscriptions, which proved that no part of the pointed style could be older than the end of the 13th century. One inscription stated, that the work, which had been stopped, was resumed in 1278, when the original design was probably continued. The work of Diotisalvi terminated with the second range of arches. The Gothic parts they judged were of the 14th century, from the monument of the operario, which they had discovered, with which the armorial bearings on the windows, and their arrangement also agreed. They argued that, had the same hand designed the round arches and the pointed parts, a pediment in which the Virgin and Child are inserted, would have occupied at least a central position.

GUERNSEY.—A new church and cemetery were consecrated by the Bishop of Winchester on Tuesday week at this place.

COLLECTIONS FOR A LIFE OF INIGO JONES.

A SHORT time ago we laid before our readers some particulars of the life of Inigo Jones, then recently brought to light.*

In a valuable book written for the Shakspeare Society, by Mr. John Payne Collier, F.S.A. ("Memoirs of the principal Actors in the Plays of Shakespeare"), the author decides a matter of considerable interest in relation to Inigo Jones, by reference to the registers of various parishes. Mr. Collier says,

"The ordinary biographical authorities inform us that 'he was born about 1572, in the neighbourhood of St. Paul's, London, where his father, Mr. Ignatius Jones, was a cloth worker.' That his father was a cloth-worker is probably true, but he, like his son, was called Inigo. This point, as well as the exact period of the baptism of the great Inigo Jones, is settled by the following extract from the register of St. Bartholomew the Less, West Smithfield:—

Enego Jones, the sonne of Enego Jones, was expened the xix[th] day of July, 1573.

The clerk, in various other entries relating to the family, made strange work of the name of Inigo, and spelt it in almost every way but the right, although never in its Latin form, Ignatius. Where and at what time his father and mother married we have not ascertained, but Inigo Jones, the friend, and subsequently the enemy of Ben Jonson, lost his grandmother rather more than three years after he came into the world; her name was Anne, and she was recorded as 'the mother of Enigo Jones;' meaning, of course, Inigo Jones, the father of the artist and architect. We do not hear of the family in the parish after 1579; but between the birth of Inigo Jones in 1573 and that year, he had various brothers and sisters born and buried, and as nothing has until now been heard of them, we have subjoined their registrations in a note."†

AWARDS OF OFFICIAL REFEREES.

PROJECTIONS FROM FACE WALLS.

The Requisition of Frederick A. Hall, of Friendly-street, in the parish of St. Paul, Deptford, and Richard Smirke Martyr, Surveyor of the District of Deptford, Kent.

WITH regard to a certain house in course of erection by the said Frederick A. Hall, on the south side of the upper London-road, in the parish of St. Paul, Deptford.

And whereas it is in schedule D, part 2, external walls, recited thus:—"And every plate, lintel, bond, corbel, being of wood, and every wood brick laid into any external wall, and all ends of joists, of girders, and of the heads and sills of partitions running into any external wall, must be fixed at a distance from the external face of the wall of four inches at the least."

And whereas it is in schedule E, projections from face walls, &c., recited thus:—"And as to all balconies, verandahs, porches, porticos, shop fronts, open inclosures of open areas, and steps, and water-pipes, and to all other projections from external walls, not forming part thereof, every such projection (except such part of shop fronts, and the frames and sashes of the windows and doors, in reference to the necessary woodwork thereof) may stand beyond the general line of fronts in any street or alley, but they must be built of brick, tile, stone, artificial stone, slate, cement, or metal, or other proper or sufficient fire-proof materials, &c. &c.

And whereas the said house is being built on ground in the occupation of, and on lease

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* See p. 37, *ante*.

† From the register of St. Bartholomew the Less:—

"11 Sept., 1575. Philipp Johnes, the sonne of Enygoe Johnes, was expened."

"14 Oct., 1575. Philipp Johnes, the sonne of Inygoe Johnes, was buried."

"3 Feb., 1576. —— Johnes was expened, being the doughter of Enygo Jhones."

"12 July, 1577. —— Jhones, the doughter of Enygo Johnes, was buryed."

"7 Sept., 1578. Anne Johnes, the doughter of Enygo Jones, was expened."

"19 July, 1579. Anne Johans, the daughter of Enygo Johans, was buried."

There are no other entries relating to the family in the same register, nor in any others that we have had the means of consulting. We may add that Webb in his inscription upon his master, Inigo Jones, mistakenly gave the date of his birth, "Natus Id. Julij, 1572."

to the said Frederick A. Hall, and upwards of twenty feet back from the line of road.

And whereas the said Frederick A. Hall proposes to erect in front of the aforesaid house, and attached thereto, a colonnade of iron columns, and to form the roof by means of extending the first-floor joists through the external front wall. The flat, soffit, and fascia he intends to form with fire-proof materials."

The referees awarded "that it will be contrary to the Metropolitan Buildings Act to erect the colonnade roof in question, in the manner proposed by the said Frederick Andrew Hall, and that such colonnade roof must be wholly constructed of fire-proof materials."

DISTRICT SURVEYORS' FEES.

MAGISTRATES' DECISION AS TO ADDITIONS.

On Thursday, the 13th inst., Mr. William Dean, baker, of Sydenham, was summoned before Mr. Trail, the sitting magistrate at the Greenwich police court, by Mr. C. R. Badger, district surveyor, for the sum of 3*l.*, being the fees for two additions to a second-rate house, viz. 1*l.* 10s. for building an oven in the rear, and 1*l.* 10s. for the addition of a new shop-front. A correspondent sends us the following particulars:—The notice was filled up by Mr. Robert Smith, oven-builder, for the oven, and left at Mr. Buller's, carpenter, Sydenham (for Mr. Badger), who interlined in the same "a new shop front, &c." Mr. Badger stated, that as the work was executed by two different builders, and, moreover, at two distinct periods, he was clearly entitled to two fees. In answer to which, Mr. Dean called Mr. Buller, carpenter, of Sydenham, who proved to the satisfaction of the magistrate, that the works were proceeding at one time. Mr. Trail said he never gave his judgment with more conscientious satisfaction than he did in this case, that Mr. Badger was not entitled to more than one fee for the alterations, as it was proved that there was no special time between the works, and instanced, that if he were to put up a verandah to one window, or if he were to put up verandahs to twenty windows the fee would be the same, he should not have to pay for twenty additions; and twenty and two were the same in point of law. At this decision Mr. Badger appeared very much dissatisfied, and said he should take the opinion of the official referees. It was ultimately arranged that Mr. Dean should pay 1*l.* 10s. when called upon, and the expenses of the summons should stand over for the present.

THE COLOSSUS AND THE ARCH.

Mr. Editor,—It surely never can be seriously intended to hoist up the *real* statue of the duke and his horse, and set them both together in their position to enable their true effect to be estimated? It must be a joke, or if it is not, I never heard a wilder thing.

The only use of setting the figures up would be, to see how far the general mass or bulk combines with the structure below, or the contrary; now this could be developed quite as well by a Guy Fawkes Duke and a straw horse, covered with some yards of McIntosh, which any saddler, or the stuffer employed at the Zoological Gardens, would readily make to imitate the real things. If the object is "Truth," this would be the way to arrive at it; but I cannot help thinking the advocates for placing the duke here hope to out-general their opponents, by getting the figures once up, and then leaving the interests of the public to cool over the matter or their eyes to be familiarised to the deformity.

With every wish, Mr. Editor, for your success in this and every other effort you are making in the right direction, believe me yours faithfully, Minimus.

London, Aug., 22, 1846.

*** It seems to have been forgotten by the Government when they unwisely assented to this arrangement, that the pedestal must be built (an expensive piece of work), and that all the upper part of the scaffolding must be removed in order that the parties who are to pronounce for the nation, whether the arch looks bearable or unbearable when the statue is upon it, may be able to judge.

FREEMASONS OF THE CHURCH.

August 11th. Mr. French, architect, in the chair. Mr. Henry Cox exhibited a bust of Diomede, a small figure of Hercules sitting upon a rock, and a mask of the Apollo Belvidere, being *solid deposits* by the *electrotype process.* A paper was read by Mr. John Brown, on the artistical effects which may be given in architectural views, by combining etching with lithography. Mr. E. B. Price introduced to the meeting some fine rubbings from brasses, in Northfleet, Willesden, Chartham, Hever, Saltwood, and Weston Abbey; an interesting discussion took place on the monogram I. H. S., in which Dr. Wright and Messrs. Archer and Purland took part. Mr. J. W. Archer stated that he had discovered the position of part of Baynard's castle, by excavating, and promised to bring the subject before the next meeting.

The chairman then read a lecture "On the Architectural allusions in Shakespere's Works;" pointing out how the immortal plays recal to mind some of the finest works of art, and what glorious subjects they afford for the pencil of the painter. Although in Shakspeare's days it is highly probable that much change of scenery was not known, in later times his plays have been got up with admirable attention to the costume and pictorial illustrations of the different countries and eras chosen to be represented, to which the perfection of modern machinery has largely contributed. The advantages of modern travel have enabled managers of the present day to produce a drama with a reality and magnificence unknown to the time of the Elizabethan poets. Thus, in the play of "Anthony and Cleopatra," the scenery might embrace some of the splendid buildings which adorned Egypt from the days of the haughty Pharaohs to the last of the munificent Ptolemies, the celebrated Queen herself, the back-ground closing up with a view of the mighty pyramids, beneath whose shadows so many dynasties had risen and passed away. In "Coriolanus" we see Rome before it was adorned by the magnificence of the Cæsars, but still rich in the gifts, more useful than showy, of the proud Tarquins, and the still prouder consular rulers of the republic,

> "aqueducts
> Among the groves and glades rolling along
> Rivers, on many an arch high over head."
> *Rogers' Italy.*

In "Julius Cæsar" we find the seven-hilled city becoming imperial in its architecture, as it was in every other respect, and arches and temples, porticos and theatres, crowd upon the view, and Shakspeare expressly lays some of his scenes in the forum—

> "Once
> "And along the centre of their universe,"

the place of all others in the world full of extraordinary associations, and where

> "The very dust we tread stirs us with life,
> And not a breath but from the ground sends up
> Something of human grandeur."—*Rogers.*

In "Pericles, Prince of Tyre," the scenes are in classic ground, and one is of a strictly architectural character, the temple of Diana at Ephesus, accounted one of the seven wonders of the world (Act V., scene 3).

In the play of "Julius Cæsar," we find an expression which has appeared to some critics to be an anachronism. Marcellus, one of the tribunes, rebukes the citizens for their eagerness to run after Cæsar,

> "Many a time and oft
> Have you climb'd up to walls and battlements,
> To towers and windows, yea, to *chimney-tops*,
> To see great Pompey pass the streets of Rome."
> (Act I., scene 1).

But although in the first place we think that Shakspeare may be allowed a poet's privilege, and should not be judged by rules too strictly, yet it is not so certain that chimneys orsomething thereto equivalent, were unknown among the ancient Romans, for Palladio says, "The ancients, to heat their chambers, did serve themselves in this manner; they made their chimneys in the middle with columns or brackets, which bore up the architrave upon which were the *funnels* of the chimneys, which conveyed away the smoke."—*Richardson's Translation*, p. 103.

In Shakspeare's time England possessed many fine mansions, adorned with splendid specimens of chimney shafts, so eminently characteristic of Tudor building, rendering his allusions natural, one in the "third part of Henry VI."

> "The raven rook'd her on the chimney's top;"

and one in "Macbeth,"—

> "Where we lay,
> Our chimneys were blown down."—Act II.

In connection with interiors, the lecturer noticed, that in Shakspeare's plays there are some most interesting illustrations, viz.:—tapestry, or arras, as such hangings were called from the city which was a great seat of their manufacture. And, although the walls were covered with such costly hangings, the floors had not, in Shakspeare's days, the modern luxury of carpets; the substitute for which were generally rushes: thus, in the "Taming of the Shrew," Grumio, preceding his master Petruchio, inquires of the servants at his country house, "Is supper ready, the house trimmed, *rushes* strewed, cobwebs swept?"—(Act IV., scene 1.)

The lecture was illustrated by Mr. Nixon, the sculptor, who exhibited a cast of the bust of Shakspeare, in Stratford-upon-Avon Church, and a medal. A letter was also read from Mr. John Britton, accompanying a portfolio of beautiful drawings of Stratford-upon-Avon Church, and numerous buildings with which Shakspeare was connected.

The first lecture on "Fresco Painting," by Mr. W. C. Thomas, was announced for October 13th.

SHEFFIELD SCHOOL OF DESIGN.

On the 19th inst. the annual meeting of the Sheffield School of Design was held, Mr. Richard Solly in the chair; when a report was read, prizes were distributed, and the new master, Mr. Young Mitchell (appointed by the Council in London) read an address. The advantages of the school appear to be more appreciated than they were, though still, less than is to be desired. The following are extracts from Mr. Mitchell's address:—

"The arts and manufactures of England, during a long and rapid progress of both, have unaccountably overlooked the value of that close and intimate connection, which should have confirmed the influence and doubled the resources of each. A secret so obvious to the progress of inventions, as to make it matter of wonder how it should any where have remained a secret so long, has been discovered in most of the other European states sooner than in our own; and countries far less richly endowed in the elements of commercial prosperity have shewn by evidence, which the Englishman has the opportunity of reading in most of the markets he frequents, of the wealth which results from such a union. France, Italy, Belgium, Prussia, nay, many even of the small German states, have learned the refining and profitable lesson, and teach it to-day by those statistical instructors, to which the merchant and the manufacturer have the most direct and natural access. Recognising the superiority of England in most of the industrial substances, they have called into their aid the genius of *form*, and products, in whose mere manufacturing processes England may defy competition, have driven and are driving her merchants from the mart of the world, by the force of their appeal to the sense of beauty; and this is in the natural order of things." * * "Those who would hold the first place in the contest of a wide and crowded industry, by which all the material wants of the world are largely supplied, must enlist beauty of form and purity of taste on their side." * * "The object is to develop amongst England's skilful labourers the one capacity for the perfecting of her staples, which has been allowed to slumber. There is no design to take the workman away from 'his tools,' only to teach him their more graceful and accomplished use. Those whom I now address, know well that whatever the amount of capital they may employ, and whatever skill and energy may be exerted in its direction, they are insufficient, if to them be not added the assistance of as skilled and intelligent workmen as those of neighbouring nations. Here, then, the workman will commence his artistical education, and I see no reason why such education should not be common to all,

rather than confined to one or more classes. *There is no labour on which the operative can be employed, which may not benefit by a knowledge of the principles of design.* Here will he make acquaintance with the beauty of form, and having constantly before his eyes specimens of art by the great masters, his mind will gradually become coloured with their feeling. He will learn to distinguish the true from the false, and his gradually and naturally refining taste will stamp itself upon the labour of his hands. With workmen so educated, what power can arrest the onward progress of British manufactures? In alluding to the diffusion of education amongst the working classes, it was recently well expressed by one of our distinguished statesmen, that 'Education tends to elevate the whole man physically, intellectually, and morally, and his elevation tells again on the commercial prosperity of the country in ten thousand different ways.' The manufactures for which Sheffield has been so long and justly celebrated have a natural connection with the arts. And I feel justified in asserting that such occupations as those of the silversmith, chaser, die-sinker, modeller, steel-etcher, stove and fender makers, carver, and many others, if aided by the knowledge and skill of the artist, would rise to a hitherto unattained pitch of excellence, and bring to the manufacturer, at once, increase of fame, and increase of wealth."

Speaking of the casts and examples to be placed before the students, he remarked:—

"Let us copy them, not as mere copyists, but as men striving to work in the spirit which produced them; and let us no longer condescend to be the servile imitators of modern French and German art."

To the students themselves, urging them to give assiduous and persevering application, he said:—

"Let them ever bear in mind, that each hour spent here in careful study, will do the work, and produce the wages, of many in their future career. He who, to the character of an expert workman, shall add the reputation of a good draughtsman, will always find himself sought after and employed at a high rate of remuneration. Earnest and well directed labour is seldom unrewarded; and among those who are now thus labouring here, there are many who may hereafter sit amongst the eminent manufacturers of their country, dating back their eminence to the knowledge acquired here. To all who study, then, I say, courage and perseverance."

And so say we to master and pupils, whether in Sheffield or elsewhere, take courage and persevere.

ST. GEORGE'S CHURCH, LEICESTER.

EFFECTS OF LIGHTNING.

Sir,—The church at Leicester recently damaged by lightning, as mentioned in The Builder, is of the perpendicular or late pointed period, of indifferent design much ornamented; erected I should imagine fifteen or twenty years ago. The spire was surmounted by a vane, having a fan and cross above of metal (brass I believe), united to an iron rod of 1¼ inch diameter, about 12 feet long, which was let into the stone work. This you will see, formed an admirable conductor, best calculated to be the destruction of the spire; carrying the fluid into the masonry, there to find an exit as it willed. The lightning, after spending its fury on the spire, passed away through a downright pipe fixed in the inner angle of the north-east buttress of the tower; from thence it appears to have travelled along the roof to the three pipes fixed against the south side of the body of the church, and the *farthest* downright pipe from the tower on the north side: all the pipes shew the action of great heat, being much discoloured, and pieces (three in number, I believe), about the size of the human hand, have been found, which were forced out of the pipes. The pipe from the tower has been acted upon most, being considerably more shattered and discoloured than the rest; the masonry round it also, bears strong evidences of fire. By the falling of the masonry, the roof of the north entrance porch has been shattered, and the roof of the first bay of the north aisle completely destroyed; the roof of the nave adjoining has been also considerably damaged. The bell has fallen in the centre of the tower, carrying away the belfry floor and the landing of the gallery staircases; it has been cracked by the fall, but bears no traces of the electric fluid. The tower appears to have escaped, having received no further damage than some of the glass being forced out of the window. The spire will have to be taken down and rebuilt: the probable cost of the restoration is said to be from 2,500*l.* to 3,000*l.* A short time since the tower of St. Margaret's, in the same town, was struck by lightning, one of the pinnacles being thrown down. It was restored without any effort being made to obviate a similar disaster, and only of late, I believe, has any provision been made. Looking at the number of buildings injured of late years by lightning, the infatuation and gross carelessness of those intrusted with the charge of public buildings, is only equalled by the miners of this country, in their disregard of the qualities of the safety lamp.

Cavetto.

IRON TUNNEL OVER THE MENAI STRAITS.

Sir,—You mentioned last week that contracts had been entered into for the ironwork to the Menai tubular bridge, and connected with this subject, I wish to draw your attention to the circumstances, that in the elaborate reports that have been published by Messrs. Stephenson, Fairbairn, and Hodgkinson, and the able communications that have appeared in the columns of your contemporaries, I have not observed that any calculations have been made as to the probable effect likely to be produced by a heavy gale of wind, either from the south-west or north-east, on the proposed structure.

We have had ample proof of its destructive character upon suspension bridges similarly exposed, presenting, comparatively speaking, a small surface to the action of that powerful and at times irresistible element, whereas this tubular bridge is to be 450 feet long, 30 feet high, and 15 feet wide, offering 13,500 square feet of rigid surface (exclusive of the width underneath the roadway) to its resistance.

With every confidence in the genius, capacity, and talent of the eminent man who designed the tubular bridge, and of the practical knowledge and mathematical attainments of those gentlemen who have aided in conducting the experiments, I may be allowed to observe, that as these have been necessarily on a very limited scale, and in situations so dissimilar, where it would be almost impossible to obtain correct practical data, particularly on the subject alluded to, and as this is a work combining boldness with novelty, and in which a national interest is felt, further and more satisfactory information would be exceedingly interesting to the profession, and I have no doubt to the public at large.

The public, on whose fiat depends the success of this undertaking in a commercial point of view, are generally too prone to condemn new projects or inventions unless they have ocular or other demonstration of their safety, utility, or practicability, as, for instance, suspension bridges on their first introduction, and railways; even now many are too timid to travel by railways, and some of us with hearts moulded of Nature's hardest stuff, would not have ventured to travel by express trains, if the speed they have acquired had been attained on the first introduction of railways.—I am, Sir, &c., B. B.

Merthyr Tydfil.

Sewers.—From a return just issued by order of the House of Commons, it appears that the total amount of sums collected by the Commissioners of Sewers for the city and liberty of Westminster and part of the county of Middlesex, between the 17th of May, 1839, and the 31st of December, 1845, has been 145,540*l.* In 1841, the amount received was 32,981*l.*; in 1842, it was 28,472*l.*; in 1843, it was 29,784*l.*; in 1844, 36,089*l.*; and in 1845, 24,196*l.* During the period the expenditure has been 138,976*l.*, leaving 15,388*l.* as balance in hands of treasurer on the 31st of December last.

Furnace-Bar.—Mr. Dredge, the inventor of a suspension-bridge, has lately introduced and registered a new form of furnace-bar. The principal advantages claimed for this invention are great increase of strength, and a freer access of air to the fire than usual.

FOREIGN ARCHITECTURAL AND COLLATERAL INTELLIGENCE.

The annual meeting of German architects, engineers, &c., will be held at Gotha, on the 3rd to 7th September next. A numerous attendance of English brother-labourers is expected. [The *distance* from London to Gotha is—5*l.*]

"*Systematic*" *work on Grecian Antiquities.*—Professor Hermann, of Goettingen, is carrying a splendid work, under the above title, through the press. The first volume contains (what *we* call) *State's* antiquities, roads, bridges, canals, &c. The second, the cultc or religious antiquities of Hellas.

The "new" Pinakothek of Munich, &c.—Close to the *old* Pinakothek, on an extensive piece of ground, the foundations for the above building are just being dug out. This structure, which will be one analogous to the old Pinakothek, although differing in style, will be destined for specimens of *modern* German art. The architect is Professor Voit. Its outer wall will be ornamented with a long row of pictures, for which Kaulbach has made the designs—being "allegories of the history of modern German art."

Professor Henry de Hess is just painting a great fresco for the refectory of the Benedictine convent belonging to the Basilica, while one of Hess's pupils, Mr. Caspar, has nearly completed another fresco—"the stoning of St. Stephen," to be placed in the right side aisle of the Basilica. Objects of great admiration are the coloured cartoons of Mr. Anton Fischer, made for the stained glass windows of the Cathedral of Cologne, presented by the King of Bavaria. Especially in the death of Jesus, the artist has exhibited a clearness of perception, freedom and *largeness* of design, and depth of feeling in expression and motion, which at once assign to him a honourable place amongst European artists. The royal glass painting establishment is busily engaged in executing this and another cartoon of Fischer—"the adoration of the Kings." The third of the huge windows for Cologne is "the effusion of Holy Spirit," on which Mr. F. is to lay hand next.

Electro-Phonetic Telegraph.—Professor Hume, of the Academy of Charlestown, has brought this matter to a final issue, by the construction of a model—*although* something similar had been previously discovered both in St. Petersburg* and in Cincinnati: in the former city it had been laid before the Imperial Academy of Sciences. The Russian telegraph can produce *ten tones* by ten different wires; that of Charlestown has hitherto merely two wires, which produce two tones, but is capable of producing *all* the letters of the alphabet by an adequate number of wires. But this seems superfluous, provided that a sufficient number of tones be extant, to make the *speech* of the telegraph intelligible. The difference between this sort of electric communication and that of others (for instance, that of Mr. Morse†) is, that tones supply mere signs and figures. The machinery, however, is very simple, and the sound can be clearly heard in any, even large room. Dr. Hume is on the point of publishing the details of the Phonetic telegraph, and putting it into practice.

Great Congress of Freemasons in Strassburg.—The programme of this large gathering of the craft (just concluded) exhibits some interesting features in the several questions proposed for discussion by the *Orient* of Strassburg. Amongst these is "What improvements of the working classes can Freemasonry put forth, *not* previously attempted by the *external* (not-masonic) world?" This is a very *hard* question indeed. Another portion of the programme states, that nothing relating to party politics or party religion can be broached in congress.

The Turkish Gazette—contains a law issued by H. M. the Emperor, by which it is permitted to Mahomedans, to erect *stone* houses, *chans*, magazines, and shops, either in Constantinople or the provinces. We noticed it on another occasion,‡ that as well in the capital as most other places, all private buildings, nay even the imperial palaces, were built of wood; and for the building in stone, hitherto an especial permission of Government was required. [These are improving times indeed.]

J. L.

* Page 200. † Page 184, *ante*. ‡ Page 317, *ante*.

BRISTOL TOWN-HALL.

Sir,—Some time since we were given to understand here, that when the Guildhall was finished you would furnish the public with your own observations upon it, and these have been looked for with some anxiety, as they would not be influenced by partial statements. Some remarks in the *Bristol Mercury* of last Saturday, as well as the insertion of an article on the subject in *The Times*, make it desirable to many that a portion of your valuable publication should be devoted to the subject, and if some practicable mode could be suggested to obtain for us a Public Hall, it would render a service to this ancient and loyal city, and would no doubt be well received by the public. There is a space of ground at the back of the recently erected building, that could probably be obtained at a reasonable price, as the buildings on it are old and decayed.

It is a little singular that the council house now has a huge entrance and handsome staircase, but the room built at the first for a justice room, was so dark and inconvenient as now to be of no other use than a thoroughfare. They were obliged to take in, since, other ground for a justice room, where the prosecutors and the prosecuted are mingled together in disagreeable confusion when they have to appear before their worships.

Had our councillors agreed as to the accommodation requisite for themselves, and the public, who have to pay for it, and offered a premium for the best plans at a given expense, we should have had what we wanted, without wasting our money on a very dashing front without internal accommodation.

The courts of bankruptcy afford accommodation to the commissioner and the professional gentlemen, but the creditors, should the number exceed 12 or 14 at the most, have to stand in a most inconvenient passage.

I, with others, shall be very glad if you will take up this subject, and am, Sir, &c.

An old Citizen of Bristol.

Bristol, Aug. 15, 1846.

I inclose my card for your own satisfaction.

*** The subject shall not be lost sight of. The arrangement of our law courts throughout the country is very defective, and is scarcely to be reconciled with our assumed advances in knowledge. Mr. Cockburn remarked, at the opening of the Bristol courts in question, that Mr. Justice Taunton once said, in his hearing, that the great object of the ingenuity of all architects, when they are constructing courts of law, is to make them as inconvenient as possible to all parties. Surely the architects are not always to blame? Are there no other causes in operation?

RAILWAY JOTTINGS.

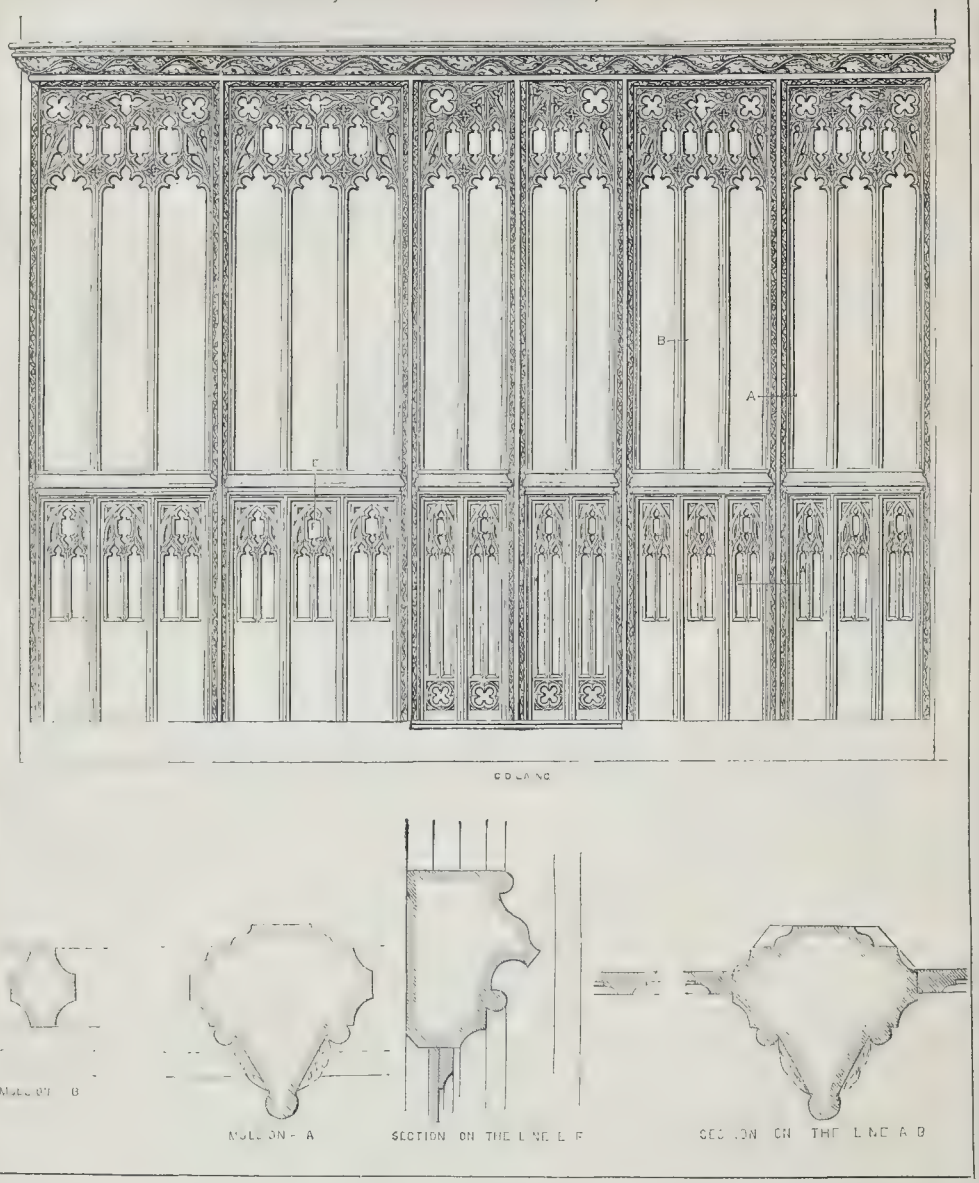
A bill for the appointment of the Government Railway Board, recommended by the select committee alluded to in our last impression, was brought before the Commons and read a first time on the 19th instant. The Board is to consist of a president and four members, two of them paid, one in each House of Parliament, so as to be ready to reply to all railway questions; and to these it is proposed to add the whole of the staff of the railway department of the Board of Trade.——The responsibility of railway engineers, established in the case of Collins *v.* Giles, recorded in our impression of the 8th instant, is likely to lead to extreme severity in the adjudication against defaulting engineers, or those who may be regarded as such. The precedent was immediately followed up in various instances, and one of the most important of those still further meditated, is the action about to be brought by the Great Eastern and Western Company, against Mr. Gravatt, for the recovery of money paid to him, and for full compensation for very great losses alleged to have been sustained in consequence of the defective state of their plans. Proceedings of a like nature, it is said, are to be instituted against the same gentlemen by the Worcester, Warwick, and Rugby Company, in which large sums are likewise involved.——Mr. Austin is said to have realized no less than 45,000*l.* during the present session, by his services as an advocate before the Railway Committees.——A penny subscription is in progress for behoof of "Thomas Gray, the Railway Pioneer," who has impoverished his old age by his original advocacy of the railway system.——An American, it is said, has invented a self-adjusting break, by means of which the engineer can arrest each carriage in a train simultaneously with every other, and thus prevent their mutual concussion.——The newly amalgamated "London and North Western" Company, in which, including minor lines such as the North Union and the Lancaster and Preston, there have been merged six previously independent companies, wields its iron sceptre "over something like 330 miles of territory, and holds the key of an exchequer whose money-power represents something upwards of 17,000,000*l.*; so that England," says the *Railway Times*, "from London to the north, has become placed under the untrammelled control of the cross-bars of one private body, from its inland centre, London, to Manchester and Liverpool, the great triangles of its trade."——The extension of the South-Western Railway to the vicinity of Waterloo Bridge is in active progress. A number of houses in the vicinity of Vauxhall gate have been demolished, and others in the Westminster-bridge-road are about to follow, as that thoroughfare is to be crossed by a viaduct extending diagonally from the Upper Marsh, Lambeth, to Waterloo-bridge.——A correspondent of the *Morning Herald* declares that the speed on the Croydon atmospheric line surpasses any thing he has yet experienced. With a train of four passenger-carriages a velocity of 75 miles an hour was reached, and the speed appears to have averaged, throughout the atmospheric run of five miles, a rate of about 65 miles an hour. All the trains observed, too, were perfectly regular as to time.——The exterior of the temporary station at Stamford for the Syston and Peterborough line is completed, but the opening is not yet fixed.——The sinking of the earth on the Ipswich and Bury line, at Stowmarket, has raised the adjacent fields several feet, but the contractor and engineer are still confident of filling the swamps without retarding the completion of the line.——The contract for the Whitby Railway station, we hear, has been obtained by Messrs. Bellerby and Company, of York. The cost will considerably exceed 10,000*l.*——The railway labourers on the Newcastle and Berwick line, between the Aln and the Coquet, have stood out for and obtained 4s. a day for their labour.

PROVINCIAL NEWS.

The proposal to restore and repew the church of St. Lawrence, Reading, at an expense of 2,000*l.*, has called forth from Mr. Blandy, of Highgrove, communications to the local papers, in which he regrets that the restorations have been undertaken by a committee (consisting of the vicar, two churchwardens, and others), appointed merely to repew the church (at an ascertained expense of 190*l.*), and who have proceeded to select plans for restoration without specially consulting the parishioners, with whose sympathies Mr. Blandy declares that neither the committee nor their proposed restorations at all harmonize. It is the manner and special description alone, and not the general necessity of restoration, that Mr. Blandy disputes, and at all events surely the parishioners ought to be specially consulted, or rather called upon to appoint their own committee (whether the same or another) for that special purpose if they desire it. We have ourselves received communications complaining of the manner in which the competition for plans was managed.——The three new public parks at Manchester, namely, Queen's Park, Peel's Park, and Phillip's Park, were formally opened on Saturday last with great *éclât*. They have cost about 35,000*l.*, including 32,000*l.* subscribed by 5,000 persons. Three composition statues have been contributed by Mr. Armitage, of Sheffield, and placed in appropriate situations. The grounds are all well tile-drained, and are all provided with fixed and moveable seats, side walks, gymnasia, archery butts, play grounds, May poles, &c., and, what are still more wanted in our own metropolitan parks, namely, drinking wells and private conveniences. They are well laid out with trees, shrubs, plants, &c., and have all been declared to belong exclusively to the working classes although the authorities have not failed to supply them all with well-appointed carriage-drives.——The interior of West Ham church is about to be repaired and beautified, at a cost of 1,500*l.*, supplied by a rate of 9d. per pound on the parish assessment.——The church of St. John, Stratford, is also to be altered, &c., at a cost of 250*l.*——The Wesleyans intend to supersede their Kingswood College, by the erection of a new and more extended building in the vicinity of Bath.——This respectable body appears to be thriving at Taunton also, where it has been found necessary to enlarge their chapel in Upper High Street, by the addition of 300 sittings. Schools for several hundred children too are in course of erection at the rear of the chapel. About 1,200*l.* are to be thus expended.——Mr. Marshall, of Belmont, has contributed 50*l.* to the expense of restoring the church of St. Mary, Taunton.——The new church of St. John the Baptist, at Eastover, Bridgewater, was consecrated on Monday week, immediately after the assignment of a district parish, to that portion of the town on the eastern side of the river, was completed on the 13th instant. The demands of the Ecclesiastical Commissioners were satisfied by the advancement in the meantime of a considerable sum by two gentlemen, Messrs. Poole and Bowen, to whose exertions the subscribers to the endowment fund appear to have been much indebted. This church is the edifice so singularly raised up to the establishment by the munificent liberality and enthusiasm of a total stranger to Bridgewater (Mr. Capes) who, still more singularly, afterwards became a Roman Catholic, and drew away from the establishment he had so disinterestedly supported many of the congregation and the friends he had acquired; while measures were successfully adopted to reserve to the establishment an edifice so liberally founded for its use.——The journeymen painters of Leeds and their employers are again at variance on the subject of wages.——The parishioners of Holy Trinity, Goodramgate, in the heart of York, have very properly determined that in future no interments shall take place in their churchyard—widows, widowers, and those who possess private vaults excepted.——The inhabitants of Hull have at length been consulted on the subject of their proposed new markets. The recommendation of the Queen-street site by Mr. John Peck has been favourably received, and indeed the proposal so far resolved upon. The property in that quarter is said to be much dilapidated, and cheaply purchasable; and Mr. Peck stated that "by estimate he had found that a covered market (including a corn exchange and fish market) could be made for 10,000*l.*, thus (with 20,000*l.* for twenty years' purchase of the property, under deduction of 3,000*l.* for old materials) bringing the cost to about 27,000*l.*——The extensive Sunderland Dock scheme is about to be realized. Contracts for the principal dock are to be called for in the usual way forthwith, and also for the construction of the Sunderland and Pensher branch of the York and Newcastle Railway, which links Sunderland with the great branch line of the York and Newcastle, and which is requisite for the transmission of stone from the Marquis of Londonderry's Pensher quarries to the site of the proposed works.——The cost of the Scott Monument at Edinburgh (the statue for which was inaugurated on Saturday week) is said to have been between 16,000*l.* and 17,000*l.*——.——A bathing and washing house, under the new Act of Parliament, is to be erected in Belfast, at an estimated cost of 2,500*l.*, with ample provision for further enlargement. It is intended, in the meantime, to provide twenty-one baths—thirteen for men and eight for women, with accommodation for sixty washers.

Christ Church, Ramsgate.—On the 12th inst. the first stone of this proposed church was laid by Mr. J. P. Plumptree. The style of the church is Early English, with a nave 72 feet long, and side aisles. The church will be 62 feet in breadth; the chancel is 36 feet by 24 feet; the tower, with spire, is at the east end, over the vestry, and will stand from the ground about 124 feet. The cost will be about 5,300*l.*, and number of persons accommodated 950. Mr. G. Scott is the architect, and Mr. W. E. Smith, of Ramsgate, the builder.

PARCLOSE, CHEDDAR CHURCH, SOMERSET.



PARCLOSE, CHEDDAR CHURCH, SOMERSET.

The term *parclose*, ordinarily applies to a screen or partition, a parapet round a gallery, or the carved back of a seat. In the "Records of Beauchamp Chapel, Warwick," as quoted in Britton's "Architectural Dictionary," is this entry:—"The carpenters do covenant to make and set up, finely and workmanly, a *par-close* of timber, about the organ-loft, ordained to stand over the west dore of the said chapell."

The original of our illustration (drawn by Mr. F. Dollman) is at the east end of the north aisle of the nave of Cheddar Church, forming the western end of a small chapel beyond. There is a similar screen on the south side of the nave, but of somewhat inferior design and execution.

Some writers apply the term parclose to the space itself, at the east end of an aisle, inclosed by a screen. In Bloomfield's History of Norfolk *, it is said, when speaking of St. Martin, Norwich, that "in 1500, a Perclose, *or* chapel, included with *cancelli* or lattices, was made at the upper end of the south isle, like that in the north isle."

Cheddar Church is an interesting example, and has the usual characteristics of the Somersetshire churches. The pulpit is well known; and there is a great variety of very good woodwork throughout the church. With he exception of the font, and the piscina in the chancel, which are early English, nearly all the details of the church, like the elegant screen we have given, are perpendicular.

* Vol. IV., p. 369, as quoted in the Oxford Glossary.

ARCHITECTURAL SHADOWS,*

BY T. S. DAVIES, F.R.S.
PROFESSOR OF DESCRIPTIVE GEOMETRY IN THE COLLEGE FOR CIVIL ENGINEERS, PUTNEY.

The only problem solved in the preceding communication (except such of those in descriptive geometry as were requisite in aid of it) is—to find the shadow of a point or straight line on the plan and elevation planes. I confined myself to this problem on that occasion, because it appeared to be the only one which your previous correspondent, "T," had in view. I shall presently proceed to the consideration of others; but it will be desirable to notice the passage in Mr. Gwilt's *Sciography*, to which reference has already been made by "T."

* Resumed from page 380.

ILLUSTRATIONS OF ARCHITECTURAL SHADOWS.

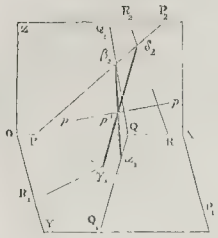


Fig. 8.

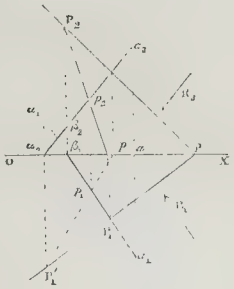


Fig. 9.

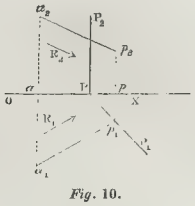


Fig. 10.

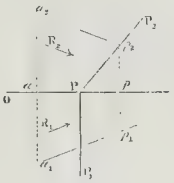


Fig. 11.

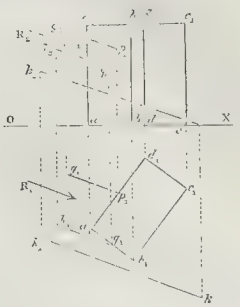


Fig. 13.

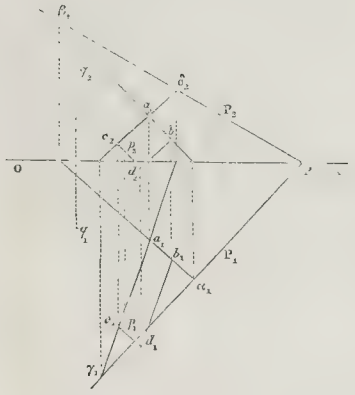


Fig. 12.

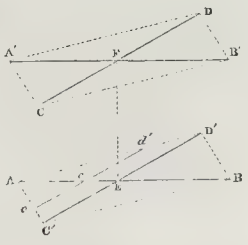


Fig. 14.

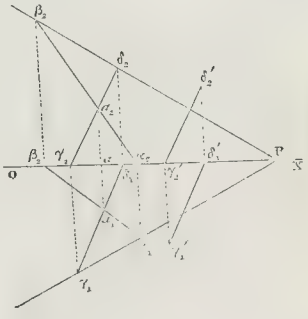


Fig. 15.

Mr. Gwilt remarks (pp. 2, 3,) that "in architectural drawings it is *usual* and *convenient* to project the shadows at an angle of 45°, with the horizontal as well as the vertical planes; because then the width of the shadow marks the actual projections and recessions on the plan." This, in other words, is the same thing as taking R_1, R_2, so as to make angles of 45° with the ground line OX in our fig. 7, p. 379. Keeping this in view, the architectural student will find no difficulty in following *with his understanding* the majority of examples in the "*Sciography*" which relate to the case of the shadows being projected on the plan and elevation.

I must be allowed to make one remark, however, on the universal selection of this mode of shading. It does no doubt effect the purpose mentioned by Mr. Gwilt, of marking "the projections and recessions on the plan;" and under this aspect, whilst it is *usual*, it also becomes *convenient:* but on the other hand it often represents buildings with an appearance under which *they never can be seen when erected*, and a false impression is thereby made as to the ultimate effect of an intended building. To the architect himself the information thus conveyed is unnecessary, since his plan contains the same fact, and it is scarcely dealing fairly with his employer for him to give a representation which can never be realized in the building which it is proposed to construct. Whatever be the aspect of a structure, its shading should be given for the time of the day when it is likely to be most generally seen, and possibly the composition of a design might be advantageously modified from a first conception by some degree of attention to this rule. As far, indeed, as ecclesiastical structures ar concerned, the uniformity of their bearings, east and west, renders this system of shading always applicable; but in civil structures the circumstances of their sites render it impossible to comply with the conditions under which such a system of shading appears to me to be eligible. I, however, throw out this hint with some diffidence; and shall not be surprised to find that it is rejected by architectural authorities. Yet, I would deprecate its rejection without due consideration; and still more its rejection by men whose only reason for condemnation is their ignorance of any general rules for shading and shadowing.

The mode of introducing the subject of shadows by Mr. Gwilt needs no comment from me; except that it should fail to give the student any clear idea of the *reason* for the processes which follow it, does not with me create surprise. It is inadequate both in respect to reason and illustration; and this has been one of my main motives for writing this short series of papers on the mathematical principles of shadows.

No English writer on this subject ought to omit a proper reference to Nicholson, or withhold a due encomium on his merits. The great drawback, however, on the value of his works in general is, a certain inconsecutiveness in laying down first principles, and a frequent absence of all of anything bearing even the form of a reason for the process which he gives. On the doctrine of shadows his directions are often general, and perfectly correct; whilst, most unaccountably, in his engravings only the "usual and convenient" cases are figured. To the student who has mastered the reasoning of my previous paper, there still, I apprehend, can be no difficulty in following any case laid down in any of Nicholson's writings, where the projection is confined to the plan and elevation.

VI. (*Fig.* 8.) A point and a plane are given, the former by its projections, and the latter by its traces, and the pattern-ray is given as before by its projections: to find the plan and elevation of the shadow which the point casts upon the plane.

As in (V.) the shadow line will pass through the given point parallel to the pattern-ray, and its projections can be constructed as there explained. The problem, as one of descriptive geometry, is therefore reduced to that of finding the intersection of this line with the given plane.

The preliminary theorems upon which the construction rests are extremely simple, and with the aid of the annexed eidograph of the system, they will be intelligible and obvious from their enunciations only.

In *fig.* 8, let pp' be the line of shadows, and P_1P, PP_2 the traces of the plane upon which the shadow falls, on the horizontal and vertical planes respectively. Then,

(*a.*) If a line $\alpha_1\beta_2$ (or $\gamma_1\delta_2$) be in the plane, P_1PP_2, its traces, α_1, β_2 (or γ_1, δ_2) will be in the traces P_1P, PP_2 respectively of the plane; and conversely, if the traces of the plane pass through the traces of the line, the line and plane coincide.

(*b.*) If two planes intersect, their traces intersect in the traces of their line of mutual section.

(*c.*) If the line pp' meet the plane P_1PP_2 and a plane, Q_1QQ_2, be drawn through it to cut P_1PP_2, then the line $\alpha_1\beta_2$ will pass through p' the intersection of the line pp' with the plane P_1PP_2.

(*d.*) If *any* two arbitrary planes, Q_1QQ_2 and R_1RR_2 pass through pp', their intersections, $\alpha_1\beta_2$ and $\gamma_1\delta_2$, will give the point p', in which the line pp' and plane P_1PP_2 intersect.

Analysis.—*Fig.* 9. Put a_1, a_2 for the projections of the point, R_1, R_2 for the projections

of the pattern-ray, and P_1PP_2 for the plane on which the shadow is cast. Draw through a_1, a_2 the lines a_1p_1, a_2p_2 parallel to R_1, R_2; these will be the projections of the line of shadow, and $a_1\beta_2$ (found as before taught in problem A) will be its traces on the plan and elevation planes respectively. Moreover, the planes $a_1\beta_1\beta_2$, $a_2a_2a_1$ are the projecting planes of that line through a_1a_2 parallel to R_1R_2; and hence are particular and convenient cases of the planes, Q_1QQ_2, R_1RR_2 of the ellograph (fig. 8) for our present purpose. Also, since P_1P_2 are the horizontal and vertical traces of the intersection of the plane $P_1\beta_1P_2$ through the line of shadow with the plane P_1PP_2, which is to receive the shadow, the line P_2p is the vertical projection of that intersection, and contains the vertical projection of the point sought. The same point is also in a_2a_2, the vertical projection of the shadow-line itself. Whence their intersection, p_2, is the vertical projection of the shadow of a_1a_2 on P_1PP_2.

Again, $a_1\beta_1$ is the horizontal projection of the line pp_1, and hence contains the horizontal projection of the shadow of a_1a_2 on P_1PP_2. The projections of that point, too, are in a perpendicular p_2p_1 to OX, as is shewn in (I.). Whence follows

THE SYNTHESIS.—Draw through a_1a_2 the lines $a_1\beta_1$, a_2a_2, to meet the ground line OX; from β_1 (or a_2, here taken β_1 as may be most convenient in the individual case) draw a perpendicular β_1P_2 to meet PP_2 in P_2; draw P_1p_1, also perpendicular to OX, and join pP_2, meeting a_2a_2 in p_2; and, finally, draw p_2p_1 perpendicular to OX, meeting $P_1\beta_1$ in p_1. Then p_1p_2 are the plan and elevation of the shadow of a_1a_2 on P_1PP_2.

Note.—If the perpendicular from a_2 had been used, the final result would have been the same; only the point p_1 would have been first found, and thence the point p_2, in an order the reverse of that specifically detailed above. The work for finding it in this order is marked by broken lines and dots, thus :—.—.—.—.—. The student is recommended to practise each method separately.

VII. The preceding construction is perfectly general, and applicable to all possible cases of the relative positions of the point and plane, and the direction of light. It meets, therefore, the greatest difficulty encountered *in practice* in drawing the projections of a shadow upon a plane; viz., that of shadows on roofs. When the shadows are to fall upon planes perpendicular to the horizon or to the vertical plane, the process becomes more simple. I shall give the modified constructions adapted to both cases.

(1.) *Fig.* 10.—Let the plane P_1PP_2 which receives the shadow be vertical.

Draw the horizontal and vertical projections of the line of shadow through a_1, a_2 parallel to R_1, R_2, and let the horizontal projection a_1p_1 meet the horizontal trace PP_1 of the given plane P_1PP_2 in p_1; and draw p_1pp_2 perpendicular to OX to meet the vertical projection a_2p_2 in p_2. Then p_1, p_2 are the plan and elevation of the shadow of a_1, a_2.

(2.) *Fig.* 11.—Let the plane P_1PP_2 be perpendicular to the elevation plane.

Let the vertical projection of the shadow-line meet the vertical trace PP_2 in p_2; and draw p_2pp_1 perpendicular to OX to meet the horizontal projection of the shadow-line in p_1. Then p_1, p_2 are the plan and elevation of the shadow of a_1, a_2.

The truth of these constructions may be deduced with great readiness from the general case, but simpler considerations will accomplish that purpose. Take, for instance, the first case.

Since the projecting plane of the shadow-line and the plane P_1PP_2 are perpendicular to the plan, their intersection is also perpendicular to the plan; and the shadow-line cuts P_1PP_2 in that perpendicular, being in one of the planes which meet in that line. The point p_1 is therefore the horizontal projection of the shadow of a_1a_2 on P_1PP_2. Also, the intersection of the vertical projection of the shadow-line with the perpendicular p_1pp_2 to OX, it being in both those lines. Whence p_1, p_2 are the plan and elevation of the point required.

VIII. We have hitherto considered the plane to be indefinitely extended, or capable of being so. Except, however, in case of the horizontal and vertical planes, or occasionally (for all practical purposes) a sloping terrace, this condition is not fulfilled in fact; and the shadow may or may not fall upon that portion of the plane which comes into the drawing. The process to be then adopted will require a specific notice.

When the plane is arbitrary in its relative position to the planes of projection, its *boundaries* are always given in plan and elevation; as, for instance, the roof of a building. The same, indeed, is true for planes perpendicular to the horizontal and vertical planes: but as in the preceding cases, these become more simple than the general problem, they will be advantageously considered by themselves. In these latter cases the traces of the planes which receive the shadow are either positively or virtually given: whilst in the general case some consideration is required, as well as a portion of work, to find those traces.

Plane roofs inclined to the horizon are almost always, if not always, either rectangular, trapezoïdal, or triangular. Should the case (contrary to my knowledge) be otherwise, the process here given equally applies.

Three points in space, not situated in a right line, determine the position of the plane in which they are; and two lines which are parallel, which meet, or which being produced would meet, also determine the plane which contains them. Now, when the plane is given by its boundaries in plan and elevation, we may select three points in it—two lines which meet, or two lines which are parallel—from which to find the traces of the plane itself. As an example, we shall take two lines which meet one another.

Fig. 12. Let them be a_1b_1, a_2b_2, and a_1c_1, a_2c_2. Find the traces $\alpha_1\beta_2$ and γ_1, δ_2 of these lines. Then, since these lines are by hypothesis in one plane (the condition being that they meet, and this condition implying that a_1a_2 is perpendicular to OX), the traces on each plane of these lines are in the respective traces of the plane through them. But the points α_1, γ_1 in the horizontal trace being given, that trace itself is given; and in like manner the vertical trace is given by the points β_2, δ_2. The construction is completed by drawing those lines, which, being in the plane, will meet OX in the same point P.

When two parallel lines are given, the process is the same, viz.: to find their traces, and draw the traces of the plane through them. Also, when three points are given, two lines through one of them and each of the two others (selected at pleasure or for convenience), or a line through two of them and a parallel to it through the third, will serve in the same way to determine the traces of the plane which passes through them.

It will be obvious, that when the work is carefully performed, one of the four traces, α_1, γ_1, β_2, δ_2, may be dispensed with, as the point P found from two of them supplies its place in determining the trace of the plane. As, however, the operation is often a delicate one, it may be advantageous to use all, and reserve the meeting of α_1, γ_1, β_2, δ_2, in OX as a test of accuracy.

Having found the traces of the plane ABCD, whose projections are $a_1b_1c_1d_1$ and $a_2b_2c_2d_2$, find by VI. the shadow of any given point upon it, viz. p_1p_2 or q_1q_2. In the figure here employed p_1p_2 falls within the boundary of the given limited plane ABCD, and q_1q_2 without that boundary. That is, the one point has a shadow on the given *finite* plane and the other has not.

Having disposed of the general case, let us consider the more familiar and simple one of shadows of points on upright walls.

Fig. 13. Let $a_1b_1c_1d_1$ be the plan, and aa_2, bb_2 cc_2, dd_2 the elevations of the several vertical edges of the building, and g_1g_2, h_1h_2, k_1k_2 the respective projections of points which cast their shadows, the pattern-ray being R_1, R_2.

The shadow of g_1g_2 falls upon the plane whose plan is a_1d_1, and is p_1, p_2 are its plan and elevation respectively: the shadows of h_1h_2 fall upon that whose plan is a_1b_1, and is q_1q_2: whilst the shadow of k_1k_2 does not fall upon the structure at all.

IX. In connection with this branch of the subject, it yet remains to construct the shadow of a line upon a plane, or upon any number of planes.

Now the shadow of a line is given when the shadows of two points in it are given on any other plane, as well as on those of projection, already treated in (V). One portion of the shadow of the line may fall upon the given plane, and other parts upon other given planes, or even upon the planes of projection themselves.

Whilst the line which casts the shadow and the plane which is to receive it are of unlimited extension, the indefinite extension of line which passes through the projections of any two selected points in the given line will be the corresponding projection of the shadow. When the line which casts the shadow is limited both ways, the projections of the shadow on any one given plane will be the lines which join the projections of those extremities; and these may be found separately as in the article (VI). However, instead of working for each point separately (which often involves a repetition of work already done), we may modify the process so as to meet every possible case, and at the same time save a considerable portion of trouble in the operation: this will require, like some former problems, that we lay down certain principles upon which to establish the process.

(*a*) If two straight lines in space be not parallel, there can be drawn through each line a plane parallel to the other line; these planes will be parallel to each other; and there can only be one such pair.

Fig. 14. Let AB, CD, be two straight lines not in one plane. Take the points E, F in them at pleasure; through E draw C′D′ parallel to CD, and through F draw A′B′ parallel to AB. Then the planes through these, viz. AC′BD′ and A′CB′D are parallel. (*Euc. xi.* 15.) Whence the planes being parallel, no line in the one can meet the other plane: that is, the line AB is parallel to the plane A′CB′D, and CD is parallel to the plane AC′BD′. Whence the first and second parts of the proposition are proved.

Nor can there be any other pair of such parallel planes. For, take any other point, *e*, in AB, and draw *c′d′* parallel to CD. Then, since C′D′, *c′d′* are parallel, and E*e* joins them, the plane AC′BD′ is coincident with and cannot be different from Ac′Bd′. Whence no other pair of parallels, &c.

(*b*) Having given two straight lines by their projections in plan and elevation; to find the traces of a plane through one of them parallel to the other.

Fig. 15.—Let the traces $\alpha_1\beta_2$, $\gamma_1'\delta_2'$ of the given lines be found as already taught in (I.), and let it be required to draw through $\alpha_1\beta_2$ a plane parallel to $\gamma_1'\delta_2'$.

Take any point a_1a_2 in $\alpha_1\beta_2$, and draw parallels to $\gamma_1'\delta_1'$, $\gamma_2'\delta_2'$ to meet OX: these will be the projections of a line parallel to $\gamma_1'\delta_2'$ (III.). Find the traces γ_1, δ_2 of this line: then the lines $\alpha_1\beta_2$, $\gamma_1\delta_2$ being in one plane, their traces are in the traces of that plane. The lines $\gamma_1\alpha_1$, $\beta_2\delta_2$ being drawn to meet in P, are the traces of the plane required.

(*c*) The shadow of a line upon a plane is the intersection of a plane drawn through the line parallel to the pattern-ray with the plane which receives the shadow. We are therefore now prepared to solve the following problem in its most general form. This, however, must be reserved for the next of this series of papers.

Charlton, near Woolwich,
August 12, 1846.

STATE OF THE LONDON CHURCH-YARDS, &c.*

THE present closing session has not only been eventful, but full of *great* events—apparently designed, beyond many preceding, to shew that "out of evil comes good." And, though this is actually a minor point, if it has not sounded the "knell," it may have gone nigh to ring the "*passing*" bell of "burial in the heart of towns."

Much of the working of a system may be learnt from the bearing of the officials. On the disturbance of coffins, the writer was once told at St. Margaret's, Westminster—"Oh! what's the use of *keeping boards?*"—at St. Giles's-in-the-fields (behind the church), "If we did not *break up the old coffin wood* we should never get a grave here." Now this

* Vide p. 268, *ante*.—A correspondent says, with reference to Mr. Parry's last letter,—"It is stated none of the new churches in Bethnal Green have any churchyard. St. Bartholomew's, Cambridge-road, has one—small, I admit—and about a month ago the Bishop of London consecrated a burial-ground attached to another of the new churches, I believe the one near Twig Folly. I sincerely hope that the time will ere long arrive when there will be no more burials in the present crowded churchyards. R. F. B.

"wood" and these "boards" are consecrated to survivors by their connection with the human body; are intended to last *with* it to a *certain* stage; not to be treated like an old "boat" or old "wheelbarrow,"—or, rather, like the contents of a coal or wood-shed, put there for the *purpose* of being speedily removed.

At St. Martin's burying-ground, in Drury-lane—not large, and known to be crowded—it was lately stated in a newspaper by eye-witnesses, that, if persons can pay for proper depth, the officials are very ready to break in pieces a couple of sound coffins successively for their accommodation. This is not precisely what was intended by those who placed them there "with holy rites in consecrated earth," probably less than ten, as likely less than *five* years, before. The result of this corrupt system is exactly the reverse of "*doing as we would be done by*," and for that single reason *ought not to be done*.

In considering the "*City*" churchyards, the *Population-Table* should be consulted, and some other circumstances inquired into; the whole might, in some cases, tell a very lenient tale, in others a very *shocking* one. Some, from associations, it rather goes "against the heart" to speak against. If not large, they are sometimes, as at *All Hallows, Thames street*, and *St. Olave's, Crutched Friars*, decent and secluded. In some cases they are behind the church, scarcely to be seen at all, as *St. Martin's, Ludgate;* but it may be gathered that they are very small, little more than the site of a dwelling-house. Two of the neatest open ones, of respectable size, are in the neighbourhood of Queen-street, one belonging to the handsome church of *St. Michael, Royal College Hill*. *St. Martin, Orgars*,—a tower without a church,—is tolerably large. Of too small ones are *St. Magnus, London Bridge*, with a third parish added, *All Hallows Staining*, Mark-lane, probably, *St. Ann's, Blackfriars*, and too many others.

St. Andrews Undershaft, Leadenhall-street, with a grand interior, the "King," *facile princeps*, of Churches which survived the Fire, is disgraced, beyond most, in its burying ground. Dr. Knapp, sub-Dean of St. Paul's, formerly known to the writer, gave evidence before a Parliamentary committee, that he was obliged by medical direction to leave the parsonage-house, immediately in front, to *save his life*, owing to the pernicious effect of the churchyard. Little needs adding beyond wonder that parishioners would keep it up. The population is over 1,200. But the provision for funerals may be *twenty yards* by *eight*—about twice as large as a "merchant's dining-room," and looking much like a fallow cabbage bed.

St. Catherine Cree, adjoining (2,000), has a small ground behind the church. But as the door—there is no gate—is kept rigidly locked by the sexton*ess*, even on Sundays, it may be supposed, without uncharitableness, that as it *must* be very small, concealment may not be undesirable.

St. Mary-at-Hill—a very respectable church (the parish containing part of the Custom House), with similar population to St. Andrew's, is even worse off, in size. The "churchyard" is about *fifty feet by twenty-five!* However, it has been lately covered with mould and gravel; let us hope with an honest conviction of an early cessation of occupation.

St. Peter's, Cornhill (about 700 inhabitants) has a ground the size of two not very large parlours. It is covered with grass, but the "bone vault"—when once left carelessly open, told an ugly tale. *St. Michael's* is larger, and appears little used, but the reader must not be sure where he sees a "flower bed"—however politic or amiable to place it there—that there are not bodies within two or three feet of the surface. Probably this does not apply here, but the general hint may not be undesirable.

St. Stephen's, Coleman-street, considered a humane and liberal parish, with the largest population "within the walls," nearly 4,000, is *dreadfully* situated as to burial. On the north side is an extremely small "slip," and on the south what appears merely a paved yard, but is known to be almost "bursting" with coffins, in vaults. In fact, without this, the interment of the dead would be *miraculous*, and as it is may be judged of by others.

Three abolitions of churches and churchyards have occurred within the last twenty years.

St. Michael's, Crooked lane—and here the consequences of removing the bodies were recorded at the time to have been so miserable and cruel, that, coupled with threatened riots at *St. Martin's-in-the-Fields*, under the writer's own observation, they will be a warning against any such *system*—*St. Bartholomew's, Exchange*, and *St. Bennet Fink*: the latter a much regretted and rather wanton destruction of a singular and very pretty church of Wren's (any opinion to the "contrary, notwithstanding"). In each case, further interments were turned over to the new parish, which probably had "quite enough to do" before, without thought, or at least *act*, of additional provision. This, however, is of the past; and is principally mentioned to express satisfaction—*en passant*—that the condition of the *living* poor, —originally "rooted out" from "rookeries," "crowded courts," "nests of vice," &c., with little concern *where they were to go to*—has been taken up in a very honourable manner both at the West-end and in the City; the subject having been mooted, for next session, by a member of the present cabinet, *Lord Morpeth*.—On the propriety of burials in the city, *Dr. Lynch*, an active member of the Common Council, has made some sufficiently strong and able statements.

Going now out of the city, St. Pancras churchyard, though not a cryingly bad one, cannot, however, be sufficient with seven acres for 126,000 inhabitants! The fact of there being other grounds within the parish, occasionally used by the inhabitants, may mitigate blame. The eminent rector, Mr. Dale, preferred, as before, from merit, would certainly favour any proper provision. *Marylebone*, 146,000, having two or three grounds is better, but there are no alien grounds, to the writer's knowledge, available within the parish. *St. Martin's* ground has been improved, and a tall iron railing erected on the east side, instead of a dwarf wall. Here are many good *Almshouses*, at the west end, erected under the incumbency of Archdeacon Pott; which are the best ornament that could be wished.

Paddington has a very large and neat churchyard, with an addition, for its 25,000 inhabitants, and is one of the best instances of proportion in London. *Hampstead*, besides its beautiful old hilly churchyard, with antique spreading yews, has one of fair size on an opposite slope. *Highgate*, besides a very small ground, is merged in St. Pancras.

The church ground at *St. Giles-in-the-Fields* may be very reasonably closed, on account of the sufficient ground at St. Pancras (p. 281). The poor Irish are getting reconciled to the latter, and behave very decently; and it is creditable to their feelings as men, that, whilst Catholics, some of them "like" the Protestant service also, rather than burying in silence.

But it is feared some persons may say of remarks in these humble lucubrations — "They are invidious." To which it may be respectfully answered, — "Are they in the least *untrue*, or desirable for the public, in the end, to be suppressed?"

Bloomsbury, 40,000 inhabitants, rather an important parish, labours under some public misapprehensions, not of the most pleasing character; and the writer having ascertained that they are untrue, is extremely willing to set it right:—first, that it has NO burying-ground; not one in a thousand in London having heard of such a thing; 2nd, that the vaults at the church are unwholesome, and injurious to the congregation, which was mentioned to the writer, unprompted, by a parochial clergyman, who also had never heard of a churchyard. To take the second first; it is plain to the writer, that this *is the* church alluded to in a report under the cognizance of the Bishop of London, where "the congregation having often fainted, &c., the vaults were searched, and"—very sufficient cause "found." But they were carefully searched for six weeks, and several faulty coffins having been found, were either fresh soldered or buried many feet under the ground. And of 800 remaining, all are sound. Next, after much "fishing"—for persons in Bloomsbury were ignorant of the matter—*a* churchyard was found, at the back of the Foundling Hospital grounds, and between it and Regent-square (Henrietta-street, Brunswick-square). And a very pleasant place it is, though not very large—from 1½ acre, long and narrow, and of old standing, some stones dating about 1730. It is by no means crammed. Though, whilst its destruction none could wish to see, it cannot suffice as a *permanent* provision for 40,000; and it is wonderful where, without borrowing from other parishes, all the deceased, including the poor, have been buried.—The "leviathan" proprietor of this parish is his Grace the Duke of Bedford; and as this family have been—especially in the person of the late excellent duke—forward in encouraging improvements in London (*Covent-garden market*, to wit) and the country, his Grace would undoubtedly support any desirable improvements in sepulture, of which the writer is only one of the humble *avant couriers*.

On the same "*voyage*" was "discovered," quite unexpectedly—for it is about equally unknown—the burying-ground of *St. George the Martyr, Queen-square*. An "amende" must consequently be made to that parish, and part of the onus taken off St. Andrew's, Holborn, which has quite enough to answer for, as concerns sufficiency for burial, without. This twin ground is the same size by measurement —of course, designedly—as the other. Both are inclosed and separated by a wall with strong piers. This is the more crowded, though from a smaller population, but not indecently. There are a number of family tombs of some age, one of an Obeliskial figure. Both these grounds are singularly secluded, and really pleasing, though with not many flowers. A dry gravel walk runs down each; the grave-diggers are civil, and *almost* healthy looking—a great thing in London. The visitor will nearly forget the

> "fumum et opes strepitumque Romæ,"

and think himself near a country town.

At the *West-end* we find first, beyond Temple Bar, the *worst* in London, *St. Clement Danes*, with about 16,000 inhabitants, all but "damned to everlasting fame" for its graveyards. At the church a decent grave can only be had at the paved west end, at proportionate expense. The rest of the "border," for it is little more round the church, is from incessant disturbance, as loose as the "shaking fen of Croyland." The writer, however, knows that the rector, the Rev. Mr. Ellis, is an honourable and humane man, therefore would not fear his opposition to improvement.

The *Portugal-street* ground is truly shocking. On the testimony of two professors of King's College, who examined it to see if planting trees were practicable, it is crammed with coffins to less than two feet, in some places *fifteen inches*, below the surface, and yet "the work goes on." The dreadful work carried on in rather a "shambles" than a "Golgotha" (about a third of an acre), has been exposed half a dozen times. One thing the writer will add from ocular observation. They are obliged to put up "coping boards" on the side of a grave to prevent the public seeing the "work" before the digger is in to his knees. This, however, does not save the inhabitants of overlooking houses in Clement's-lane, who make dreadful complaints; in addition to which, Fever, "THE PESTILENCE THAT WALKETH IN DARKNESS," broods over the miserable place. *Any* thing ought to have been done by a metropolitan parish, perhaps kind in other respects to its poor, sooner than have kept up this abomination.

St. Mary-le-Strand, with nearly 3,000 inhabitants, including the precinct of Lancaster, has, besides vaults, a very poor and small ground, rank and dirty in Russell-court, Drury-lane, seen through a rusty iron and wooden gate, and overlooked by houses, perhaps in extent half a rood at the utmost.

The *Savoy precinct*, under 500 inhabitants, has a small ground decent in appearance, but effluvia has been strongly complained of when the ground is opened.

"The Society for Baths and Washhouses" may and does do much good; and the writer has the pleasure of knowing the honorary secretary, Mr. James Farish, M.B., ever the gratuitous and charitable friend of the poor. He will merely submit for such gentlemen's consideration, that it will be little use for the poor man to get cleaned, if he must any where return to an atmosphere vitiated by one of the most dreadful of earthly causes.

The ground at *Covent Garden* would appear *comparatively* sufficient for 6,000 inhabitants; its appearance, however, when turned up, and other statements, shew it to be, in parts, not in

a good state. Without knowing the opinion on this precise subject of the esteemed rector, the Rev. Mr. Bowers, the writer has ample personal reasons to know he would support any thing he thought of sound policy and humanity.

St. James's cemetery, with Dr. Stebbing's chapel, has been before alluded to.*

St. Margaret's, Westminster—30,000 inhabitants—appears to the writer about 1¼ acres. This was *condemned* by a Parliamentary committee thirty years ago or upwards as "a place which could not be kept up, affecting the cellars of neighbouring houses" (since pulled down). Rather a strong fact. Effluvia here, above ground, has been several times mentioned, and felt by the writer. But he has been told by a high and respected authority at the Abbey (not the rector of St. Margaret's) that this was caused by a gas pipe, and wishes that may account for the whole. Parts of this ground may be comparatively favoured—in others the "walls of coffins" and "baskets full of bones" speak otherwise. Illness and sudden death of the gravediggers has been recorded; but it is not *singular* in that. There is also a small ground in the "Broadway." This, some years back, was painful to examine. A coffin of a poor man was deposited barely eighteen inches from the surface, and there was effluvia from open graves. Another of a "respectable man,"—three feet—was stated to be a good depth" *there*. This ground has been *curtailed* by the erection of an enlarged church; it can scarcely, therefore, unless much disused, have practically improved.

St. John's, the remarkable edifice with four cupola towers (25,000), is much better, having a ground, green and neat, of four acres, a short distance from the church.

Alas! for the early decency of the country! "The rude forefathers of the hamlet *sleep*" there. Their bodies are sadly moiled in an urban cemetery. And if the presence of a neat churchyard aids religious feelings and serves as a "memento mori," the effect is hardly producible by a "rudis indigestaque moles" of dirty earth.

But it will be said, "what will become of the deserted churchyards?" And it is hoped that the answer will be kindly received. "What becomes of the sites of our *Ancient Castles?*" Consecrated by former associations and preserved from rough usage. Foul befal the man who, in advocating any important changes, would desire to smother the purest and holiest emotions of the human heart! *Mammon* must NOT come in here; he has "ample room and verge enough," and much to spare elsewhere. The *savages* respect the ancient "*Morais*," and the classic heathens shamed many Christians in inviolability of sepulture.

Compensation to the clergy has been before recognized on this subject.

The "*New Cemeteries*" should be introduced with the caveat, that, as things now are, in the absence of all prohibition, they produce not the slightest *safeguard* against the old grounds being filled to bursting. And it is trusted enough has been said to shew, that, even in the absence of any general system, some places must speedily be reformed from *without*, if there be no evidence of disposition *within*.

These very *condensed* observations, with preceding ones, which might, with little "spinning," have made an average pamphlet, are the fruit of at least *Ten Years'* desultory attention to the subject. The writer has not the improper vanity to think they could supersede more important and official inquiries, but trusts they may furnish useful hints, and sources of utility. As he is sure that scarcely one person has had more ample, impartial, and unsuspected opportunities of observation.—Every place named has been carefully examined, some a great number of times. Whether there has been a leaning to "extenuation," or "setting down in malice," the reader must judge for himself.—If these should further better treatment of the dead, and first of all the *poor*, with a reflex effect on their treatment whilst *living*, the result would be satisfactory to many far better, and in other respects more fortunate than the writer.

J. D. PARRY.†

London, Aug., 1846.

* See page, 281.

† "Author of the "Coast of Sussex," "History of Woburn and its Abbey," selection of "British Ballads," &c.

MR. FREEBAIRN, THE ENGRAVER.

THIS gentleman, whose fine transcript of the "Shield of Achilles" we mentioned with commendation a few weeks ago, died on the 21st inst., aged 51. The *Morning Post* says, "The intense application of the artist in the execution of this production, is understood, indeed, to have been the more immediate cause of his death. Such was the anxiety evinced by him during the progress of the engraving, that he could not be prevailed upon by his friends to take either the requisite exercise or repose. He taxed his physical ability beyond its natural power of endurance, and he sank, under the ordeal imposed upon himself."

His mother, to whom he was much attached, died only four days before him at the age of 87. They were buried together on the same day in the Highgate Cemetery. The last commission he received was from the Art-Union of London, but his illness prevented the execution of it.

WESTMINSTER COURT OF SEWERS.

A COURT was held, Friday the 21st, Capt. Bague in the chair. The following were the most important of the proceedings:—

A communication was ordered to be made to the official referees under the Metropolitan Buildings Act, with a view to a modification of that Act, to enable parties to make use of a six-inch pipe glazed inside and out, presented by the surveyor, instead of the drain, under schedule H of the Building Act, which requires that "the inside of main drains must be in transverse section at the least equal to a circular area of at least nine inches in diameter."

Mr. Cumberlege gave notice that at the next court he should move, "That an enlargement of Buckingham Palace being contemplated, the surveyor report upon the King's Scholar pond sewer as it affects the palace, and *vice versa;* and also generally with a view to consider whether any better line than the present may be adopted."

Ordered, that the surveyor do at once put himself in communication with the architect (Mr. Blore) with respect thereto.

Mr. John White gave notice, that at the next meeting of the court he should move, "That on (a day to be fixed) the commissioners do survey such outlets at the Thames, within the limits of the commission, as can be examined, which lie westward of the Counters Creek sewer, as time and tide will permit, as a step towards the improvement of these discharges, should the same be necessary; also to direct that such alterations be made in the plan of the north shore of the Thames, made by J. Fawcett in 1822, as shall appear proper."

Mr. Cumberlege gave notice, that at the next meeting of the court he should move, "That as the term of Mr. Phillips's appointment (as chief surveyor) will expire 6th September next, he be permanently appointed at a salary to be now determined."

Ordered, that the last-mentioned motion be considered on the 4th of September, at two o'clock.

THE ARCHITECTURE OF MEXICO.*

The Cathedral.—The first object that presents itself on entering the cathedral is the altar, near the centre of the building; it is made of highly-wrought and highly-polished silver, and covered with a profusion of ornaments of pure gold. On each side of this altar runs a balustrade, inclosing a space about eight feet wide and eighty or a hundred feet long. The balustrades are about four feet high, and four inches thick in the largest part; the handrail from six to eight inches wide. Upon the top of the handrail, at the distance of six or eight feet apart, are human images, beautifully wrought, and about two feet high. All of these—the balustrade, handrails, and images, are made of a compound of gold, silver, and copper—more valuable than silver. I was told that an offer had been made to take this balustrade, and replace it with another of exactly the same size and workmanship of pure silver, and to give half a million of dollars besides. There is much more of the same balustrade in other parts of the church; I should think, in all of it, not less than three hundred feet. As you walk through the building, on either side there are different apartments, all filled, from the floor to the ceiling, with paintings, statues, vases, hugh candlesticks, waiters, and a thousand other articles, made of gold or silver. This, too, is only the every day display of articles of least value; the more costly are stored away in chests and closets. What must it be when all these are brought out, with the immense quantities of precious stones which the church is known to possess? And this is only one of the churches of the city of Mexico, where there are between sixty and eighty others, and some of them possessing little less wealth than the cathedral.

The Streets.—The streets cross each other at right angles, dividing the whole city into squares. Each one of these squares is called a street, and has a separate name; a serious inconvenience to a stranger in the city. Instead of designating the street in its whole extent, by one name and numbering the houses, each side of every square has a different name, and names which sound to Protestant ears very much like a violation of the third article of the decalogue—such as the street of Jesus, and the street of the Holy Ghost. A gentleman will tell you that he lives in the Holy Ghost, or that he lives in Jesus; certainly not always true, if taken in the sense in which our preachers use these words. In most of these streets there is a church, which gives a name to the street in which it stands. In many instances these churches and convents (that of San Augustine for example) cover the whole square, not with separate buildings, but one single edifice, with the usual patio or court, an open space in the centre. There is not, I believe, a house in the city without this court, of greater or less dimensions, in proportion to the size of the building. There is only one door on the lower floor, and none at all on the outside of the upper story. The door is very strongly built, and high enough for a coach to pass through; it opens into the patio through which you pass to the steps leading to the upper stories, where alone every body lives except the lowest classes. In all the establishments of the better classes, the basement story is only occupied by the servants, and as lumber rooms, and what struck me as very strange, as stables. I do not suppose that there is such a separate building in the city as a stable. In visiting Count Certuna, for example, whose whole establishment is altogether princely, and others of equal splendour and luxury, I found this court on the ground floor used as a stable, and passed through rows of horses and carriages to make my way to the most spacious halls, filled with fine paintings of the great masters, and furnished throughout in a style altogether gorgeous. In some of the larger private buildings thirty or forty different families reside; each one having rented one or two rooms; all entering at the only outside door in the court, which is the common property of all—and from which each one has an entrance to his own rooms on the ground floor or the gallery above, which runs all around the building.

* "Mexico and the Mexicans."

Correspondence.

BENEVOLENT INSTITUTION FOR THE RELIEF OF AGED AND INFIRM CARPENTERS.

SIR,—The above Society having had an excursion to Brighton, and a benefit at one of the theatres, in aid of its funds, in the year 1844, the committee appointed to carry these into effect supplied several members of the institution with tickets to sell for the society, and which tickets they did sell, but would not hand the proceeds to the society. After repeated application, therefore, the committee came to the determination to recover the same, according to the 25th sect. 56 Geo. 4, and applied by their secretary to the magistrates at Guildhall, when he was told that he had better apply to Mr. Tidd Pratt, as he did consider the last benefit Society Act passed this session gave him the power to settle this business. On the 27th of July he saw Mr. Tidd Pratt's clerk, who told him they had nothing to do with it, and it still remained in the hands of the magistrates to hear and determine the case. The secretary went again to Guildhall, when they granted him summonses against all the parties,

and they came on for hearing on the 11th of August, before Messrs. Alderman Farebrother and Lucas, who decided they had no power to settle it, as the rules said nothing about excursions or benefits at theatre, and it was only a common debt. As therefore the society cannot recover it in this way, I should be obliged by any of your numerous correspondents informing the committee how they can recover the money; and by inserting this in your valuable paper, you may prevent other societies from being robbed by unprincipled persons.

Yours, &c. (for the committee),
WM. WOOD, Hon. Sec.

Bell, Old Bailey, Aug. 18, 1846.

IMPROVEMENT OF CHELSEA.

MR. EDITOR,—What are the Woods and Forests or the Commissioners of Chelsea Hospital going to do at "White Stiles," Chelsea? The reports and speculations are quite alarming; some say it is for an enlargement of the parish burial-ground, others that a statue of Punch, as exhibited in a late number, is to be placed there. Now do look at it, Mr. Editor, it is worth a visit; as "arbiter elegantiarum," enlighten our understandings. What can this mean, in the middle of a parish that has just taxed itself to the tune of 30,000*l.* for general and local improvements? You will say, what are the Chelsea Commissioners about? I understand they have received favours, are hoping for more, and so they shut one eye when they pass that locality. But look at it! Mr. Editor, and try if you can fish out the design. I am, Sir, &c.

August 22nd. W. D.

*** The curious arrangement of the place in question, and the fact, more curious still, that it is being made under the direction of the Woods and Forests, have not escaped us. We don't understand looking for favours by shutting one's eyes, and we hope the Chelsea Commissioners will make such a representation as shall induce the parties interested to inclose and plant the ground in a proper manner, or at least, to remove altogether the present beggarly admixture of iron fencing and wooden rails.

Miscellanea.

PLAN OF THE PARISH OF TWICKENHAM.—Mr. W. T. Warren, of Isleworth, land-surveyor, has just published a plan of this parish on a large scale, which appears to be very correctly executed. The interesting associations which belong to Twickenham, beautifully situated, too, as it is, on the Thames, give an additional value to a faithful map of it. Pope, Walpole and Strawberry-hill, Sir Godfrey Kneller, and the wonderful man who now rules the French empire, have made Twickenham a parish of pleasant memories.

CHURCH NEEDLE-WORK.—We have recently seen a beautiful specimen of embroidery for ecclesiastical purposes executed by Miss King. The subject is the Saviour in the act of benediction, surrounded by the attributes of the Evangelists, on a gold back-ground. Such of our readers as are concerned in church decorations may thank us for bringing this lady to their notice. Mr. Blackburne, architect, of Clement's-Inn, will shew it to those who are interested in the matter.

AN EXEMPLARY SOVEREIGN.—The King of Prussia has not only granted permission to the Lutheran inhabitants of Cologne to erect a large church there, but has ordered the State to furnish a site, and contribute fourteen marble columns to ornament the nave. The building is to cost about 150,000 thalers (570,000 francs), a sum which was raised in a couple of days.

AVERAGE OF LIFE.—M. Lombard found that the age of the stone-cutter averaged 34 years, the miller 42, the painter 44, the joiner 49, the butcher 53, the lawyer 51, the surgeon 54, the mason 55, the gardener 60, the merchant 62, the Protestant clergyman 63, the magistrate 69.—*Hastings on Consumption.*

REBUILDING OF ST. JOHN'S CHURCH, NEWFOUNDLAND.—The sum of 2,000*l.* has been granted by the Society for Promoting Christian Knowledge towards the re-edification of the Church of St. John, destroyed by the recent fire.

CHRIST CHURCH, PORTSWOOD.—The walls of this structure, recently commenced from the design of Messrs. R. and J. A. Brandon, are to be constructed throughout of Swanage stone. The tracery of the windows, the font, weatherings of buttresses, strings, copings, crosses, and the piers and arches of the interior, and all moulded work to be of Caen stone. The timbers of the roof, which are exposed to view, are to be of fir wrought and stained, and covered with plain tiles. The structure will consist of chancel, nave, tower, south aisle, and south porch, provision being made for the future addition of a north aisle. The spire is to be constructed of timber, and covered with oak shingle. The church will afford accommodation for 400 worshippers.

WESTMINSTER BRIDGE DEFYING REPAIR.—We learn that on Tuesday afternoon, the workmen engaged in repairing the bridge were alarmed by a sudden cracking of the crown of one of the arches; and that on inspection, it turns out that the roadway and a portion of the foot-pavement have opened very considerably; and that the carriage way towards the middle has, to all appearance, sunk several inches. Notices were, as soon as possible, posted up, to the effect, that the navigation through the centre and two next arches towards the Surrey side, is stopped. On Wednesday afternoon, two large pieces of stone are also said to have sunk from their level, and caused renewed alarm; but the fractured portions have, in the meantime, been propped up with poles or other supports.

WESTMINSTER PALACE.—From the fourth report of the Select Committee of the Lords on the progress of the new Houses of Parliament, just issued, it appears that Mr. Barry has pledged his word to their lordships that their house will be set in order and fit for occupation at the opening of the session next year.

TENDER.

For alterations and new buildings to be erected at the London and Birmingham Railway Station, Euston-square. August 26th, 1846.

Branscom and Groyther	£63,962
Baker	63,700
Lee	60,400
Haward and Nixon	60,350
Grissell	60,200
Piper	60,050
Grimsdell	59,899
W. Cubitt and Co.	59,756

NOTICES OF CONTRACTS.

[We are compelled, by the interference of the Stamp Office, to omit the names of the parties to whom tenders, &c. are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent Garden.]

For the erection of goods warehouses for the Sheffield, Ashton-under-Lyne, and Manchester Railway, at the Ashton and Manchester stations.

For the maintenance of the permanent way between Bristol and the Standish Junction, near Stonehouse, on the Bristol and Birmingham.

For the construction of the Perth tunnel on the Scottish Central Railway, in such lots as may be agreed on. The excavation is through old red sandstone and whinstone rock.

For sundry repairs in the building of St. James's Chapel, Hampstead-road.

For sundry decorations in the painting of St. James's Chapel, Hampstead-road.

For the building of school and school-houses at Horndon-on-the-Hill.

For about 643 square yards of good granite paving, 5 inches deep and three inches in thickness, with channel and division stones, seven inches deep and five inches in thickness, for Windsor.

For a gasometer, capable of containing 10,000 cubic feet, with the necessary suspension, &c., and if complete with cast-iron tank: wanted immediately at the Gas Works, Halstead, Essex.

For a supply of wrought-iron tanks and gasometers in various sizes, from 50 to 5,000 cubic feet, at Bloomsbury.

For a supply of 500 tons of flat-bottomed service rails, requiring no chairs, and weighing 32 lbs. per yard, for the works on the Aberdeen railway, delivered free at Aberdeen or Montrose.

For railway rails, chairs, locomotives, and tenders, switches, and points, railway signals and lanterns; also turning lathes, boring engines, slotting machines, machines for screwing bolts and nuts, machines for finishing nuts, portable cranes, columnar water cranes and tanks, &c., all of the best construction, for a continental railway.

For a gasometer for the Great Yarmouth Gas Works.

For a cast-iron tank 60 feet deep for the Great Yarmouth Gas Works.

For any quantity of road materials that may be required by the surveyor for the Commissioners for Paving, Lighting, and Improving the parish of St. Matthew, Bethnal-green, London, either of Kentish rag, Bombay granite, flints, gravel, or any other description of serviceable road materials.

For forty spirit lamps, more or less, for the Commissioners for Paving, Lighting, and Improving the parish of St. Matthew, Bethnal-green.

For building a bathing lodge on the lands of Knockduff, near Kinsale, Ireland.

For rebuilding the church of Ballymodan, Bandon, County Cork, Ireland.

For the whole of the works on that part of the Aberdeen Railway from Auchingowans to Water of Berrie, a length of three miles and upwards.

For the whole of the works on the Craigo contract of the Aberdeen Railway, extending from Heatherwick to the Esk, a length of four miles.

For the supply and erection of lamp-posts where required within the town of Lurgan, Scotland.

For the works to be done in erecting the new school-houses at St. John's, in Broadwardine.

For the mason and brickwork to be done in the erection of the proposed new church for the Wicker district. (Sheffield).

For 5,500 tons of wrought-iron rails for the Birmingham, Wolverhampton, and Stour Valley railway.

For 2,000 tons of cast-iron chairs for the Birmingham, Wolverhampton, and Stour Valley railway.

For the execution of the first contract of the works on the portion of the Leeds and Bradford railway extension from Keighley to Skipton and Colne—a length of 10¼ miles.

For the execution of the second contract of the works on the portion of the Leeds and Bradford railway extension from Keighley to Skipton and Colne—a length of 10¼ miles.

For the works on that part of the Montrose branch of the Aberdeen railway from its junction with the main line at Dubton to the level of the turnpike-road near Montrose—a length of upwards of a mile.

For the wright and carpenter's work to be done in the erection of the proposed new church for the Wicker district, Sheffield.

For the slater, plumber, glazier, and other work to be done in the erection of the proposed new church for the Wicker district, Sheffield.

For a quantity of tiles, either old or new, at Newcastle-on-Tyne.

For the erection of a Presbyterian church in Newcastle-on-Tyne.

For 100 to 200 circular cast-iron furnaces, or pans, to contain 150 to 200 gallons each, at Bristol.

For 300 yards of second-hand strong cast-iron rails, about two yards long, and for the disposal of 150 yards of cast-iron pipes, 8-inch bore.

For the repair and restoration of the main roof, stair-case, lobbies, and stone steps, of St. George's Church, Leicester (promptly).

For rebuilding the spire and restoring the damaged stone-work of the tower of St. George's Church, Leicester (promptly).

For painting the principal suite of rooms and grand stair-case of the town hall at Brighton.

For the erection of new schools, with master's house, &c., at Harrold (Bedfordshire).

For the building of two school-houses and a master's house, in the town of Cardigan.

For the disposal of a respectable country business in the plumbing, glazing, and painting line—retiring.

For the disposal to a railway contractor or others, of a twelve-horse disc engine, nearly new, at Gnosal, near Stafford.

For several good carpenters at Lynn.

For quarrymen to work in buty gangs at Pensher Quarry (Newcastle-on-Tyne).

For the supply of a good hand, high-pressure, steam-engine of four, six, or eight horse power, at Shrawardine, Shrewsbury.

For letting by proposal, a well-established brick-yard and tilery at Wolviston, Durham, with dwelling-house, &c., and an excellent seam of clay and bed of sand.

For the supply of a good second-hand high-pressure steam-engine of ten to fifteen horse power, with or without boiler.

For a steady engineer who has a lathe or two to dispose of or otherwise—permanent work (Wellington-street, Borough, London).

For an operative painter and glazier, plumber and paper-hanger, to assist in a business twenty miles from London.

For two or three good stone carvers for Gothic details in the country.

For an experienced brickmaker to take charge of a field—with a liberal salary.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At Leith, two cargoes of yellow and red pine, birch, ash, and elm, all of large size and fine quality.

At Flathouse (Southampton) a well-selected cargo of red and yellow pine, elm, deals, and lathwood.

At Boxted, near Colchester, a quantity of ash and oak timber trees.

At Ickleford, near Hitchin, Bedfordshire, twenty-five elm trees of large size.

At Colne Engaine, convenient lots of ash, oak, and elm timber.

At Forfar, a lease of the pavement and slate quarries of Curr Loan, near Forfar.

At Gurteen Wood, Cork, in one lot: a large quantity of oak and birch cut down this year, and suitable for carpenters, &c.

At Tooley-street, Borough: the building materials of a stack of hop warehouses, comprising 1,000,000 of the finest stock bricks, several tons of lead, fifty iron columns, and a large quantity of slates, joists, flooring, &c.

A quantity of yellow pine, rock elm, spruce deals, and lathwood at Southampton docks.

A large quantity of oak timber trees of large size in Gloucestershire.

Between 2,000 and 3,000 growing Scots fir trees in Perthshire, planted in 1770, and fit for building purposes, or for railway sleepers.

800 larch sleepers, nearly all roots cut, seven feet long by seven inches, small end, near Midcalder, Scotland.

An eight horse power condensing steam-engine and machinery at Kirkaldy.

A large quantity of cut timber trees and poles of many kinds of wood, including oak, chesnut, lime, poplar, elm, &c., near Nottingham.

A quantity of oak timber of large size, fallen and prepared, near Stroud.

Two good spiral turn staircases, one 12 feet 8 high; the other 9 feet 9, at Birmingham.

About 30 acres of large forest trees at Heights of Abraham, Matlock, Bath, consisting of larch, spruce, and Scots fir, of rare size, near a railway.

A portable, high-pressure, steam-engine, of six, eight, ten, twelve, and fourteen horse power, boilers separately, at Newington Causeway.

An ironmongery business, established in a rich agricultural county for fifty years.

TO CORRESPONDENTS.

"*J. A.*"—The late Chief Justice Tindal ruled, that if parties practised and produced the same results before the time the patent was obtained, they could not be prevented by any subsequent patent from doing the same again.

"*C. B. A.*"—Thanks.

"*S. B.*" (Nottingham).—We shall be glad to receive the notice offered.

"*Candid.*"—The charge should be regulated by circumstances; 1½ per cent. would not be extravagant.

"*W. L. G.*"—The engravings must stand over till the letter-press is ready.

"*G. H. D.*"—We cannot promise to go so far.

"*Filtering Stone.*"—A correspondent wishes to know, "what quantity of water will pass through 1 foot super of filtering stone 2 inches thick in one hour."

"*Blackburn Competition.*"—A correspondent again asks whether the competition for the proposed Exchange buildings at Blackburn is yet decided.

"*Y. Y.*" next week.

"*J. W.*"—Soon.

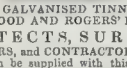
Received.—"J. J.," "Itinerant Antiquary," "T. M.," "C.," "T. C.," "J. P.," "Constant Subscriber," "Catalogue of Roman Emperors, with the price of their 'coins,'" by P. Whelan.

ADVERTISEMENTS.

DRAWING in PERSPECTIVE simplified by EARL'S REGISTERED GONIOMETRICON, strongly recommended for its usefulness and small size to the artist, teacher, pupil, architect, &c.—Wholesale and Retail of J. C. BRODIE, 79, Long-acre, and Messrs. REEVE'S and SON'S, Cheapside.

TO ENGINEERS, ARCHITECTS, BUILDERS, &c.

SPECIFICATIONS, Contracts, Conditions of Sale, Advertisements, &c., COPIED in a very superior manner, and in large or small quantities, at Three Halfpence per 100 words.—Address, prepaid, letters, &c., to KERR and Co., 13, Chichester-rents, Chancery-lane, London.—N.B. Respectable men sent out to write at the same charge.



PATENT GALVANISED TINNED IRON.
(MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and waterclosets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 9oz. to any required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quickset-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

By Her Majesty's Royal Letters Patent.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED METAL. — This article was at first sold under the name of Galvanised Tin Plates, but the Patentees finding that the public, in some instances, overlooking the word Tin, confounded the article with Galvanised Iron, and that the character of their metal has thereby sustained injury, are desirous of giving it a name so distinctive as to prevent such mistakes, and consequent disappointment to purchasers in future. They therefore respectfully request purchasers to inquire for MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON. In order to enable the public readily and at first sight to distinguish between the two metals, it may be well to inform them, that Galvanised Iron has a plain zinc-like appearance, while M. and R.'s Patent Galvanized Tinned Iron has a smooth crystalline surface.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON, Patronized by the Admiralty and the Honourable Board of Ordnance, being extensively used in her Majesty's Dock-yards, at the Tower, and elsewhere, for every variety of Roofing, and other purposes, where a strong, light, cheap, and durable material is required.

It has been found by experience that this article is beyond all comparison superior to zinc; possessing, as it does, all the advantages arising from the strength and firmness of iron, combined with perfect immunity from rust; whilst it is free from the very serious objection which applies to zinc, viz. its contraction and expansion, consequent upon every change of temperature, and from which circumstance leakage must of course result.

This material is not likely to be destroyed by fire, as is the case with zinc and lead, which melt and run down, thus freely admitting fresh air to the fire, and causing it to burn more fiercely. It is, therefore, obviously well adapted for all the purposes above-named, and most importantly so, when there is the possibility of fire. It is also peculiarly suitable for chimney-tops, gutters, spouting, and out-door work generally, possessing the strength of iron, without its liability to corrosion. It is by far the most economical metal roofing that can be obtained, in consequence of its strength, as it may be laid without boards, and upon the lightest rafters.

The mode of preserving metal from rust does not only apply to sheet-iron, but also to manufactured iron in any form, as bolts, nuts, hinges, nails, &c. &c.

For full Particulars apply to S. HOLLAND, 34, Grace-church-street.

INVENTORS and DEPOSITORS of WORKING MODELS and of other Specimens of the Useful Arts (as well as the Visitors of the ROYAL POLYTECHNIC INSTITUTION) are respectfully informed that the Directors have given their anxious consideration to the new appointment of Demonstrator in Mechanics, whose duty will be to explain to the Visitors the principles and uses of the above Specimens with clearness and simplicity. The Lectures now comprise the Electric Telegraph, as well as other objects of present interest. The beautiful Optical Instruments, &c. &c.—Admission, 1s. Schools, Half-price.

CHEAP PAN FOR WATER CLOSETS,
With Trap, in one Piece.

DOULTON and WATTS, Lambeth Pottery, London, Manufacturers of the above in superior glazed STONE WARE, price 7s. 6d. each. They are of the most durable ware, and are recommended in preference to iron on account of their cleanliness and cheapness. If preferred, they can be had in two parts, the pan at 4s. 6d., and the Trap at 3s. 6d. N.B. Manufacturers of RAIN WATER PIPING for houses.

CLARENDON PANTECHNICON, North-row, North Audley-street, Grosvenor-square. The proprietor, Mr. JAMES PONSFORD, begs most respectfully to inform the nobility, gentry, and public, that he has those exceeding convenient ware and store-rooms for depositing furniture and other valuable property, and that the greatest attention is given to receiving and delivering all articles, and to their safety while in the ware-rooms, and the moderate charge he makes for the convenience is considerably less than similar Establishments in London.

ARCHITECTURAL ENRICHMENTS. —BIELEFELD'S improved PAPIER MACHE, which has been almost universally adopted for architectural decorations, has been patronised by her Majesty, by the Hon. Commissioners of Board of Works, by the highest of the Nobility and Gentry, and by the most eminent architects of the day. It has been used at the Royal Palaces, at the present House of Lords, at Drayton Manor, the new Conservative Club House, &c., also at the British Museum, and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier mache ornaments with a tariff of prices, price 1*l.* Works, 15, Wellington-street, North, Strand.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.

Manufactured by J. B. WHITE and SONS, of Millbank-street, Westminster; and sold at their warehouses—Earl-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

ATKINSON'S CEMENT.
Rotherhithe Cement Works, Church-street, Rotherhithe.

WILLIAM WOOD, Jun., Manufacturer of Bath, Portland, and Roman Cements, Blue and White Lias Lime, &c. &c., begs to inform Architects, Builders, and others, that he is appointed AGENT for the sale of ATKINSON'S CEMENT, and has just received a shipment direct from the Works, which is now ready for sale, in any quantity, at the price of 2s. 3d. per bushel.—WILLIAM WOOD, Jun., also begs to call the attention of the public to his Bath Cement, which he thinks will merit approbation. It is of a very light colour, and will take up more sand than any cement now in use; requires no paint, and is well adapted for ornamental castings of every description, however elaborate; 2s. per bushel, delivered free within three miles of the works.

PATENT METALLIC SAND CEMENT, requiring no colour or paint, and free from cracks and blisters, mixed ready for use at 8s. per cask; 2s. 6d. allowed for each cask returned in good order. 3½ bushels common sand to be added to each cask of Metallic Cement, which will float 14 square yards of stucco.—Apply at the Metallic Cement Wharf, King's-road, Camden New Town.

THE PROJECTED RAILWAYS.

BENSON, LOGAN, and CO.'S PATENT METALLIC SAND CEMENT.—Its merits, as stated in letter to the Proprietors, by James Thomas Knowles, Esq., Architect, Raymond's Buildings, Gray's Inn, are:—

1st.—"The great tenacity with which it adheres to brick, stone, and iron.

2ndly.—"Its freedom (when properly applied) from those cracks and flaws, by which the cements generally used for external stuccoing are so frequently disfigured.

3dly.—"The total absence of the unsightly tint produced by vegetation.

4thly.—"The increased hardness which it acquires from exposure to atmospheric influences.

5thly.—"The great beauty, accuracy, and durability of the mouldings, capitals of columns, crockets, finials, and other architectural enrichments and decorations formed of it, the smallest and most delicate members of which, as well as the sharpest arises, have withstood uninjured the severities of our climate during many winters, and now present the same perfect and highly finished appearance as would be produced by stone carvings carefully executed.

6thly.—"The excellent and agreeable tone of colour which it assumes naturally, and retains without the aid of any colouring or painting.

"And lastly, its extreme hardness and almost entire incompressibility when used as a mortar in the construction of inverted or relieving arches, foundations under important superstructures, and small bearing piers, which have to sustain great weights. For all these purposes it has been extensively used under my directions, and in some cases has been exposed to very severe trials. The results have, however, without one exception, been most satisfactory; and I do not believe that there are any known substances so well adapted for the execution of works, in which the greatest strength and durability are essential."

Price of Metallic Sand at Swansea (place of manufacture), 10s. per ton, or supplied in London at 20s. per ton of twenty-one bushels.

Further information will be given, and specimens shewn, on application to Mr. C. K. DYER, 4, New Broad-street, and at the Metallic Cement Wharf, King's-road (opposite Pratt-street), Camden New Town, London.

CHEAP ROMAN CEMENT is sold in Casks that will not contain five bushels, even by some manufacturers of a very respectable name. Consumers should see that the standard size cask is 29 inches long by 17½ across the head, outside measure. Any workman with a rule in his pocket can ascertain this.

KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Milbank-street, Westminster,

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.

2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.

3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without pecling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 166, DUKE LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a Volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, produceable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

AGRICULTURAL IMPROVEMENTS. —JOHN READ begs to inform the Agriculturists of the United Kingdom, that his SUBSOIL PULVERISER (for which a patent was granted in 1843) obtained the Royal Agricultural Society's Prize of 10*l.* at Southampton in 1844, and at Shrewsbury in 1845; likewise at the late show at Newcastle-on-Tyne. This implement has been proved in thirty-seven different counties in this kingdom, also in Ireland, Scotland, France, Switzerland, and the West Indies, and universally approved as the best implement for the purpose ever invented. Manufactured by the Patentee, No. 35, Regent-circus, Piccadilly, London.

Likewise FIRE and GARDEN ENGINES, the Valves of which are so arranged as to prevent the possibility of their getting out of repair; if standing by for twelve months, are ready to act in an instant. N.B. Observe the Royal Arms and Patentee's Name, without which none are genuine.

The Builder.

No. CLXXXVII.

SATURDAY, SEPTEMBER 5, 1846.

AT some cost, we have engraved for our readers the plan and a view of the south side of the Protestant Church, now being erected in Alexandria, under the superintendence of our countryman, Mr. J. W. Wild.* It is dedicated to St. Mark, the founder of the primative church in Egypt, and is memorable as the first edifice for the performance of divine worship, according to the rites of the Church of England, permitted to occupy a prominent position in Egypt, and proclaim its purpose boldly. The Protestant Chapel at Smyrna is within the walls of the consulate; that at Constantinople within those of the British embassy; and the new church at Jerusalem is to be attached to the consular residence, and, like the former, screened from observation.

It seems that in 1838, the British community at Alexandria, desirous to provide means for the regular performance of public worship, held a meeting and determined on raising a subscription for the erection of a chapel. In the following year, Colonel Campbell, then consul-general, mentioned to Mohammed Ali, the viceroy of Egypt, the intention of the residents; and his highness, with a liberality that deserves commendation, presented to the community a valuable plot of ground on the south side of the Great Square, in the Frank quarter,—one of the most prominent positions in the city, surrounded in part by handsome modern buildings.† The frontage of the ground is 326 feet, the depth 112 feet; and its present money value is considered little short of one thousand pounds.

The Pasha at the same time expressed a wish that the structure should harmonise with the neighbouring buildings, and be worthy of the English people.

This took the committee by surprise, as they had contemplated erecting a very simple structure, and for some time the project remained in abeyance, until at last it seemed probable that the land would be otherwise appropriated. The necessity, however, for a suitable building became every month more urgent; the full development of the Overland communication, and the increase of direct steam intercourse with Great Britain, France, Austria, &c., led to a great influx of travellers, and it was seen that the building was required to be of the character indicated by the Pasha.‡ The object had attained a new importance; the ground was secured, and fresh efforts made to effect the purpose.

In the first instance, plans were obtained from the late Cambridge Camden Society, but these were not considered suitable to the climate or locality, and could not have been executed satisfactorily by Egyptian operatives. Mr. Wild was then employed to make a design, and, seeking to conciliate the opinion of the Arab inhabitants, and to meet the comprehension of the native artificers, produced what is represented by our engravings, and is now being executed, and which, while it agrees in plan and mass with the style of art used by the early church architects, carries out a general sentiment of Arabian detail.

The size of the building is considerable. A reference to the plan shews a nave 76 feet long, and 30 feet wide, and a chancel 23 feet long; a western porch 20 feet by 16 feet, a southern porch 20 feet by 16 feet also, and a vestry on the other side of the same size. The whole height of the church will be about 50 feet, and the height of the campanile 100 feet. The latter, however, is not considered by the architect a strictly necessary feature in the design, and will not be carried up until the rest of the building is entirely completed.

The foundations have been massively laid for the whole structure, including the tower and the enclosure walls, shewn in the plan, and the main building standing within the letters *a a*, has advanced to the springing of the windows, or to the line FE on the elevation. It is proposed to roof in this portion, then to add the porches and vestry, and to form the enclosure walls.

When the design was first made, it was intended to build the walls of rubble stone; but the entire failure of a large and handsome church, nearly completed by the Roman Catholics in Alexandria, and which has now to be pulled down and rebuilt with other materials, at a great expense, determined the committee to adopt the architect's advice, and use squared masonry, although, of course, at a much greater cost.

This cost was further increased by the failure of what has heretofore been the Alexandrian quarry, namely, *the ruins of the ancient city*. The new fortifications have nearly dried up this source, and have raised so much the price of the stone so procured, that it has been found cheaper to import the material from Malta, than to buy it on the spot. The walls are four feet in thickness, and without plastering inside. The ceiling is to be flat, formed into very deep panels by beams of larch wood. Over it there will be a solid construction to prevent the admission of heat from the sun. The west front, we should have said, is handsomely ornamented, and has a large central arch.

The cost of the church is estimated at 6,000*l.*, of which only half has yet been raised, so that assistance is indispensably necessary. The architect says in a recent communication to the committee, that "its main expense arises from the quantity of materials used, its height and bulk. The ornamental details are easily executed, and not expensive; the constructive forms are simple and economical, if compared either with the columns and entablatures required in the classical, or to the vaulting and tracery required in the Gothic architecture."

Should the building now be stopped for want of funds, the loss will be serious. After great pains and many struggles with the authorities, a body of good workmen has been organized, and the work is going on steadily though slowly, under an able clerk of the works, who has not merely to superintend, but to teach the men; and if the workmen so taught were to be discharged, it would be almost impossible to re-assemble them.

Looking at the erection of this church as an object of great importance,—destined perhaps to effect eventful changes—we do earnestly hope that assistance will be rendered in England. Nor can we doubt it: for, as the committee remark in a circular issued in Alexandria a short time since:—"While the higher motives of spreading the truths of the Gospel, and giving them an apparent root in a memorable soil, will insure the warm adherence of the public generally; many persons will be moved by the new course of European communications with India, and some by reminiscences of the illustrious origin of Alexandria, and its great fortunes as the metropolis of Egypt under the Greek dynasty of kings;—a city, in which the first version of the ancient Scriptures was executed, and to which the tidings of redemption were announced by the Evangelist Saint Mark. Still, a main reliance must be reposed on the exertions and zealous co-operation of the wealthier class of the British population in India. There are perhaps few of its members who are not likely to benefit at some time, by the place of worship now in construction; so that each is personally interested in its worthy completion."

* See page 426.

† The Act of Parliament, 5 Geo. 4, cap. 8, provides, that where British subjects abroad, shall raise one half of an amount sufficient for the support among them of a clergyman of the Established Church of England and Ireland, or of the Church of Scotland, the Government, at its discretion, may contribute a like amount to the stipend. In 1840, advantage was taken of that arrangement to create a salary of 300*l.* per annum; and, as a majority of the subscribers were members of the Church of England, the Lord Bishop of London was moved to appoint a chaplain, who has now officiated at Alexandria since 1841, in a temporary building, little adapted to the purpose.

‡ The present annual intercourse of British subjects with Alexandria may be stated as follows, from official information:—

Permanent Protestant residents (1845)	107
Travellers in transit, to and from India.....	2,200
Crews of merchant shipping.....	2,057
Crews of steam and other packets (36 arrivals)	1,516
Tourists and others, about	160
Total	6,050

BATHS AND WASHHOUSES, GEORGE-STREET, EUSTON-SQUARE.

WHY EMPLOY AN ARCHITECT?

THIS establishment is now in active operation, and promises to be of great service. All the arrangements for its management seem very satisfactory, and entitle the committee to praise. We spoke several times last year of the progress of the building, and in doing so had occasion to express regret that no architect had been employed.* The committee doubtless acted with the best intentions, and thought they were saving money by avoiding professional assistance. It was a common mistake, and scarcely authorizes reprehension. That it *was* a mistake, a very few years will be sufficient to satisfy the committee, even if they are not already convinced of it by their position in respect of two covered plunging baths, which have been executed for them under contract for 500*l.* The contractor undertook to make them *water-tight*, but was seemingly left to do so his own way, and now they are finished they are found to be useless. The committee of course refuse to pay even a reduced sum, which the contractor, under the circumstances, offers to accept in discharge of his contract, and it yet remains to be seen what litigation will unfortunately follow, and what money must be spent to render the baths in any degree useful.

We mention this (not desiring that it should prejudice the establishment in the least) as a warning to other bodies against "a penny wise and pound foolish" system, which seems unluckily to be gaining ground.

A report of the proceedings at a meeting of the Bury Town Council, now before us, shews that the church of St. Mary in that town, has been repaired, the builder first acting as architect, and preparing plans and specifications for the work required, and then tendering for the execution of it with other tradesmen, and being the lowest, obtaining the job. On this occasion, however, to the great astonishment of the employers, the builder afterwards charged them for the drawings and specifications, independently of the amount of his tender, so that they gained nothing by the course adopted, even in appearance. For another church in the same place, it was stated, that the drawings and specifications were sent in, and the cost included in the tender.

At a recent meeting of the Bridgewater corporation, the state of St. Mary's church as pointed out by the *Bridgewater Times*, and alluded to by us, was discussed, and a committee was appointed, "To obtain the opinion of some *builder* or person as to the best plan of repairing the chancel of Bridgewater church

* See p. 534, Vol. III.

and particularly the roof of it, and an estimate of the expense of such repairs, and lay the same before the council."

We do hope that the *Bridgewater Times* will tell the council from us, that they ought not to go to the "builder" but to the "person," and that person, in this case means architect. He at the proper time would go to the builders, who always find themselves much better off working with *certainty*, and without responsibility under an architect, than when left to themselves or directed by a committee.

A WALK UP NEW OXFORD STREET.

In one department of the art, which is just now of considerable importance, the architect finds himself more free than usual, from the influence of rule and precedent. He may have read every treatise on architecture, from Vitruvius to Chambers, and be well versed in the proportions of orders and of mouldings, from Palladio or Vignola; he may have formed principles of design for the arrangement of doors and windows, or the distribution of stories, string-courses and cornices. He may have accurate ideas respecting the particular character, which each description of structure in a city should bear, and be able to produce an elevation for any given building, which shall at once appear appropriate to its object and its locality, and not be mistaken for a country mansion, or a suburban villa. The character of his design may, in each case, be adapted to its situation, considered as a part of the street, and yet it is not necessarily implied, that he has acquired any definite principles in the composition of STREET ARCHITECTURE. The façade of a club-house, or of any public or private building, in its composition, requires some attention to situation, and to oppidan character; but street architecture is of more comprehensive nature, and includes the arrangement of streets, and the disposition of public buildings on the most advantageous sites, with the composition of elevations, which may be measured, not by the foot, but the furlong. Constructively, it includes every sanatory provision, every convenience of disposition and access, which can promote the comfort of the moving multitude in this busy world; in the art, it has reference to the proper allocation of general character, in order that, whilst the particular effect is cared for in the individual building, there may be beauty of outline in the perspective of the larger field of view. Wren and Nash are almost the only architects, who have had opportunities of a practical nature in this department of their art: the former left a plan for the building of the city, in which the approaches were devised with strict reference to the effect of the public buildings, but which he never had the opportunity of carrying out*; the latter, whatever his merits in the ordinary art, has certainly left us *some* useful lessons in general disposition.

It is surprising that the architecture of streets, thus shewn to be a department in itself, has not received the requisite attention in architectural treatises. Probably, when several styles were not practised at one time, this general effect would be partly gained without particular attention being directed to it, and there would be a character of architecture similar to that in some streets in Italian cities, and which is beginning to appear in Pall Mall. But this is not strictly what we mean, when we speak of street architecture, which has reference to those circumstances, in which many different premises are combined in one façade, which must itself be a portion of the general design of the street. Metropolitan improvements, and the formation of new streets in all our large towns, are now of such frequent occurrence, that it would be worth while to direct attention to this uncultivated field, and it is now our object to examine particularly into the manner, in which this important branch of architecture has been carried out.

—As Regent-street was perhaps the first attempt at any thing like street architecture, and is popularly considered to be a fine example, it would not be well to omit some reference to the causes of this general opinion, one certainly not warranted by the result of an examination into particulars, which would shew an assemblage of designs, few of them, taken singly, being very creditable to the architect. We shall probably find, omitting the importance which is generally given to the effect of a street by sufficient width and length, that there is a general symmetry in outline and elevation, whilst there is some variety, sufficient to prevent insipidity, in the several façades. These, or similar general characteristics, would probably be even more apparent, were not those faults in modern street architecture, shop fronts and cement, here more than commonly obtrusive. Many years elapsed subsequent to the opening of Regent-street, when the formation of several new lines gave an opportunity for practice, such as does not often occur. Architecture had wholly altered its character in the interval, and it must be conceded had greatly advanced. There was less misconception as to the value and use of Grecian architecture, and useful lessons had been drawn from the study of Italian examples. The Travellers', the Junior University, and the Reform Club Houses had been completed, forming an epoch in modern practice, to which we believe we are right in attributing very important results. The necessity of studying and understanding something more than the orders had, even before that late date, not been completely felt; works illustrative of the architecture of Rome, Florence, or Genoa, were in the library of the architect less frequently than Stuart's Athens; and the proportions of stories and cornices, and the disposition of windows received *comparatively* little attention. But now, new principles seemed to be at work, that had slept since the days of Hawksmoor, and Burlington, and Chambers, those of which reminiscences are still found in many a doorway or staircase in old parts of the city, or the neighbourhood of the squares. Windows and cornices received their appropriate decoration, proportion was more regarded, and ornament employed with a less sparing hand. Still we cannot consider, that the requirements of good street architecture were reached in Moorgate-street, and King William-street; they are little in advance of Regent-street in general character, whilst there is little variety in component parts.

We have thus endeavoured to shew, that hitherto, when street architecture has been spoken of, something very different from the full meaning of the term has been intended; that an elevation, which may be fitted for its locality in the street, is often so described, when the term would more properly apply to an assemblage of buildings, and to general character of design; and having said, that the subject had not been treated of, it may fairly be asked, what are the principles by which we form our opinions? We say, then—when circumstances are favourable, as in late instances,—that a general character of massiveness, or lightness, of height, of verticality, or horizontal line, should predominate; but that consistently with such general requirements, variety of design is desirable.—But, whatever these principles may be, it seems just now of some importance, that the study of street architecture should receive attention. New streets are in progress, or in contemplation in various quarters, and it must be extremely desirable to arrive at some general principles, by which the largest amount of embellishment may be given to the metropolis. At present, the building of five stories in height, towers above its neighbours of three; cement is used everywhere to conceal the defects of modern brickwork, and each householder paints his residence, at the time, and of the colour which suits him best, carefully shewing the edge of his property, and his paint, up the middle of any intermediate pilaster. A whole façade of heavy architecture rests upon a basement of glass; marking how little we think about precedent, in making this appear the weakest part of the structure; and sign-boards extend the full length of the front, serving to communicate fire, in case of that disaster. In Cranbourn-street, and New Oxford-street, we find that attention has been directed to the subject of our remarks, and the designs, though open to criticism, are far beyond the class of Regent-street. Indeed, in the former case, there is a good general character, whilst in the details of window dressings and cornices, there is much that we should be able to praise. New Oxford-street is, however, the occasion of present remarks, and as it is a street of some extent, and architectural pretension, may aptly illustrate our subject. Though some of the plots are yet unoccupied, and several buildings are unfinished, a fair notion can be gained of its future appearance.

Commencing our walk from its western extremity, we notice a row of buildings on the north side, which, but for the shops, would be a good specimen of architecture. No effort has been made to get rid of the difficulty, which shops always present, though we cannot censure an architect: he has generally in this respect, no opportunity of doing what he would wish; it is difficult even to arrange the piers of division symmetrically, though if a little less glass were required, arches could be turned, and a greater appearance of strength be attainable. The other windows in the front in question are, however, well arranged: it is pleasing to observe signs of improved taste in their dressings, and in the cornice of the building, which has, within our recollection, assumed its proper importance as an architectural feature. The windows have cornices, and a pulvinated frieze, which should have been curved, and not flat on the face. The whole is cemented, as in most other instances, and we noticed some suspicious cracks about the window heads. On the south side, immediately opposite, is a façade of different design, in moderately good taste. It has an attic story above the cornice, with arched windows. We are surprised to see the old practice of forming window heads of bricks with parallel joints, placed obliquely and meeting in the centre, persevered in, instead of the radiating joints, which are used wherever the work is to be seen. The use of the objectionable method, where cement is to be applied, would imply that greater strength is attainable, which is certainly not the case; and there is no doubt that the cracks, which we so frequently see in window heads, are generally to be attributed to this system.—The second row of buildings on the south side, is of considerable length, and the decorations to the windows of the first floor, consisting of large Corinthian columns, supporting an entablature and pediment, will give a good effect to this front, when completed. The cornice of the building is, however, common-place, being little better than the plasterer's drawing-room cornice of Corinthian modillions and dentils, and the proportions of the stories are too equally arranged. The second-floor windows also are not of good character, the trusses to the cornice being too large, and those to the sills too small. A creditable attempt has been made to overcome the bad effect of the shops, by introducing a column at each division. In that portion of their property, which is occupied by Messrs. Merrick and Co., the windows are the same size as those in the stories above, the columns being in that instance coupled on the piers. What the owners of the property had sufficient confidence to adopt on their own establishment, it appears they durst not venture to carry through the whole range.

Proceeding eastward, on the same side of the street, is a small front, from which a good lesson may be learnt. It has Corinthian pilasters, windows with architraves, curved and pointed pediments, balconies and balusters, and is lavishly ornamented, every moulding being enriched. On inquiring into the reason of the bad effect, which results from all this elaboration, you find that it is in the neglect of those rules of proportion, for which cement presents so fatal a facility. Whilst the plasterer has moulds on hand, and ornaments which can be fitted in somewhere or other, the architect has no chance of designing anything new, or on sound principles, or of doing what he would to influence correct taste. His art is of no use, and the principles which he understands, have no opportunity of development. In this case, the entablature is about a third the height of the pilaster; the beads beneath the facias of the architrave are of most formidable calibre, and the whole work displays a similar ignorance of ordinary rules. We regretted, that we could not learn the names of the architects in some other cases, but here it was evident that no architect could have been employed.—On the north side, opposite, is a small front of five stories in height. One angle is made acute, by the intersection of a street; a difficulty which often occurs, and is in several cases in this street, successfully treated. We shall, probably, recur to the subject of angles in buildings, when we shall

* It is said, that Wren's plan has been made use of at Hamburgh.

have the opportunity of giving plans, shewing the methods which may be adopted, under several circumstances. A lofty building, in nine cases out of ten, fails in effect, and from this fact, it might be a difficulty, which there could be no means of overcoming. Three stories will generally form the most satisfactory combination, but we need hardly say, the mode of division may be retained in several ranges of windows, by uniting two stories under one subdivision. The way in which this is generally done, is by introducing a mezzanine story, but then, often with detriment to the convenience of the building. The first floor of the present building has an order of coupled pilasters, which looks disconnected with the front, or as though it were glued on. A Vitruvian scroll separates the windows of the second floor from those above, and is much too large.—The adjoining façade on the north side, despite its Louis XIV. character in many respects, is, the shops being omitted, a very fair production. The general proportions and the arrangement of the windows are good, and there is some novelty in the details, without any glaring impropriety. The ends project a little before the centre part, and have panelled pilasters at the angles, with capitals formed of the clustered trusses of the cornice. These pilasters occupy three stories in height, and are enriched with mouldings and festoons. The windows of the first floor in the centre, have segmental heads, with a plain console, over which is a cornice rising from trusses; on these perhaps some improvement might have been made. The sills to the windows of the second floor are rather heavy. The third floor is separated by a narrow band, with an enrichment, plain, but in good taste. The windows of this story are square. The cornice of the building has trusses coupled together at intervals. The window of the first floor at each end, which is of increased width, is united with that of the second floor, and forms a pleasing feature in the design.—Opposite this building is the Bedford Chapel, which has been the subject of all kinds of criticism since the notice of it, which appeared in THE BUILDER a short time back. The architect seems to have had the style of Brunelleschi in his mind, when he designed it.—"Here," as the *Directory* says, "Bloomsbury-street intersects," and on the south side beyond this point, several plots are yet unoccupied. Passing by some buildings on the north side, which do not call for particular notice, we arrive at Museum-street, from which point the tower of St. George's Church is seen with increased effect, and we are glad to find that its merits are now recognized.—The building, which stands at the point of land, whence Hart-street commences and Oxford-street is continued, is in some respects well adapted to its position. The part to the west is circular on the plan, and terminates the vista with so much of good effect, that we regret the expectation is not borne out by a nearer approach. It is composed, or rather compoed, in the same style as the front before animadverted upon, having the same attempt at extravagant enrichment, and the same enormous beads, and other ornaments. There are the *materials* of a good design, and the attic has some good parts, but the proportions of the stories, of the order, and of most of the details, are not such as should be designed by any architect. The cheap stucco ornaments, with which the work is bedizened, could well be spared for a few plain mouldings of good contour in stone, and the order of Corinthian columns, on which the attic of two stories seems to weigh so heavily, for a simple arrangement of breaks and apertures of good proportion, in well-executed brickwork.—In another work, on the north side, the Elizabethan style has been adopted. The materials are red brick, with enrichments in stone and cement. There are large windows, with mullions and transoms, Italian coins, a cornice, gables and parapets, with the usual contortions "of the period." The divisions of the shops are formed by ornamented pilasters, and the building is not without good features. As usual, no one knew the name of the architect.—The buildings which are next to Holborn, on the south side, have an ordinary cornice, and the stories are not in very good proportion. The first-floor windows have Ionic columns, and an entablature. The point of junction of the streets is rounded into a semi-circle. Two rows of buildings on the north side, immediately adjoining, in Holborn, remain for notice. They are nearly alike in design, and are perhaps better than any we have described. They are built of brick, with cement dressings, and the work seems better executed than we are in the habit of seeing it. The ends of each building break forward, the windows of the first and second floors being there grouped together with good design. The windows have cornices and trusses, and those to the first floor have curved pediments. The pediments in one building appear heavy, whilst in the other they are of better proportion; and on examination it is seen, that the enriched ovolo beneath the corona, is brought to the front in the former case, instead of being set close to the tympanum, as in the second case, and as usual in all good examples. The comparison is a striking proof of the importance of attention to points of detail. There is a good cornice to the shop-fronts in one of the buildings. The general effect of these buildings is good, though some of the parts might have been improved. Indeed, in this point we constantly see reason to regret the ease with which details can be executed in cement, and we cannot but think, that had the same space to be filled with stonework, we should find that much careful consideration would be devoted to the proportions of ornaments, and the contour of mouldings. Till we can feel the importance of acquiring a severe style of art, in which proportion and beauty shall be more sought than ornament, architecture will become less and less an ART, whilst the tradesman will be called out of his sphere to pander to the vicious taste, which his previous education has not fitted him to control. Let the street architecture of the metropolis be the subject of our earnest attention; it is by it that the popular taste is fixed, and there is constant danger, that that standard will be formed by the architecture which *is* produced, rather than on what might easily be, or on the opinions of those whose pursuits qualify them to instruct.

POWER OF THE OFFICIAL REFEREES
TO ALLOW A RELAXATION OF THE LAW IN INDIVIDUAL CASES.

SIR,—The manner in which you record proceedings under the Buildings Act is extremely useful to all concerned in its operation. The building owner, the builder, the district-surveyor, nay, the official referees and registrar may each and all see practical illustrations of the working of the system, and hence derive instruction. In your number of Saturday, the 25th of July, p. 351, you record a decision of the official referees, which demands attention. It is one of a class, shewing, in my opinion, that the official referees mistake their functions, and, instead of "*superintending the execution of the Act*," they are encouraging the evasion of its execution in a manner which is contrary to law, and tending to increase the difficulties which arise in carrying it into effect. Their award is, "that inasmuch as the pipes in question for conveying steam are placed within fourteen inches from the woodwork, such pipes are contrary to the said Act; but inasmuch as the woodwork is not such as to endanger the rest of the building, if fire were communicated to it from the said pipes, and inasmuch, moreover, as the building is one in which the risk of fire is very small, and having regard to the above-mentioned certificate, we make no direction thereon."

It appears to me, that in coming to such a decision the official referees are *superseding* the Act, and assuming a control not vested in *them* by the legislature.

The oath of the district-surveyor is to the effect, "That he will, diligently, faithfully, and impartially, perform the duties of his office, and to the utmost of his power, skill, and ability endeavour to cause the several provisions of the said Act to be strictly observed."

Now, Sir, let us look to the duty of the official referees: "They are required to superintend the execution of the Act by the several district-surveyors, and to determine all questions referred to them;" and "that if any doubt, difference, or dissatisfaction, in respect of any matter within the limits of this Act, arise between any parties concerned, or between any party and any surveyor, &c. &c., as to any act done or to be done in pursuance of this Act, or as to the effect of the provisions thereof in any case, or as to the *mode* in which the provisions and directions of this Act are or ought to be carried into effect, and particularly as to whether the requirements implied in terms of qualification applied to sites, soils, materials, or workmanship, or otherwise, and otherwise denoting good, sound, fire-proof, fit, proper, or sufficient, are fulfilled in certain cases, &c. &c.; then it shall be lawful for any party concerned, and he is hereby entitled, to require the official referees to *determine* such matter," &c. &c.

Now, Sir, if the sections 81 and 82 be properly examined, it will be found that the duty of the official referees, divested of technical form, is stated to be, to see that the Act is carried into effect, and to decide as to the meaning of any ambiguous directions or litigated interpretation between parties, but not to nullify the provisions of the Act—not to improve upon the wisdom of the legislature, nor to modify the provisions. The mode in which this last proceeding is to be effected, and the reasons to justify any modifications, are pointed out in clauses 11 and 12. And for the purpose of preventing the express provisions of this Act from hindering the adoption of improvements, and of providing for the adoption of expedients, either better or equally well adapted to accomplish the purposes thereof, be it enacted, so far as relates to the modification of *any* rules hereby prescribed, that if, in the opinion of the official referees, the rules by this Act imposed shall be inapplicable, or will defeat the objects of this Act, and that by the adoption of any modification of such rules such objects will be attained either better or as effectually, it shall be the duty of the official referees to report their opinion thereon, stating the grounds of such their opinion to the Commissioners of Works and Buildings; and the said commissioners may direct such modification may be made in such rules as will, in their opinion, give effect to the purposes of the Act.

It is evident that the Act never contemplated partial evasions of the clauses or schedules in individual instances. But if modifications were to be made, it was not in special cases, but that the rules themselves should be modified for the general benefit, and only in order to prevent the express provisions of the Act from hindering the adoption of improvements, and for the purpose of providing for the adoption of expedients, either better or equally well adapted, to accomplish the purposes of this enactment. By this test, let this award of the official referees be considered. They admit, that the pipes in question for conveying steam, are placed within 14 inches from woodwork, and are contrary to the Act! They admit the possibility of fire being communicated to the wood-work! But, because the risk is very small they make no direction thereon! In what part of the Act or of the schedules do they find, that the greater or less distance of such tubes from woodwork admits of discretion? Has not the legislature fixed the absolute distance? Has it not forborne to vest any such discretion of increasing or diminishing the distance, whether wisely or not, I do not pretend to say, in any one of the officers under the Act? The official referees have hitherto acted on the assumption, that it is their duty to require the district surveyors to enforce the full and strict observance of the Act, reserving to themselves the power, if appealed to, to excuse parties from conforming to the regulations, if from some reason or other they choose to relax the requirements of the Act. This is an assumption and habit of transacting business at once irregular and illegal. In fact many lawyers have declared that the awards of this Board are so drawn, that if contested in a court of law, they could not hold water. A CONSTANT READER.

MR. EDITOR,—In many of the recent awards of the official referees, I find that although the *irregularity* brought under their notice is decided by them to *be contrary to law, yet they decline to give any directions thereon*. This, Sir, is utterly at variance with all principle of law, and particularly so in regard to the Building Act. Neither the official referees, nor the district surveyors, have any power to forbear enforcing compliance with the regulations of the Act. The former have been driving on the latter to the very strictest observance of their duties; and when cases come before

them, they dare not carry out the letter of the law. If, then, the official referees come to such illegal conclusions, and choose to exercise such a discretionary power, why may not the district surveyor take upon himself to think and act for himself, and so avoid the odium unjustly attaching to him for fulfilling his *oath*, in causing the provisions of the Building Act to be strictly observed? Why should not he act independently and honestly, profiting by the lesson given him by the official referees? Why should not he exercise at once his own discretion in judging as to the soundness and safety of construction, even though not conformable to the *very letter* of the Act, yet not at variance with its *spirit*?

If called in question, let the district surveyors quote, as their guide and authority, the tens and twenties of precedents to be found on the records of the official referees, as to the exercise of *their* judicial discretion.

Might not the provisions of the Act be carried out more in the spirit of justice and sound construction, and certainly more to the satisfaction of the owners of property, of the builders, and themselves, if the district surveyors appealed less to the official referees, seeing at the same time the Act complied with in its full practical efficiency.—I am, Sir, &c.,

August, 1846. ONE OF THAT BODY.

*** The question mooted in the above letters (which represent several others on the same subject), is unquestionably one of considerable importance. The 80th section gives the referees "a discretion in the relaxation of the fixed rules and directions of the Act," and power as exercised by the referees, has proved advantageous; we withhold any opinion however, at this moment.

TEWKESBURY.

THE examination of this ancient town and its celebrated church, afforded a very interesting morning to the British Archæological Association during their late congress. Under the local guidance of Mr. Bennett,* they dived into cellars and ascended to the tops of some of the oldest houses there, and, assisted by men conversant with architectural antiquities and heraldry, hardly left a stone of the church unturned.

Theocus, a recluse, who fixed his residence here in the 7th century, says tradition, gave his name to the place. Whether so or not, it was known in William the Norman's time, as Teodechesberie. The important battle between the York and Lancaster factions in 1471, of which Tewkesbury was the scene, gave the town its chief celebrity, and Shakspeare, apart from our historians, has spread the name world wide. It was a battle-field for the royalists and parliamentarians in Charles's troubled time; and the king in person once commenced an attack on the town, but afterwards retired.

There are several interesting specimens of ancient domestic architecture remaining in the streets, chiefly belonging to the end of Elizabeth's reign. The earliest example we noticed, was a house in Church-street, which may date from the 15th century. The fittings of a house now occupied as a baker's-shop, not far from the latter, are curious; they are inscribed 1601.

All who go to Tewkesbury, should take a sketch-book with them, and what is of more importance still, not fail to use it. A note-book in excursions to such places for information sake, supplies the place of a companion, and it has this advantage, that it don't forget what you say to it.

The Abbey church affords some admirable subjects, and much matter for investigation. This structure displays in a striking manner the peculiarities of Norman architecture, and the gradual progress of the pointed style. In some respects, as for example the west end, with the singularly lofty and deeply recessed arch, sixty-five feet high, and thirty-four feet wide, it is unique; and the choir contains some rare sepulchral chapels and monuments. The extent of the whole structure as you approach it from the south, is very striking,—the length is as much as 320 feet,—and the massive Norman tower at the intersection of the transept (the plan of the church being a Latin cross) is a beautiful piece of work, and almost as perfect, even at this distant period from its foundation, as when it was first completed. The battlements and pinnacles which terminate it are *probably* of more recent date than the tower, and the same may be said of the curious short spires and pinnacles at the top of the two square towers on the west front. A careful examination of the masonry of these doubtful portions by a practised eye, when an opportunity occurs, is very desirable.

In our number for the week in which the association visited Tewkesbury,* a picturesque view of the west front of the church and gate-house is given. Unlike our illustrations generally, however, this must be regarded only as a picturesque sketch. There are no pointed arches in the tower, or the part shewn of the west front; all are semi-circular, in some cases interlaced, and good specimens of pure Norman work.

The effect on entering at the west end of the church is very imposing: massive and lofty cylindrical columns, similar to those in Gloucester Cathedral, which Mr. Cresy considers Saxon (?), divide the nave from the aisles, and carry on semi-circular arches a low triforium and clerestory. The pendentives of the vaulting spring from the caps of the large columns.

Glancing round the choir, we see early pointed work joined on to similar cylindrical columns, and much later additions again above that. An abominable altar screen of pseudo-Italian fashion, with pews to match, sadly mar the general effect. For the erection of the former, part of three most elegant sedilia, once elaborately decorated with colours and gilding, has been ruthlessly destroyed. It is to be hoped that a long time will not elapse before a reformation be attempted here. Monumental chapels surround the choir. In one on the south side are some early drawings in good preservation. The Warwick chapel, on the north side of the choir, is a beautiful example of perpendicular work, and is especially remarkable for being two stories. The countess by whom it was erected died in 1439. It is unfortunately falling rapidly into decay, and it is to be hoped that speedy measures will be taken to obtain a restoration of it.

* The author of a lucid "History of Tewkesbury," and a "Tewkesbury Guide."

PROVINCIAL NEWS.

THE royal pavilion at Brighton was to be closed on the 5th instant.——The Bishop of Salisbury is to re-open the parish church of Tilshead on the 15th instant, its extensive repair, restoration, and enlargement being completed.——The old church of Chelmsford is at length, it is to be hoped, in the way of restoration or repair. Mr. Rayner, the builder, in making some slight repairs of late, discovered that the roof was so insecure as to require the erection of a number of props in the interior, which has now as ruinous an aspect as the exterior, and particularly the steeple, has so long displayed to the *admiring* eyes of strangers. An inspection has been instituted by the Bishop of Rochester; and surely a parish which has managed of late to erect no less than two new places of worship will not suffer its old and venerated establishment to fall into total decay.——The parish church of West Lydford, Somerset, rebuilt at the sole expense of Mr. E. F. Colson, of Roundway-park, was consecrated by the Bishop of Bath and Wells on the 14th ultimo.——The architects appointed for the church about to be erected at Two-mile-hill, St. George's, Gloucestershire, are Messrs. Hicks and Gabriel. ——The contract for taking down and rebuilding the parish church of Runcorn has been taken at 6,500*l*. The work will be begun when the National School is fitted up for the temporary accommodation of the congregation. —— The excavation for St. Paul's Church, Prince's-park, Liverpool, was lately commenced, and the first stone is to be laid next week or the week following. It is to be erected of stone in the pointed Gothic style, and cruciform, with a spire 150 feet high, and accommodation for 1,560 persons, a number of sittings being free, and at very low rents. The design was furnished by Mr. Arthur Holme; and Messrs. Samuel and James Holme are to be the builders. This is the church of which the Rev. Hugh McNeile is to be minister.——The stonemasons at Liverpool have resolved, at a meeting held on Tuesday week, to form a Co-operative Building Society, in order to secure employment to its members when unable to obtain it elsewhere; and they have pledged themselves to use every exertion until all the masons in England are members of their association.——At Birkenhead, a placard announces no less than seventy-nine mansions, houses, and shops, for sale.——Mr. Dean of Leftwich, has taken the contract for the erection of the late Captain Egerton's memorial in Oulton Park. Three competitors, to whom the committee had applied by letter, sent in tenders. Messrs. Scott and Moffatt supplied the design, and are to superintend its realization.——The plans of the Rev. J. W. Brooks for the erection of the proposed churches of St. Matthew, St. Mark, and St. Luke, at Nottingham, have been so far matured, that two appointments (those for St. Matthew's and St. Mark's) have been already made.——St. Peter's church, Cambridge, will shortly have its improvements and restorations completed. A two mullion window over the altar has been contributed by the Rev. Mr. Witts, of King's College. The repairs have been superintended by Mr. A. Swinton.—— The octagon tower at St. Catherine's chapel, Bury, St. Edmunds, the most perfect relic of the ancient church of St. Edmund, to which Canute contributed in honour of that martyr to English independence, and which has withstood the assaults of time through the whole dynasty of the Norman race of kings—has sunk at last into a dyeing establishment.—— The church of St. John's, Woodbridge, sometime since erected, in the early English style, was consecrated by the Bishop of Norwich on Thursday last. It contains 800 sittings, 500 free and open benches, and 300 appropriated in the galleries.——The clearing of the site for the erection of the new markets at Doncaster is in progress. The new shambles and various other buildings have been demolished, and the materials sold, except the bricks, in lots, and at high prices.——A new cemetery is in contemplation at Doncaster. A company with shares of 20*l*. each is about to be established.——The new church at Musgrave, Westmoreland, was consecrated on Tuesday week by the Bishop of Carlisle.——A movement has commenced in Edinburgh and its surrounding agricultural district for the enlargement of the old corn-market, or the establishment of a new one. A committee of farmers, corn-merchants, and others, has been appointed, for the very reason, apparently, why it should not have been appointed, namely, as the representative of parties locally interested in the continuance of the old market, to whose decision the council have referred the whole question. The *Edinburgh Register* points out this error, and very timeously and judiciously interposes the suggestion of new elements for deliberation, namely, the probable centralization of the Scottish railways, and the equally probable centralization of the corn-market of all Scotland, through these railways, in the northern metropolis, and the propriety and advantage of placing the corn-market in such immediate proximity to the central terminus, as shall obviate the grievous and intolerable expense of carting grain from the railways to the Corn-Exchange, and recarting it from the exchange to the railways, an expense greater in many cases than the whole cost of transit from the country farms. "True economy," as the editor very properly remarks, "would bring the market to the grain, rather than the grain to the market."——Bailie Mack, with his usual benevolent but timorous care over the welfare and safety of his fellow-citizens, proposes forthwith to pull down the fine old gable wall of old Grey Friars Church, one of the most time-venerated edifices in the "City of Palaces." His fellow-councillors "humbly pray that this picturesque and highly ornamental gable, which they have frequently admired in a moonlight night, should be allowed to remain;" but the bailie will undoubtedly persevere with his suggestion, as the fear of danger to his fellow-citizens will but too easily dim his at all times somewhat obscure vision of the picturesque. All due consideration, we hope, in this event, will at least be given to the views on both sides of the subject in question.——The foundation-stone of the chapel of Trinity College, Perth, is to be laid on the 8th instant, in presence of the bishop and council of the college.

* See p. 375, *ante*.

ELEMENTS OF PHYSICS.*

So many treatises on physics have been got up to meet the requirements of youthful tuition, that the first question which naturally presents itself on the advent of a new arrangement of the old and hackneyed subject is, what are *your* pretences to a preference—nay, even to an ordinary share of attention or regard? We opened the present volumes in the grumbling spirit of our query, but are bound to acknowledge, that we were led on to a much more general and attentive *re*consideration shall we call it?—of our old and favourite studies than we had intended.

The fact is, we must admit, there is such an air of pleasant freshness, and, indeed, to an English student, even of novelty about the work, that, in spite of an occasional error of minor importance, we cannot but heartily recommend it to our young friends and readers.

Many of the diagrams and illustrations are not usually found in English works; neither, indeed, are many of the practical and experimental examples given; and besides, a generally cautious and often judicious reserve on the more unsatisfactory or doubtful theoretical points, adds not a little to our favourable impression of the work. These were *our* chief attractions; but the author, or at least translator, rests his claim to public favour chiefly on the fact "that the manual now offered to the public, occupies ground not taken up by any existing treatise on natural philosophy; for the works on this science, in our language, are almost without exception, either purely theoretical, or they are, in the strictest sense of the term, popular;" while "the present work is of a mixed character, being a systematic treatise, adapted for the use of schools, excluding difficult mathematics, but retaining the mathematical method." It also contains copious tables, of value to practical men; and foreign measures have, for the most part, been reduced to English standards.

The first volume (published last year) is devoted to the ponderable bodies; and the second and third, just now issued, to the imponderable; the second comprising light, heat, and magnetism; and the third electricity, electro-magnetism, and magneto-electricity. It is to the first chiefly, however, that we must confine ourselves in our selection of an average specimen of the style and execution of the work.

Phenomena arising from the Reflection of Sound.—"When the waves of air on which sound is being borne, impinge, in the course of their expansion, on any objects by which their advance is stopped, the particles of air recoil from such objects, agreeably to the laws regulating the impact of elastic bodies; their return is made with equal velocity and under an equal but opposite angle, to that under which they advanced.

If the wave of sound fall perpendicularly on the wall whence it is reflected, it returns in the same direction, and arrives again at the spot from which it originated.

If the place whence the sound arose is not far from that at which the wave is reflected, as, for example, in a room, hall, or church, it happens, in consequence of the velocity with which sound travels, that the returning wave is generated immediately after the original wave, and the ear becomes sensible of both simultaneously; by this means the sound is both prolonged and rendered more loud; it frequently also makes it difficult to hear words and notes distinctly.

An *echo* is produced when the ear is able to distinguish the original sound from its reflexion: a good ear will perceive clearly about nine sounds in a second; *i.e.* the sounds must succeed each other at intervals of $\frac{1}{9}$th of a second in order to be heard singly. The sound and the echo are therefore to be regarded as successive sounds, of which the latter will be plainly heard if it fall upon the ear after that organ has formed a distinct perception of the former. The least distance at which this is possible will be that which the wave of sound can traverse, so as to impinge on the resisting body, and return thence as a reflected wave in $\frac{1}{9}$th of a second of time. Now as sound, at its mean rate of 1,120 feet, will travel about 125 feet in $\frac{1}{9}$th of a second, half this distance, or 62—64 feet, must be the least distance at which the reflecting plane can be placed to produce a complete echo.

The waves of sound generated in every contracted space will be reflected agreeably to the laws already explained; the course of their undulation must therefore depend on the form of the boundaries inclosing such space. Accordingly, on these principles, several acoustic contrivances and buildings are constructed.

The *speaking tube*, which serves to transmit a whisper further than it would be carried by the air. A similar effect may be noticed in shafts, wells, chimneys; in pipes intended to convey hot air, and in water conduits.

Thus Biot, as has been already observed, heard distinctly at one end of a water-pipe, every word whispered at the other end, which was 3,000 feet off. On shipboard a speaking tube is not unfrequently carried from the captain's cabin to the top; so also in large establishments, to save the attendants running from room to room.

This apparatus acts thus: the divergent rays of sound entering at one end of the tube, strike against the column of air inclosed within the tube, whose inner surface again causes these waves to be reflected, so that at length they issue simultaneously from the other opening.

Whispering Galleries are domes or rooms so constructed that words uttered in a low tone at one place are audible at some other, whilst persons standing between these two points cannot hear what is said. To produce this effect the room should have an elliptical form, so that words spoken in one focus may be heard in the other.

The observatory at Paris contains an apartment of this kind. The ear of Dionysius is celebrated in ancient history; it was a grotto cut out of the solid rock at Syracuse, in which a person placed at one point, could hear the faintest whisper spoken in the grotto. Probably it was a parabola in shape.

Music halls, theatres, and similar buildings, intended for purposes of hearing, must be constructed in such a manner as to diffuse the sounds that are uttered throughout the part occupied by the audience, unimpaired by an echo or resound. It is, therefore, of the utmost importance to give to the walls of these edifices such a form as will cause the waves of sound to fulfil these conditions. On theoretical grounds the parabolic form would best answer the purpose. Further, every thing must be avoided that would interfere with a uniform diffusion of the sound; all needless hollow and projecting spaces, as generating echoes, are to be avoided."

The following miscellaneous extracts are suggestive.

Pressure of Fluids on a Body Immersed.—In a glass full of water immerse the end of a Dutch tear. As soon as the glass thread of the tear, which projects above the level of the water, is broken off, the tail recoils, and the tumbler is broken. This proves how instantaneously the concussion is transmitted through all the particles of the water.

Diffusion of Gases.—If carbonic acid gas, which is about half as heavy again as common air, be poured into an open vessel, in a short time a stratum of the gas will be found only at the bottom of the glass, but in no very long period this will be dissipated, and the glass will contain only the atmospheric air, with the same quantity of carbonic acid gas as the rest of the room.

Electrical Phenomena of Vegetation.—Electricity seems to play an important part in the various stages of the development of plants. Thus flashes of light have been seen to be emitted from many plants in full flower, soon after sunset on sultry days. . . . Zawadski observed these luminous phenomena to happen principally in orange coloured flowers, and that the same flower discharged a number of flashes in succession. Dr. Donné has found, that in many fruits the current runs from the stem to the eye; while in others it flows in an opposite direction [facts which might, perhaps, with some advantage, be brought to bear on the questions at present agitating the agricultural community.]

Electro Dynamics.—It was observed, that a ship's compass not unfrequently deviated from its normal position when the masts of the vessel came near to a thunder cloud. Thus in the year 1676, when a fleet was sailing to Barbadoes, one ship was struck by lightning, and no small surprise was excited by her immediately sailing back direct towards England. On inquiry it was found that the flash had reversed the poles of her compass needles.

This work is likely to engage the interest and curiosity of the young student, and to betray him into deeper learning even on the most abstruse and otherwise unengaging subjects of useful instruction. The translator, Mr. West, appears to have done great justice to his author, and the publishers to both. The type is clear and economical, much more being comprehended in small volumes such as these than usual.

* Elements of Physics, by C. F. Peschel, Principal of the Royal Military College of Dresden, &c. Translated from the German, with Notes, by E. West. Illustrated with Diagrams and Woodcuts. Longman, Paternoster-row. 1845-6.

PUBLIC OFFICES, WHITEHALL.

From a reply to an order of House of Commons, dated 7th August, 1846, for a return "of the expenses incurred already in the recent additional building and alterations in the several public offices in Whitehall and the immediate neighbourhood; distinguishing the number of rooms, and for what purposes added, as well as the expenditure on account of each separate department; also a copy of the original estimate of the architect," it appears, that the cost of the alterations at the Privy Council Office is 17,612*l.* Fifteen additional rooms have been obtained for an increase of accommodation for clerks, office-keeper, and housekeeper. Architect's original estimate (including commission, &c.), 10,473*l.*

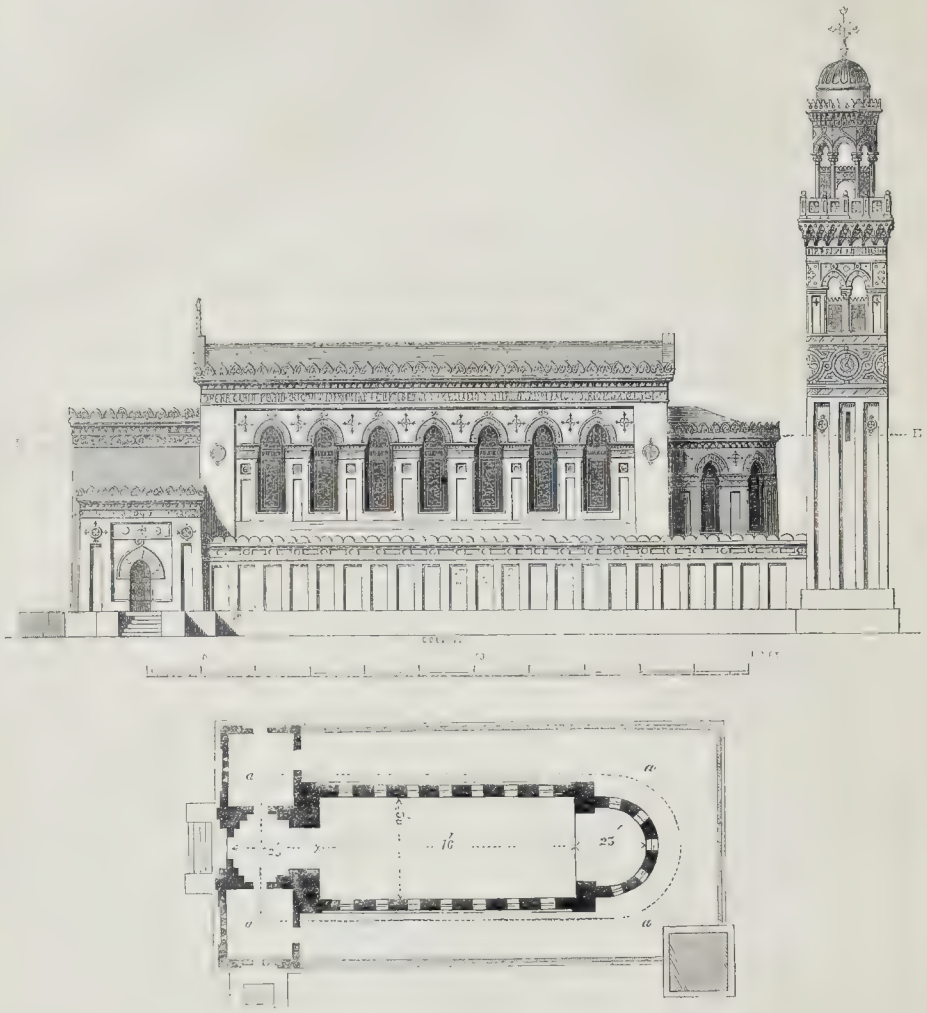
Cost of the alterations at the office of Board of Trade, 8,968*l.* Twenty four additional rooms have been obtained for an increase of accommodation for clerks, office-keeper, and housekeeper. Architect's original estimate (including commission, &c.), 5,385*l.*

The architect reports, that his estimates were not, and could not be, in detail; that they were general calculations only, and, to a great extent, conjectural: that, owing to the uncertainty as to the amount of work that might be required, the alterations could not be, and were not, contracted for at a gross sum, but have been undertaken at prices according to the amount of work executed: that the excess of cost beyond the amount of original estimates relates only to works of absolute necessity, and not of duration, involving, in the present case, the reconstruction of an entire story of the Privy Council Office, a greater sacrifice of the old stone-work than was expected, and other heavy contingencies not provided for: that, in fact, the extra works are such only as could not be foreseen in altering an old building: that with respect to the completion of the front towards Whitehall, forming part of the Home Office, it is not likely that there will be any excess upon the estimated cost of it, inasmuch as the building will be entirely new, and has been tendered for at a gross sum below the amount of the original estimate.

Excavations made by the Archæological Society of Athens.—They began last year in the Acropolis, and some rubbish, mould, &c., on the south side of the Parthenon have been examined, which have never been touched before. Of the Metopes, however, but small fragments have been found. Of the frieze of the south side of the building, two entire, and two half slabs, have been discovered, of which the two former are pretty well preserved, and form part of the throng of horsemen. Several triglyphs have also been discovered, which, according to their size, must have belonged to an inner row of columns. That these columns were of the Doric order, was ascertained some years since, by the impressions found on the floor of the cella. Besides this, another more distant locality has been searched, viz., the mountainous country between the Corinthian Coast and Epidaurus. This locality has, of late, yielded a great many vases, and the latest discovery is a surprisingly fine statue of Parian marble, of old Grecian style, and nearly complete, except the feet and an arm. It represents a young athlete or Apollo. It is curious to observe, that the above locality is not mentioned in ancient topography as containing any places of note, except the Corinthian haven of Pciræon, and two villages named by Thucydides. But it may be, after all, that it is this absence of a crowded population which has been instrumental in the preservation of art-treasure within its soil.

SOUTH FRONT OF ST. MARK'S CHURCH, ALEXANDRIA.*

MR. J. W. WILD, ARCHITECT.



Plan.

THE CAST-IRON TANK CASE AT LIVERPOOL.

AN action of damages (as was to be expected) has been brought by the Liverpool and Harrington Water Works Company against the Hawarden Iron Foundry Company, represented in the person of Mr. John Williams, a banker at Chester, for breach of contract in the construction and erection of the great cast-iron cistern, the bursting of which led to such disastrous consequences, and excited so much interest at the end of last year and beginning of the present. With the particulars of this interesting case, so far as given in evidence at the time, the readers of THE BUILDER will recollect that they were made acquainted in the course of an elaborate mathematical analysis of the elements of force brought into operation in the filling and the bursting of this very large cistern (Vol. IV., pp. 15 and 26), and to which, therefore, we may here refer.

The plaintiffs, it further appears, had agreed to pay the sum of 1,250*l.* for the tank, which the defendant or his constituents were bound to erect, and to sustain for twelve months, in such a state as to be capable of safely holding 200,000 gallons of water, for the supply of the shipping at the south end of the town of Liverpool; and also held responsible "for any loss or damage to the company or their works, or to any neighbouring property, during that time, which might accrue by reason of any neglect on the part of the Hawarden Company, in the construction of such tank." The plaintiffs, however, were to be at the expense and risk of erecting the foundation upon which the cistern was to stand.

The damages sustained were estimated as follows:—Cost of repairing the boiler-house, machinery, and yard of the Company, 200*l.* 7s. 9d.; amount paid on behalf of parties injured, including medical attendance, for loss of furniture, &c., 757*l.* 1s. 9d.; for injury to houses in Rock-street, 1,090*l.*; for injury to houses in Spring-street, 376*l.*; for injury to some workshops in Rock-street, 31*l.* 10s.; making a total of 2,455*l.* 19s. 6d. It further remained to be considered whether his lordship (Mr. Justice Cresswell, before whom, and a special jury, the case was brought), should determine whether the plaintiffs were not also entitled to damages on account of the formation of the foundation itself.

A great many witnesses, including Mr. Hodgkinson, F.R.S., Mr. Grantham, civil engineer, Mr. King, and Mr. S. Holme, were examined, and their evidence went to show that the foundation built by the plaintiffs was good and substantial, and that the accident was solely to be attributed to the insufficient manner in which the sides of the tank had been tied to the bottom by diagonal rods.

The substance of the defence was, that the plaintiffs had not given notice to the superintendent, or to Mr. Howell, the manager of the Hawarden foundry, that the tank was about to be filled; and that as their consent to its being filled had not been obtained, it would not be considered that they had pronounced the tank to be complete.

The jury, after two or three minutes' consultation, returned a verdict for the plaintiffs—Damages, 2,455*l.* 19s. 6d.

* See page 121, in present number.

ANCIENT HOUSE IN TOURNAY.

BELGIUM offers numerous examples of the various styles of building which have prevailed in domestic structures at different times during several centuries. Malines, Ghent, and Tournay, are especially rich in this respect, and may be made to contribute to our series illustrative of the progress of domestic architecture.

The annexed engraving, from a sketch by Mr. Godwin, represents a very early example in Tournay. It is situated near the church of St. Brixe, and is wholly of stone. The string courses, consisting chiefly of a square member and a hollow, continue through the whole front, and form straight window heads, over which are discharging arches. The windows are about 5 feet high, and 4 feet wide, and were each divided into two openings by a small column with plain leafed capital. The window in the ground story, is divided by a rectangular mullion, the edges of which are chamferred to within a certain distance from the top and bottom.

Although so modern in appearance on paper, this house was probably erected as early as the end of the 12th, or beginning of the 13th century. A precisely similar building adjoins it.

ANCIENT HOUSE IN TOURNAY.



THE YOUNG ARCHITECTS OF ENGLAND.

No. V.

BUT what is THE BEAUTIFUL? This question, in its philosophical fulness, we need not enter into. When we usually speak of The Beautiful, as at present, we refer to *one part* of it. That part we may call the Beautiful more peculiarly, or specially for our purpose, —that which is lovely, admirable, delightful, in the works of Imagination. Include in it the Sublime, the Grotesque, the Picturesque, and, in short, all characteristics whatever which are aimed at in works of design for the purpose of *giving delight*. This being, then, The Beautiful, Art is that which produces it. It does so in various ways; in Poetry (by which I mean not what you, perhaps, would call poetry, but what you might designate excellent imagination in poetry); in Music; in Painting and Sculpture (by which I mean, again, not what you may be accustomed to hear called painting and sculpture, but excellence of imagination in them); in Architecture; and not only in these, which you designate fine arts as callings in life, but in all other matters where the Imagination is brought into action to conceive and design that which is beautiful. He who fashions the arrangement of colours in a carpet or a shawl, he who designs a chair or a table or a picture frame, he who groups figures or foliage, or forms device in carvings, he who designs a vase or a jug, aye—and they whose province it is merely to contrive beautiful forms and dispositions in the adornments of dress, have every one a place in the true circle of Art,—a higher or lower place, but a place. Art is *design*, the design of beauty; and he is Artist who thus designs.

An Architect, then, is one whose province it is to design beauty in Buildings; and he who does not profess to be such is not, I say, an Architect; he ought to take another name, *if* the meaning of an Architect is a certain *Artist*, as you say; he ought to take a name which shall signify his real pursuits.

We are the true ancients; our forefathers were younger as a world than we. And this very especially in Art. Is the fountain of The Beautiful a narrow, shallow well, into which our fathers dipped and drained the utmost drop at once? Or is it a vast, deep ocean, boundless, bottomless, into which they dipped and drew forth beauty, and into which we in our time may dip and draw forth more,—dip with our far longer line, and reach far deeper and far denser regions in the infinite profundity of its teeming bosom?

Antiquity? That it is pleasant to think of old times I am weak enough—weak? strong enough myself to feel. It is a deeply human tendency, by which old age loves to look back upon its long past youth. And only the same tendency it is whereby *the world in age* looks back with interest upon the world in youth. The earth of near six thousand years of time—the world an aged man of sixty in its centuries—must not be blamed for musing in a quiet hour, upon itself long long ago when it was young. I should not be a man myself, I could not claim a part in the great integer of Earth, if I were cold and feelingless in looking from afar on Rome—or Thebes—or Babylon—or Ararat,—if I were to pass frigidly and carelessly by the city where Solomon ruled—the spot where Socrates stood forth to be condemned—the closet where Luther pondered and resolved—the stone on which Kings of old time were crowned—or even the ruin that was once a camp of war.

But when I hear a man upholding that which is old as excellent *because* of its antiquity, good *because* it is old, best for us *because* it was judged best by our forefathers (who, by the bye, were wiser than we in this respect, and ought, I will admit, to be imitated so far, —which they are not), I think thus. I fancy him just a big boy who is insisting upon being clothed in the breechless dress, and furnished with a hoop to trundle in the street, because he recollects that he was thus so many years ago.

I vehemently complain that nowadays the doctrine is vehemently urged that *construction is Architecture*. Construction is *construction*, I say: an excellent thing in its way, and most valuable in the world, perhaps more valuable than Architecture is; but it is not Architecture itself; it is Building—quite another thing. Yet "Architects" proclaim that construction is *the most important branch of Architecture*. Design, say they, is a thing you need not trouble yourself about very much: you have it all cut and dry in this book and that and the other; you merely have to learn to copy well—to get into the spirit of the styles; and that is an easy matter, adhere to authority and you can't go wrong; Design is not at all a troublesome thing: but *Construction*,—keep to construction; it is *here* that the *real* Architect excels. And yet, strange to say, Architecture is *a Fine Art* all the while!

The principles of Architecture are in part *based upon* the principles of construction. But it does not follow therefore, that there is no distinction between the two matters. The design of the beautiful in buildings is in considerable part influenced by the appearances of constructive propriety: wherefore an architect must understand, so far as architectural design requires, the principles of Construction. But the construction itself—the science of house-building, however necessary, is not Architecture.

I have no objection to the Architect of a house being at the same time, as at present, the contriver of the arrangement and construction, but I do object to his supposing that construction and arrangement are the Fine Art Architecture.

And truly I think there is room for some farther division of labour here; whereby the true Architect might be relieved from the inspection of sewers and cesspools and wells, and the shoring up of old houses, and the rating of dilapidations, and the ventilation of foul cellars, and the fitting up of stables, and such like "Architecture," and entrusted in the stead thereof, with the design of much of the decoration which at present is confided to the painter, upholsterer, and cabinet maker. The design of the house—the *Art* of it—would thus be more thoroughly performed; and the other matters also more practically effected by persons of a different general calling.

London. R.

STOPPAGE OF PICCADILLY.

SIR,—The public, no doubt, will derive, eventually, great advantage from the raising the lowest part of Piccadilly, and the lowering the upper part of the hill; but from the little progress made, during the first ten days, in the work, it is feared two or three weeks more will be wasted before the work be completed; indeed, from appearances, it seems likely that a much longer time may be used; for there is erected, at one end of the works, a hovel, protected against weather by being well coal-tarred, and at the other end a little house. Whether it be necessary or not, I cannot say;

out at all events it looks like an intended long residence, and the prospect frightens the inhabitants of Piccadilly and May Fair, as the inconvenience occasioned by the total obstruction of this main thoroughfare into the metropolis, is immense; and the annoyance to the inhabitants of the crooked and narrow streets of May Fair is almost intolerable, from the incessant noise, confusion, stoppages, and accidents; while to passengers and drivers it must be, during their passage, still greater.

Now, Mr. Builder, supposing you to know a great deal of all such matters, will you kindly explain, for the satisfaction of the public, why it requires exactly two men and a boy (literally) to square on the spot the many thousand worn paving-stones which have been, or which still remain to be taken up?—or why it would not be better to employ some half-a-dozen carts, and a full complement of men, to take them all away, and bring back the required paving stones ready hewn, all which could be accomplished in a comparatively short time?—and why, while a sprinkle of workmen are employed at the lower part of the street, others should not be at work, lowering and preparing the ground at the upper? This is what the neighbourhood and the public had a right to expect would have been done; and have a right to expect, on all such occasions, instead of the daudling, piddling employment of two men and a boy for one purpose, and a sprinkle of men to work at one end of the plot, while all the rest remains untouched, until the sprinkle of men shall, snail-like, have crept their slow length along. But I suppose the surveyor to be of the "one idea" breed, not imagining it possible to begin at both ends, or at several places at the same time.—Yours, &c.

An Inhabitant of May Fair.

31st August, 1846.

WORKS IN FRANCE.

Great Improvements in Paris.—As the authorities of that city perceive, that a place so rapidly rising in population and commercial and industrial activity, *requires* on many points more commodious, larger, and shorter ways of communication, hardly a year passes wherein some improvements of that kind, on the largest scale, are not executed. The next operation of the kind will be the enlargement of the Rue Montmartre (one of the chief arteries of Paris) from the Pont St.-Eustache to the Rue Mandar. Its width throughout will be thirteen mètres. The demolition of the old houses will begin this year, and cost 900,000 francs. The street, which has to unite in a straight line the Ecole Polytechnique and the Collége de France, is nearly finished. On the other end of Paris, the Boulevard which leads along the canal from the Place de la Bastille to Austerlitz bridge will be also completed. On the other bank of the Seine a new street going straight through the great *chantiers* (docks) near the Quartier St. Victor is also nearly ready. These improvements will cost 800,000 francs.—It has been often found in Paris (as it will be everywhere) that judicious enlargements, while they afford the usual advantages, will also *develop* architectural monuments hitherto hidden. This has been, of late, applied to the Church of St. Gervais, of which Voltaire once said: "Its splendid porch wants nothing but room to be seen, and such as will see it." The former wish will now be accomplished, as a street to the extent of sixty-two feet, planted with trees, will be opened from the Hôtel de Ville to the church. Thus the two splendid monuments will serve each other as a mutual complement. This will cost 1,100,000 francs—but say the French: "Dépense bien faite, n'est pas dépense." The street will bear the name of that patriotic alderman, Mr. François Miron, who completed the old Guildhall of Paris.

Marseilles Public Works.—This is, at present, perhaps one of the most busy places in the world; and the following astonishing number of workmen is in employ:—at the making of the auxiliary harbour, 600 to 800; at the new canal, 1,600; and at the Avignon Railway, about 2,000. The works of the new harbour, undertaken sixteen months ago, have reached a very satisfactory state. The two principal jetties, or piers, which stretch from the shore into the main sea, have been completed to their full length, and thus shew the area which the new harbour will occupy. In the same time the canal of communication from the actual to the new haven, is being dug along the Fort St. Jean. Immense blocks of granite are carried hither in great numbers, and the finest hewn stone arrives by sea, and serves for the dressing of the walls, which will encompass the road, uniting the railway terminus and the harbours. It is Mr. Toussaint, engineer of roads and bridges, who directs these works, as he is also the *planner* of the new harbour.

Official Documents of the French Ministry of Public Works.—Inspection of the "Matériel" of Railways.*—The boilers and cylinders of steam-engines, as every thing connected with the steam apparatus, are subjected by the *engineers of mines* to the trials stipulated in especial regulations—and it is only after their perfect state of execution has been thus certified, that they are permitted to come in use. Whenever boilers or cylinders are undergoing any essential repairs, the same official examination is resorted to. On several lines especial officers of the engineer of mines department and those of roads and bridges (*ponts et chaussées*), are instructed to examine as well, the moving apparatus (*moteurs*), as also the rails, &c., for securing as much as possible the safety and comfort of the public. Since 1845, especial engineers of mines have been superintending the forges where the material of railways is made, to guard also here against the turning out of unsound and dangerous articles. In the department of carriages and waggons, several important questions have been mooted, viz., on the axletrees constructed after a new plan; the height of the props (*accotoirs*) of uncovered wagons; the construction of platforms destined to the transport of the post-office mails; the closing of the doors of carriages, &c. The examination of the *matériel fixe* (rails, &c.) has given occasion for inquiries about the using of one single line when the other is obstructed; the night trains, &c.

The rules and regulations issued by the companies are communicated to the general board, who sees that nothing compromising public surety should be embodied in them. Any delay exceeding twenty minutes is reported to the Préfet de Police, by agents stationed along the lines, and every accident to the Engineer in Chief of Mines, for inquiry into its causes, and the best modes of preventing them, especially the latter.

The Central Commission of Steam-engines at Paris, consisting of engineers both of the mines and the roads and bridges departments, prepares the projects of regulations, proposes the proper measures for the execution of the laws and instructions relative to steam-engines, and examines all plans proposed for the avoiding of accidents. The commission gives its opinions on the cases of appeal to the Council of State, against the decisions of the préfets in cases of controversy with the proprietors of steam-engines—or those to the Minister of Public Works against any regulations issued by the préfets. In 1845, this commission occupied itself, amongst others, with the examination of the proof-pressure to which tubular boilers and those with flat sides, used in steam-vessels, are to be subjected. It has examined the application of manomètres and thermanomètres to the boilers of steam-engines. It has continued the experiments on the consuming the smoke of steam-engines. One of the commissioners has made experiments on the elastic powers of steam, on the specific heat, and the density between the limits of pressure and temperature, in which it exists in steam-engines. J. L.

* From the *Moniteur Universel*.

Outside Cements.—The failure of a cement front in Cornhill has brought us letters from several manufacturers, requesting us to say, the cement used was *not theirs*. This we could not do, but we refer our readers to two of the communications, which appear as advertisements. Before drawing our own conclusions on the subject, we shall be glad to receive any explanation of the failure that may be offered.

The Jephson Gardens at Leamington.—Twenty designs have been offered for the adornment of these gardens. A decision will be come to about them early in the present month.

THE PALACE QUESTION.

ALTERATION OF THE PRESENT NATIONAL GALLERY.

Sir,—The favourable consideration which my suggestions respecting Buckingham Palace and the National Gallery have received from the public, encourages me to proceed to explain my views a little more in detail, in the hope that they may be followed up and carried out by those who have the power, if they have the inclination, to promote the real comfort of the sovereign, and the convenience of the public; and I may be allowed to express my gratification that The Builder, to which I have been an early and frequent contributor, either under my initials, or under the *soubriquet* of Philo-Tudor, should be the medium by which the hint has been first conveyed to the public.

At present it is my intention to confine my observations to the building in Trafalgar-square, now used for the two purposes,—the exhibition of the National Gallery of Pictures, and for the use of the Royal Academy; and I propose to show how the building may readily be adapted to the single purpose of the Royal Academy, if the national collection could be removed to Buckingham Palace. And first it is but right to refer to my former letter (page 406), in which it is stated that such an arrangement would not be attended with much expense. My aim therefore is to show what may be done by disturbing as little as possible the building as it is, and to adapt its present arrangement to my proposed plan. This, of course, must be viewed with more indulgence than if a *carte blanche* were given to entirely remodel the structure; and the more economical the proposition, the better chance it will have of being acted upon.

On attentively looking at the plan of the two suites of rooms, and the arrangement of the central space between them, and more especially at the plan of the ceiling, it has struck me very forcibly, that Mr. Wilkins contemplated that, at some future time, the whole line of building might be required for one only of the two purposes to which his attention was directed. Whether this conjecture is correct or not, it is quite certain that no impediment exists to the carrying out of such an idea. The two sets of rooms, as before observed, are on the same level, but quite separated from each other by a sunken hall, 100 feet in length. It is this void, or chasm, that I would fill in with a floor, and thus connect the rooms. The entrance for visitors to the annual exhibition of the Royal Academy would be in future, not through the east or right-hand portal as heretofore, but through the central door-way as now used for the approach to the national collection. The visitors would then pass on straight forward, through a sub-hall, to a new staircase formed out of the room now set apart for the exhibition of sculpture. The landing of this staircase would open on the centre of the large hall above, which, from its peculiar form and numerous breaks, would serve admirably for the display of the works of sculptors, whilst the floor could have the advantage of being well supported from below. The outline of the central hall might remain precisely as it is at present; but I would venture to suggest the addition of twelve columns, there being at present only four, viz.: those in the centre compartment. Only the columns would be required, as the entablatures are already carried across the recesses, from pilaster to pilaster, between which the columns would range, giving a perfect architectural character to the room, which would thus become one of the finest apartments in England. The coffers of the ceiling are evidently planned for the admission of light, and, therefore, this proposed alteration would be actually accomplished by filling in the floor, by placing thereon twelve columns, and by piercing the panels in the ceiling, the walls remaining as they are.

For many years I have been struck with the fine vista obtained by looking from the rooms of the national collection across the central space, when the Royal Academy Exhibition has been open;—the effect of the groupes of persons, the rich colouring of the pictures, as seen through only four columns, suggested to my mind how very fine that effect might be made by throwing the whole of the rooms into one unbroken series. The advantage of removing the partitions of the small rooms is at once seen by a reference to the spot, and if it should be thought advisable to have some of

the rooms larger than any at present (which is a doubtful experiment), that object can be obtained by taking away some of the party-walls. The accommodation for the annual exhibition may be thus reckoned:—two picture-rooms, each about 55 feet by 44 feet; four rooms about 48 feet by 35 feet; and two rooms 48 feet by 30 feet, besides the two small octagonal rooms, and the central hall 100 feet long, and 48 feet wide; affording a more ample space than hitherto allotted for the display of the three sister arts, one of which, architecture, has been always confined within scanty limits.

In my next communication, I purpose to shew how Buckingham Palace may be applied for the reception of the national collection, thus justifying the argument of the removal of her Majesty's London Palace to a more suitable locality; and surely such a desirable arrangement would evince more loyalty towards our Queen, and truer economy towards the nation, than to lay out a vast sum of money on the utterly hopeless project of curing the not-to-be-at-any-cost-remedied inconvenience of the present palace.

George Russell French.

Sussex Gardens, Hyde Park,
29th August, 1846.

THE MAGISTRATES *versus* THE OFFICIAL REFEREES.

Sir,—I highly approve of the course you have adopted of publishing the awards of the official referees; and observing in article in your last number, bearing the superscription of "Awards of Official Referees," I at once proceeded to peruse it, in order to glean *their* determination for my guidance, if placed at any time under similar circumstances, — when, much to my surprise, on arriving at the end of a clear decision on an important question, I was met by the following words in large letters: "District Surveyors' Fees—Magistrates' *Decision* as to Additions." I will not question whether there be any mistake in your report, as to the court with whose "decision" we are favoured; as in your relation of the case the terms, "Greenwich Police-court" and "Mr. Trail" are made use of. Now, Sir, if I am not much mistaken, one of the great objects of the Metropolitan Buildings Act was to make provision for preventing diversity of practice (by divers readings of the Act) amongst district surveyors; and in order to the effectual and due securing of this object, the court or board of official referees was appointed (with a legal officer to advise and caution), instead of the original and ridiculous process of appeal, in case of doubt, to the judgment of a police magistrate, in questions, upon which none but professional men (not one man), and they architects or surveyors, could possibly be expected to be competent to give a decision, involving, it might be, important pecuniary considerations, besides operating as precedents to guide or mislead other parties. How then, Sir, permit me to ask you, comes it about, that we find a police magistrate "*deciding*" whether a district surveyor is or is not entitled to separate fees from "Mr. Smith, oven-builder, and Mr. Buller, carpenter," who proved, at least it is so stated, "to the satisfaction of the magistrate," that their respective jobs, "putting up a shop front" and "building an oven," were proceeding on the same premises and at the same time, and were, moreover, *included in one notice* to the district surveyor? The worthy police magistrate, we are told, "decided" that the two jobs—that is, a shop-front, and a flue, or oven—equalled one alteration, and illustrated his decision very forcibly and pleasantly by a reference to verandahs; shewing that in the eye of the law, one verandah or twenty verandahs, put up at the same time, would constitute only one addition—but, as I conceive, forgot to mention, to make the matter quite clear, that with the little regiment of verandahs might likewise have been included, a snug conservatory or other requisite office. One matter, however, which rather takes from the usefulness of Mr. Trail's decision and illustration is, that there are several police magistrates, and that they have not one eye and head in common, and that, consequently, the next police magistrate who is called on to *decide* such a question (and it is an important one to all parties), will rule that a shop front and an oven constitute, not one *alteration*, but "two *additions*." Again, I may be mistaken, but I really cannot discover by what authority under the Metropolitan Buildings Act a police magistrate enters upon the business of determining differences between parties under this Act; and when the Act came first into operation, I had imagined that the official referees constituted the only legitimate court to which parties could refer their questions of "doubt or difference" for solution, and also that their determination was to be final and binding on all parties, magistrates or others.

Experience, however, has shewn the contrary to be the fact, as we at one time find police magistrates entering into the merits of a case, and awarding to Mr. Dean, baker, not a baker's dozen, but two for one; and at another time instead of enforcing and supporting the law, as expressed through the office of official referees, dismissing cases with sundry agreeable remarks relative to the absurdity of the Act in question, an Act, by-the-by, which implies in its preamble, that a police magistrate never would understand it better than he had understood the clever old Building Act. Now, Sir, without going into the merits of the case referred to, or questioning Mr. Trail's decision, which may, or may not be correct, let me ask whether in your opinion, a police magistrate has any more troublesome duty prescribed for him under the 13th, 14th, and 18th sections of the Metropolitan Buildings Act, than the mere enforcing of the Act as laid down by the official referees in their awards and certificates. One can possibly contemplate with complacency their decisions being sifted and weighed in the Court of Queen's Bench, but I must confess, that I think the deliberate judgments of eminent professional men, legally advised in making such judgments, should not and were not intended to be subjected to be lightly commented upon, or set aside by any individual of only equal standing with the adviser of such gentlemen.—I am, Sir, as before, your obedient servant,

London, Aug. 31st. "Συνεργος."

*** Our correspondent has overlooked the 77th clause, under which, of course it was, that the district surveyor summoned the party in question for the recovery of certain fees. The magistrate was bound to issue his warrant to levy for such fee, only in the event of the party summoned *failing to satisfy him* as to the refusal of payment.

PUBLIC NECESSARIES.

Sir,—That sink of iniquity, the halfway public-house on the Kensington-road, being now removed, and with it the watering-place, it is highly necessary, on the score of decency, that the latter should be replaced for the convenience of the public. The east end of the shrubbery in the park appears an appropriate situation for the erection of such a convenience. It is to be hoped that the chief Commissioner of the Woods and Forests will take the same into his favourable consideration, thereby conferring a boon on the numerous pedestrians of all classes, who are in the daily habit of passing to and fro on this much frequented line of road.

The drain should be taken into the sewer, and might be made use of to carry off the stagnant water from the ditches in the park.

An Original Subscriber.

Kensington.

Sir,—I see by one of your late numbers that it is in contemplation to establish in the metropolis public necessaries and urinals. It has long been a disgrace to the most civilized capital in the world, that public decency should be outraged, whilst an obvious remedy was at hand. But whilst we are thus seeking to provide for the comfort of our own sex, allow me, as a married man, to say a few words on the unfortunate condition of females in this regard. I do so in all honour and respect, but I esteem it a false delicacy to allow them to suffer, through the want of some one to advocate a cause upon which they are unable to speak for themselves. The consequences in many cases are lamentable, and it is the imperative duty of every husband and father, to guard those they love against diseases which render existence a burden.

The plan which I propose is easy and simple, and perfectly consistent with the preservation of that delicacy of feeling which is the pride of our countrywomen. In each of the great thoroughfares there might be established *waiting-rooms* for ladies, with the necessary conveniences in an inner room. Let the outer room, as in the railway stations, be provided with benches, &c., and be under the superintendence of a respectable female; let there be also a counter, where cloaks, umbrellas, clogs, &c., could be ticketed, and left for a few hours to be taken care of: thus a reason would be furnished for any lady who might wish to enter. These waiting-rooms must be totally distinct from those of the other sex, and not even under the same roof. No gentleman ought to be permited to cross the threshold on any pretence whatever. The charge for admittance, were it even as low as two-pence, would amply defray all expenses; many would also gladly pay two-pence to sit down for a few minutes, whilst waiting for friends or an omnibus.

I beg to apologize for trespassing upon your time, but it occurred to me that by means of your valuable and widely circulated journal, attention might be called to a grievance, under which those dear to us all have long suffered in silence.—I am, Sir, &c.,

A Surgeon.

*** If Lord Morpeth were to see the file of communications on this subject which have reached us, he would scarcely need any other inducement to give immediate attention to it.

RAILWAY JOTTINGS.

A second report of great length has just been issued by the select committee on railway Acts enactments. It is an able document, says *The Times*, advocating the doctrines propounded by itself, in the first place, for the introduction of a better system of railway legislation; but there is fear, it thinks, that the resolutions cannot, at this late day, be adopted, especially when the meagre powers entrusted to the railway board are taken into consideration.——Mr. Strutt, member for Derby, is said to be the destined chief commissioner of the new board.——From the Parliamentary return of railway accidents lately called for in the House of Commons, it appears that during the half year ending 30th June, the number of accidents was 116; of killed 73; of injured 84. Of these casualties 15 accidents (the greatest number) occurred on the Eastern Counties line, where forty-one persons were injured and four killed. Next follows the South-Eastern: ten accidents, in which eight persons were killed and seven injured. On the London and Birmingham only four accidents, in one of which no injury resulted, and on the Great Western and the York and North Midland only one accident each, in the former of which three persons were injured and one killed, and in the latter one killed.—— A superior newly formed narrow gauge engine is said to be able to average a speed of sixty miles an hour with a train of twelve carriages, or about 66 tons. —— The inhabitants of Doncaster have unanimously resolved to memorialize the directors of the Great Northern Railway to establish the plant of their railway in the town of Doncaster. The mutability of human resolutions and opinions thus curiously exemplified, cannot but strike forcibly on the minds of all who recollect how thousands upon thousands were expended in the sometimes vain and at other times successful attempt to prevent railway companies from effecting this very purpose. ——About 1,500 persons were conveyed, on the 17th ult., from Ashton to Wakefield and back, a length of 106 miles, on the Manchester and Leeds line, for 1s. 3d.——The first stone of the viaduct on the Liverpool and Bury line was laid on Saturday last.——On Thursday week a like ceremony took place on the site of the Frampton viaduct of the Wilts, Somerset, and Weymouth line, at Grimstonwater, over the Frome. Mrs. Richard Brinsley Sheridan wielded the trowel on this occasion, but we do not know whether she has yet had her curiosity gratified by the discovery of the grand secret of the craft.——The new pope has privileged an Anglo-Roman Company to intersect the Roman states with railways—a curious and interesting episode to the benefits reciprocally conferred by the Romans of old, in intersecting our own country with roads and aqueducts. A condition imposed by his holiness,

is the realization of a guaranteed fund of about 7,000,000*l.* sterling, a capital which is expected to be raised.——A bill, it is said, has been introduced in the senate of the United States, to authorize the truly "go-ahead" project of a railway across the Rocky Mountains, to Oregon!

DRAINAGE AND VENTILATION.

Sir,—As the subjects of drainage and ventilation appear to be now assuming their proper position in the public mind, it becomes the duty of every one who has had experience in either matter, to make known any suggestions which may occur to them for the improvement of the system, as well as any cases of the bad effects arising from a want of proper drainage or ventilation that may come under their notice, so that these most important points, in any sanatory measures which may be brought forward by Government, may be properly canvassed previously to passing into a law; for we may be perfectly certain, that unless the public generally are roused into a proper sense of the extreme importance of these questions, the legislature will palm upon them just such another unsatisfactory law as the New Metropolitan Buildings Act. It is of no use resting ourselves quietly under the idea that the Commissioners of Woods and Forests will make all proper inquiries as to the best plans to be adopted. They cannot possibly, from the multiplicity of their duties, give it that calm and undivided attention which the subject requires. The people must act for themselves; only let them speak boldly and plainly, and their voice must and will be heard. We must not submit to be told we do not know what is required for our own benefit in this enlightened age. We have lived, or rather existed, quite long enough surrounded by an atmosphere which engenders disease and shortens life; let us not, therefore, stand idly by and see the work half done. In the first place the proceedings of the different Commissioners of Sewers require the closest investigation. Millions of public money have been placed in their hands; and, according to their own shewing, they have mis-spent it, as any one who reads the account of their meetings in The Builder will see; therefore, their system of management requires great attention. In the second place, we must not allow ourselves to be poisoned by the grasping capitalists or the speculating builder, who care not what air we breath, or whether we have any, can they but scamp the most necessary portions of our dwellings, and smother the outside with tasteless ornaments which are a tax upon the tenant. In many instances, perhaps, parties seeking a residence may have sufficient knowledge to enable them to see any defects, and avoid them accordingly; but how many cases are there where a person takes a house, and only finds out when too late that it is ill-ventilated and improperly drained. Many able writers have already entered in your pages their opinions upon these subjects; but let not this deter others. "There is wisdom in a multitude," so we must none of us, however humble, be ashamed to express our opinions upon such a weighty matter as this—a matter really of life and death.

The first points that I will consider are the form and material of drains; and from what experience I have had, I certainly consider the circular form for house drains to be the best; and I believe almost every one who has written upon the subject has decided upon the same, but they differ as to the size. In Glasgow and Edinburgh they have been made use of as small as 3 and 4 inches diameter, but I do not agree with so small a size being used, at any rate for the main drain of a house, as I consider the use of drains is not alone for carrying away refuse matter from the house, but also for draining away all moisture from the earth on which the house is built, which is otherwise likely to rise in the walls; for this purpose I think it better for the top of the drains to lie at least 2 feet below the level of the lowest course of the footings, and to be perforated on the shoulders and top to admit the moisture I certainly would not allow of any cesspools, which are unnecessary, and a great nuisance, but as something is required to prevent the ingress of rats from the sewer, and the drafts of air, which would otherwise rush up the drains, a dip should be formed in the drain, which would constitute a trap, and not be likely to stop up. The material for the construction of drains should, I think, be the glazed clay tubes, as recommended in your journal, as it is evident that if laid on a good fall they must clear themselves. But all drains require the assistance of plenty of water, which is at present an article that we pay well for, and are very scantily supplied with, in that we are the victims of monopoly. The water should be turned on for a certain time each day, and no ball-cocks should be used, but all cisterns should have an overflow-pipe communicating with the drain, so that when the cisterns were filled, the surplus water would run into the drains, and keep them perfectly clean. All the present sewers which do not lie at a sufficient depth should be rebuilt, and all gullies must be trapped, and the foul air carried off by other means. There is another point which requires attention; that is, to allow of the free access of air to every part of the walls of a house. It should be incumbent on all builders to keep the earth away from the lower part of the walls by a covered area, with a grating or two to admit the air; this, together with good drainage, would insure the dryness of the walls in the basement. With regard to ventilation, the plan I should propose would be to build a spare flue, surmounted by a common cowl, by the side of the kitchen or other flue most in use, and parted from it by an iron withe, and in each room there should be an opening into this flue, which would be always warm; the size of the openings to be increased as they near the top of the house, as the power of draft there would be less than nearer the fire; these openings might be either with or without one of Dr. Arnott's ventilating valves. This plan would be simple, and I think effective, and might be carried out with little additional expense in the building of a house. These remarks will, I trust, if useless in themselves, draw the attention of practical as well as scientific men to a serious consideration of the subjects. The Health of Towns Association, assisted by such men as Dr. Southwood Smith, cannot fail to be productive of much good in the improvement of the condition of the people, whose morality as well as health suffers by a want of proper attention to cleanliness and comfort. The daily press are beginning to see the importance of it; and I trust they will use their powerful voices in aiding the cause of pure air for our lungs. I am sure they cannot be better employed.—I am Sir, &c.

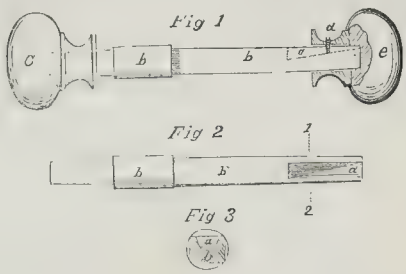
Vincent Yardley.

Bloomsbury, August 20.

Buildings for the Roman Catholics.—The church of St. Giles, erected at Cheadle by the Earl of Shrewsbury, from Mr. Pugin's design, was to be opened on Tuesday. It is said to be a specimen of the ecclesiastical architecture of the time of Edward I. The opening of the church at Blackmore Park, erected at the sole cost of Mr. V. Gaudolfi, of Overbury-court, took place, according to the *Coventry Herald*, on Thursday week. The same paper also speaks of the opening, on that day, of the chapel erected at Hanley Castle. The Roman Catholics are said still to contemplate the appropriation of Ford Abbey, the purchase of which a Church of England clergyman lately failed to substantiate. The *Scottish Guardian* states, that the estate of Dalbeth, near Glasgow, comprising upwards of seventy imperial acres, has been purchased for the purpose of establishing a Roman Catholic college there also.

NEW LOCK SPINDLE.

Mr. Carter, of the Borough, has registered a new spindle. The annexed drawings, which are to a scale of full size, or twelve inches to the foot, represent at Fig 1, the side view of the spindle, partly in section, at Fig. 2, the plan thereof, and at Fig. 3, a section taken through the line 1, 2, Fig. 2. The novelty of the design consists in forming an inclined groove at one end of the spindle as seen by the dotted lines *a*, Fig. 1, so that when the knob is adjusted to the necessary point, and the tapped screw screwed up, the knob will be perfectly secure. By adopting the inclined groove, the knob may be adjusted to a door of any thickness. Description—*b b* the spindle, one end of which is secured to the knob *c*, in the usual manner, and to the other end the inclined groove *a*, is formed inclining downwards from the end of the spindle, as seen at the dotted lines Fig. 1. Fig. 2, shews the plan of the spindle, with the inclined groove *a*. And Fig. 3 represents a cross section of Fig. 2, taken at the line 1,2. It is easily perceived that when the tapped screw, *d*, is screwed down in the groove *a*, it is scarcely possible for the knob *c*, to be pulled away from the spindle, the inclination of the groove *a*, acting as a wedge against it, and on the contrary the knob *e*, cannot move inwards, owing to the door or lock coming in contact with it. The part for which the proprietor claims protection is that marked *a*, the rest of which is not new.



LIST OF NEW PATENTS GRANTED FOR IRELAND.

Furnished by Rich. Telford, Office of Patents, 5, Harcourt-street, Dublin.

Charles Hancock, of Grosvenor-place, Middlesex, gentleman, for certain improvements in the manufacture of gutta percha, and its applications alone and in combination with other substances. Sealed 14th, enrolled 23rd July, 1846.

George Lowe, formerly of Brick-lane, Old-street, Middlesex, but now of Finsbury-circus, in the said county, civil engineer (extension of original invention) for an invention for increasing the illuminating power of such coal gas as is usually produced in gas works; also for converting the refuse products from the manufacture of coal gas into an article of commerce not heretofore produced therefrom; and also of a new mode of conducting the process of condensation in the manufacture of gas for illumination. Sealed 14th, enrolled 27th July, 1846.

John Brocklehurst, of Holborn, Middlesex, lamp manufacturer, for certain improvements in the hanging and disconnecting of window-sashes and fames. Sealed 11th, enrolled 19th August, 1846.

Munich.—Re-organization of the Royal Art Academy.—The latest *Bavarian Gazette* contains the new constitution of the above establishment, founded in 1808. It will consist henceforth of a director, four professors of painting, one of sculpture, one of architecture, one for engraving in copper, and a professor of the history of art. To these are added—a teacher (*docent*) of anatomy, and one on perspective, for descriptive geometry, and the construction of shadows; a teacher of the *technical* rudiments of the art of painting, and a *corrector* for the superintendence in the gallery of *antiques*, and for correcting the sketches of the pupils made there. The four professors of painting will each direct an especial school, in which those pupils will be admitted who have completed their studies of drawing after life, be it in crayon or oil, to be led now by superior guidance to original composition. These schools will bear name after the Professors at their head.

The British Association for Advancement of Science will meet on Thursday next in Southampton to hold their annual congress.

Correspondence.

LONDON CHURCHYARDS.

SIR,—It was with mingled feelings of astonishment and regret, that I perused your correspondent J. D. Parry's letters on the present disgraceful and unseemly state of our churchyards. We read in a late number of your periodical "*interesting*" particulars of the want of personal conveniences in the middle ages, and the disgraceful condition of "Auld Reekie" in this particular as late as 1750. At these things we "turn up our noses;" but what will posterity say of our much vaunted refinement, when we allow such ulcers, such loathsome spots (as the present churchyards seem to be), to remain?

Much has been done of late years, and much is doing at present, to improve the sanitary condition of London; but we must not hide from ourselves the fact, that much, very much, remains to be done, and that the present evils can only be abolished by every man exerting himself to the utmost in remedying them. If we do not do our best to overcome these obstacles to social improvement, we are effectually rendering ourselves accomplices in the mischief. All questions, small and great, are now-a-days carried by agitation, by incessant, continual *hammering* on the theme.

How long shall we go on impregnating our atmosphere with the most noxious and pestiferous odours? And how can we expect to ward off fever and malaria? The health of thousands is too weighty a matter to be trifled with, and if, as your correspondent says, the fault does not lie on one person in particular, it must rest upon the public at large, who can tolerate such a disgraceful state of things.

I would, therefore, most earnestly urge upon you, Mr. Editor, and upon your intelligent correspondents, the necessity of raising their voice against this crying evil. Had I more leisure, coupled with the pungent sarcasm of your great "R.," I could declaim upon it at greater length. I trust, however, I have said enough to second your demand for "more earth for charity," and to call your readers' attention to the subject. I am, Sir, &c.,

South Molton-street, Bond-street. HUGH J. LESLIE.

BUILDERS' TENDERS.—ST. MARGARET'S CHURCH, LEICESTER.

SIR,—Being in the habit of reading THE BUILDER, I met with some good remarks a short time ago on the great difference between estimates given in for the same work; I have taken the liberty of inclosing a list of tenders sent in this week for alterations to be made at St. Margaret's Church, Leicester, for which three parties contracted, and I think it needs no comment.

Mr. J. Yates	£830
Mr. S. Hull	680
Messrs. Broadbent and Co.	475

Yours, &c.—A READER.

Leicester, Aug. 29th, 1846.

[Advertisement.]

THE PORTLAND CEMENT.

TO THE EDITOR OF THE BUILDER.

"Sir,—In the spring of last year, we supplied a large quantity of Portland cement for the Royal Exchange Buildings, in Cornhill, and within the last few months, an article also called Portland cement, but not manufactured by us, has been used at No. 82, Cornhill, and has signally failed. Owing to the similarity in the name, a very general impression exists that the cement which has failed was of our manufacture, but this not being the case, we venture to claim the aid of your widely circulated journal, in order that the public may be made aware of the fact, and that the reputation which our cement has hitherto possessed, may not be undeservedly compromised.

Many other failures have also occurred, not only in the metropolis, but in various parts of the country; we therefore avail ourselves of this opportunity to state, that in no instance has the cement which has failed, been of our manufacture.

We are, Sir, your obedient servants,

MAUDES, JONES, AND ASPDIN.

Rotherhithe, 3rd Sept. 1846.

[Advertisement.]

TO THE EDITOR OF THE BUILDER.

5, Maiden-lane, Queen-street, Cheapside, 28th August.

SIR,—The disgraceful appearance of the south-west (Cornhill) corner of the buildings at the rear of the Royal Exchange having given rise to a report that the cement there used was "Johns' Patent Stucco," and as that report uncontradicted is likely to prejudice that material in the minds of those to whom its advantages are still unknown, we request your kindness in giving that assertion our unqualified contradiction. We do not know whose cement it is, but we are glad to see, both for its own sake and that of the buildings, that measures are at length being taken to remove so great an exposure. Johns' cement is applied only to the back of the buildings in Sweeting's-alley, and any one looking at that will at once see the difference between the two materials.

We are, Sir, your obedient servants,

MANN AND CO.,

Agents for Johns' and Co.

Miscellanea.

TERRA-COTTA.—In a review of Brongniart's "Treatise on Fictile Art," a work already noticed in our pages, the *Athenæum* makes the following remarks on this material:—"The difficulties in the application of terra-cotta to architectural purposes are mechanical and economic rather than artistic. It is difficult to preserve the harmony of the proportions and exactness of the forms in the process of firing; and if none but the finest clays were used, the cost would be little inferior to that of marble. The Messrs. Vizebent (of Toulouse, spoken of as the best modern workers in it), have only a thin crust of the finest clay on the surface of their productions,—the interior being composed of coarser and cheaper materials. Now, the difficulty which they have to overcome is, to keep exact harmony between the shrinking of the crust and of the inside during the process of firing, or desiccation,—so as to prevent the separation of the layers or the fracture of the surface. In all the specimens which we have seen this had been successfully accomplished;—but we found reason to believe that the producers failed much more frequently than they were willing to acknowledge. A greater defect in terra-cottas is their incapacity to resist the continued action of the atmosphere. Most of our readers have probably seen the copy of the monument of Lysicrates, commonly called the Lantern of Diogenes, erected in the park of St. Cloud. This, the largest plastic production of modern times, was executed by the Brother Tribucci, after the designs of Molinos. The body of the material appeared to us as close-grained and well-burned as any of the ancient specimens of terra-cotta; but though it was placed in its present position only in 1808, it is already crumbling into decay. We differ, very reluctantly, from Brongniart,—but we are convinced that terra-cottas will not bear exposure, and that their use should, therefore, be confined to internal decorations."

PISA AND OTHER PLACES DAMAGED BY EARTHQUAKE.—The church of St. Michael has been greatly shaken, if not, as some say, even actually thrown down by the late earthquake. An hour before, the church was crowded; and the door was scarcely closed upon the last lingerer when the roof fell in. The movement of the earth caused the people even to stagger in the streets. In the hilly districts of Pisa and Volterra entire villages have been destroyed. At Volterra, a state prison fell, and killed thirty-eight and injured other 140 of the prisoners. And in the plain of Cesina, between Leghorn and Camfriglia, most of the country houses have fallen down. Large ground fissures have been opened in various quarters; and the Government have prohibited traffic on the railways.

THE ARRANGEMENT OF KITCHENS.—We are informed, that a work on kitchen arrangements has been for some time in preparation, by, we believe, Mr. Edward Hall, architect, who, as the readers of THE BUILDER are aware, has already contributed to the illustration of this important, but much neglected subject.

BRICKS FROM CHINA.—A second cargo of Chinese bricks has been landed at Liverpool.

GAS WORKS, KENNINGTON-LANE.—At a numerous meeting of the copyholders and others of Kennington and Vauxhall, held on the 28th ult., it was resolved to petition the Duchy of Cornwall, and the Woods and Forests against the contemplated erection of gas works in this populous and respectable vicinity, on the two-fold ground of injury to health and property by the selection of such a site as that proposed.

NOTICES OF CONTRACTS.

[We are compelled, by the interference of the Stamp Office, to omit the names of the parties to whom tenders, &c. are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York street, Covent Garden.]

For iron roofing over the passenger-shed at the Dublin terminus of the Midland Great Western Railway of Ireland, covering an area of 400 feet long by 120 broad, to be completed in six months.

For certain alterations and additions, and for the erection of stabling and other offices, at Brandeston Hall, Suffolk.

For the mason and brickwork to be done in building a new church, on Two-mile-hill, St. George's, Gloucestershire.

For the wright and carpenter work to be done in building the new church on Two-mile-hill, St. George's, Gloucestershire.

For the plasterer's work to be done in building the new church on Two-mile-hill, St. George's, Gloucestershire.

For the slater, plumber, painter, glazier, and other work to be done in building the new church on Two-mile-hill, St. George's, Gloucestershire.

For the execution of engine workshops and other works at Stratford, for the Eastern Counties Railway.

For the erection of the stations and station works at Needham Market and Thurston, on the Ipswich and Bury St. Edmund's Railway.

For a supply of split dry sound fir wood, or of split birch, ash, and hazel mixed, for three years firing for the barracks at Croydon, Hounslow, and Hampton Court, Hyde Park and Kensington, Regent's Park, Portman-street, and St. John's Wood, Tower, Wellington, St. George's and Horseguards, and Woolwich.—Separate tenders.

For the performance of certain builders' works proposed to be done at the workhouse in Short's-gardens, St. Giles-in-the-Fields and St. George, Bloomsbury.

For a gasometer and cast-iron tank for the Great Yarmouth Gas Works.

For the erection of a Presbyterian Church at Newcastle-on-Tyne (promptly).

For 100 new chaldron coal-waggons, for the Newcastle and Carlisle Railway.

For putting into good repair, and keeping in such repair, the roads leading from the site of St. Stephen's Gates to Eaton and Hartford Bridges, Norwich, for three years, from 29th September, including materials, labour, and every other expense.

For the mason and brickwork to be done in the erection of a church for the Wicker District, Sheffield.

For the wright and carpenter's work to be done in the erection of the Wicker District Church at Sheffield.

For the plasterer's work to be done in the erection of the Wicker District Church, at Sheffield.

For the slater's, plumber's, painter's and glazier's, and other work to be done in the erection of the Wicker District Church at Sheffield.

For providing and fixing an oaken fence in the front, and on the west side of the Greenwich poor-law-union workhouse.

For building warehouses at Manchester and Ashton-under-Lyne for the Manchester and Sheffield railway—short extension of time.

For lighting the public lamps of Biggleswade, Bedfordfordshire, with coal gas, including keeping the lanterns, columns, and brackets, with fittings, in repair.

For the execution of that part of the Edinburgh and Northern Railway called the Strathearn Devation, extending from near Newburgh, Fifeshire, to the Scottish Central Railway, near the Moncrieff tunnel, Perthshire—a length of about 9 miles: in one contract.

For that part of the branch line of railway to Montrose on the Aberdeen railway from Dubton to near Montrose—a length of one mile and upwards.

For the whole of the works on that part of the Aberdeen railway from Auchingowans to the Water of Bervie—a length of three miles and upwards.

For the formation and completion of two large reservoirs and the work connected therewith, for the Heywood Waterworks.

For the execution of the Nidd contract on the Leeds and Thirsk Railway, extending from the road leading from Harrogate to Knares borough, at Starbeck to Wormald Wormald Green, a length of about six miles.

For the mason and brick-work required in building a church at Lynesack and Soitley, in the parish of Hamsterely, county of Durham.

For the wright and carpenter work required in the building of the new church at Hamsterely, Durhamshire.

For the plaster work required for the new church at Hamsterely.

For the slater's, plumber's, glazier's, painter's, and other works required for the Hamsterely new church.

For the erection of certain buildings connected with the baths and laundries for the poor at Bath (promptly).

For sinking the shaft for the Sunderland Water-works.

For 5,500 tons of wrought-iron rails, and 2,000 tons of cast-iron chairs for the Birmingham, Wolverhampton, and Stourvalley Railway.

For the maintenance of the permanent way between Bristol and the Standish Junction, near Stonehouse, on the Bristol and Birmingham line of railway.

For the letting on royalty or otherwise, of an excellent mine of clay near Birmingham, with constant supply of water and sand, and near a railway and canal.

For letting a plumber's, glazier's, and painter's shop, established in the line for twenty-one years at Bromley, Kent.

COMPETITION.

An architect is to be appointed to prepare designs and plans for, and to superintend the erection of, forty almshouses at Lower Tooting; applications in writing.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At Maiden Bradley and Mere, about 400 oak, ash, and elm timber trees and saplings, with a quantity of fir poles.

At Colne Engaine, convenient lots of ash, oak, and elm timber.

At Hadleigh, near Rayleigh, 1,000 oak, ash, and asp poles, 23,000 bavins, 1,300 oak spokes, and 1,300 oak piles.

At Rentley, near Atherstone, Warwickshire, twenty-one lots of oak coppice timber.

At Hull, an extensive stock of Honduras, St. Domingo, and Cuba mahogany, rosewood planks, mahogany veneers, oak knots, cedar, satin, ebony and other fancy woods, birch timber, &c.

At Tooley-street, Borough, the building materials of a stack of warehouses.

At Cambridge: three steam-engines of half, four, and ten horse power, a powerful crane, &c.

At North Shields: an extensive stock of paints, oils, plumbing work, gas fittings, and braziers' work, all in suitable lots.

At Dudley Port Iron Works, Tipton, Staffordshire: a stock of forge and mill castings, &c., including a pair of cast-iron door posts, a turning lathe, a wrought-iron tank 12 feet by 2 feet, and 2 feet 2 inches deep, a large round iron boiler of seven tons, floor plates, &c.

At Somerby, near Melton Mowbray, if not previously by private tender, a large quantity of Scots, spruce, and larch firs of large size, suitable for builders or railway contractors.

At Bentley, near Atherstone, Warwick: 400 oak trees in seventeen lots, and 118 oak and ash poles in four lots.

BY PRIVATE TENDER.

At Southampton: a cargo of yellow pine, rock elm, spruce deals, and lathwood.

At Woodchester-park, Gloucestershire: a quantity of oak trees.

At Grey Bull Inn, Hexham: 10 lots of cut larch and Scots timber, of large size.

At Invergordon Castle, Ross-shire: a great many larch, spruce, and Scots fir trees, in lots, near a harbour.

At Roseneath, Dumbartonshire: a quantity of Scots fir timber.

At Hull: a large quantity of Beech timber, suitable for piles and planking; also strong larch poles and railway fencing.

At Leeds: a gas apparatus, suitable for a country mansion, village factory, or inn.

At Snape's plantation, near Kilburn: about six acres of larch timber 40 years' growth, and suitable for railway purposes.

At Leeds: an 18-horse power steam-engine with boiler of 25-horse power, to be disposed of on very low terms.

At Newington-causeway: a second-hand vertical saw-mill, for planks and deals, 24 inches deep, with 10 standards, racks, &c.

At Belfast: a pair of 50-horse power condensing steam-engines, collectively 100-horse power.

TO CORRESPONDENTS.

"*A Subscriber*" will find a table in our last volume, p. 553.

"*F. F.*"—We do not know who was the architect or the builder of the church at Wimbledon, "executed in flint rubble work."

"*Amateur.*"—We shall be happy to see one of the descriptions alluded to.

"*British Museum.*"—Various letters shall have consideration.

"*W. D.*"—We are afraid we cannot assist him, but will endeavour to see him.

"*R. B. R.*"—The paper has not reached us.

"*A Constant Subscriber.*"—The spandrils alluded to, casts of which are in the Soane Museum, are of the late Tudor period, and formed part of some small doorway. As to their belonging to St. Alban's Abbey, one who ought to know says, "Sir John never troubled himself as to the place whence Gothic casts came. I doubt whether they do belong to St. Albans: the Gothic casts in Sir John's Museum were made by Mr. Estall, at the time he was employed at Westminster Abbey, after the coronation of George IV. The casts in question came at that time. Estall kept copies for himself; and when his stock was sold off a few years since, the casts your correspondent has probably came out of it."

"*Truly Constant Reader.*"—The gentleman named is the German Professor in the Institution. We know but little of him personally; but from all we hear, he is both a scholar and a man of high character. We should recommend our correspondent to take the more direct course of seeking a personal interview.

"*Puddling.*"—A correspondent wishes to know the best method of puddling a reservoir (to supply a mansion), made in a natural valley about 30 yards long, and 20 yards wide; the surface stratum being a light porous gravel and sand, intersprsed with roots. Also the best method of making the retaining wall of the dam-head water-tight, that being built of rubble limestone (grouted).

Received.—"D. A. C.," "W. C. J." "Metropolitan Bridges and Westminster Improvements," by Mr. Howard Douglas, M.P., second edition (Boone, Bond-street); "Third Report from Select Committee on Westminster Bridge;" "Exercises on Mechanics and Natural Philosophy," by Thomas Tate, (Longman, 1846); "Railway Register" for September; "Old England's Worthies" for September (C. Knight); "Pictorial Gallery of Arts," sculpture (Knight).

ADVERTISEMENTS.

INVENTORS and DEPOSITORS of WORKING MODELS and of other Specimens of the Useful Arts (as well as the Visitors of the ROYAL POLYTECHNIC INSTITUTION) are respectfully informed that the Directors have given their anxious consideration to the new appointment of Demonstrator in Mechanics, whose duty will be to explain to the Visitors the principles and uses of the above Specimens with clearness and simplicity. The Lectures now comprise the Electric Telegraph, as well as other objects of present interest. The beautiful Optical Exhibitions, &c. &c.—Admission, 1s. Schools, Half-price.

ZINC WORKS, 15, New-road, Fitzroy-square, London.—W. STAMPER, Manufacturer of Ornamental Conservatories, Greenhouses, Window Sashes, Sky-lights, Fan-lights, Flower Cases, &c. &c.

Zinc sash-bar mouldings, bell-wire rope, &c. &c. Perforated zinc for safes, ventilators, &c. &c. Roofs, flats, and verandahs, covered on the newest principle. Manufacturer of the improved Sliding Glass Pane Ventilator.—ZINC WORKS, 15, New-road, opposite Fitzroy-square.

PAVING, 2s. 9d. PER SQUARE YARD. Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27s. 6d. per ton.



COMMISSIONERS OF FINE ARTS' REPORT ON THE MEANS OF PREVENTING DAMP IN WALLS.

THE DIRECTORS of the SEYSSEL ASPHALTE COMPANY have much pleasure in recommending to the notice of Architects, Builders, and others, the application of the ASPHALTE of SEYSSEL as the only effectual means of preventing DAMP rising in WALLS.

J. FARRELL, Secretary.

Seyssel Asphalte Company's Works,
"Claridge's Patent."
Stangate Depôt, London.

The following account of its application is extracted from "The Appendix to the Commissioners of Fine Arts' Report," page 18:—

"In 1839 I superintended the construction of a house of three stories on the Lac d'Enghien. The foundation of the house is constantly in water, about 19½ inches below the level of the ground floor. The entire horizontal surface of the external and internal walls was covered, at the level of the internal ground-floor, with a layer of SEYSSEL ASPHALTE, less than half an inch thick, over which coarse sand was spread.

"Since the above date no trace of damp has shewn itself round the walls of the lower story, which are for the most part painted in oil of a gray stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so painted, yet the pavement of the floor, resting on the soil itself, is only about 2½ inches above the external surface of the soil, and only 19½ at the utmost, above that of the sheet of water.

"The layer of Asphalte having been broken and removed, for the purpose of inserting the sills of two doors, spots indicating the presence of damp have been since remarked at the base of the door-posts."

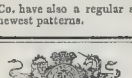
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FRENCH PAPER-HANGINGS.—The Trade are respectfully informed that in consequence of the new tariff having reduced the duty from 1s. to 2d. per yard, Messrs. MARSH and Co. have, in conjunction with all the principal continental manufacturers, established a depot at 59, Princes-street, Leicester-square, containing a most extensive stock of all the richest and most *recherché* designs in decoration and paper-hangings, at Parisian prices.

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LIST of PRIZES.—The following Prizes, which were awarded by the Committee at the end of last session, were distributed on the evening of Monday, the 17th curt., within the premises of the Institution, in presence of a large number of the friends of the Institution and the students.—JOHN LEADBETTER, Esq., Dean of Guild, one of the Vice-Presidents of the Institution, in the chair.

Shading from the Round in Figure.

1st Prize	3 Guineas	James Craig.
2nd —	2 —	Silvester Scott.
3rd —	1 —	Alexander Wilson.

Shading from the Round in Ornament.

1st Prize	4 Guineas	Alexander Wilson.
2nd —	2 —	James Buchanan.
3rd —	1 —	Alexander Craigie.

Shading from the Flat in Figure.

1st Prize	2½ Guineas	Miss C. H. Ure.
2nd —	2 —	John Henry.
3rd —	1½ —	John T. Henderson.

Shading from the Flat in Ornament.

1st Prize	3½ —	John Boskill.
2nd —	3 —	Miss M. R. Paterson.
3rd —	1½ —	equal { William Henry.
4th —	1½ —	{ John T. Henderson.

Outline in Ornament.

Only Prize	2 Guineas	William Brown.

Outline from the Flat.

1st Prize	1½ Guineas	William Steven.
2nd —	1 —	Alex. Brownlie.
3rd —	1 —	Edward Allan.
4th —	1 —	Crighton J. Rait.

JAMES RITCHIE, Secretary.

Glasgow, 18th August, 1846.

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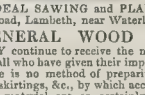
DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Pantiles.

T. ADAMS (from Byron and Long), late S. Dare, Mahogany, Timber, and Deal Yard, New-road, Bermondsey, near Bricklayers' Arms, has always in stock mahogany, cedar, wainscot, elm, beech, oak, &c. Pantile oak and fir laths, scaffold poles, putlogs, &c. Wheelwright's goods, veneers, cut deals and scantling of every dimension. Also a large assortment of seasoned flooring, match boarding fit for immediate use, and mouldings prepared by machinery, all at reduced prices.

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E. VIGERS, jun., begs to inform the Public he has re-opened the above premises (late Gatehouse and Co.), and that he intends keeping a first-rate stock of all the usual descriptions of yellow and white deals, battens, spruce and pine deals, and plank, mahogany, prepared flooring, matched boarding, machine struck mouldings, beech quarters, and plank, and all descriptions of timber and deals, fit for immediate use, at the lowest prices, for ready money.

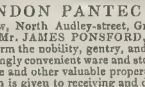
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TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.

THE GENERAL WOOD CUTTING COMPANY continue to receive the most satisfactory assurances from all who have given their improved machinery a trial, that there is no method of preparing floor-boards, matched linings, skirtings, &c., by which accuracy, dispatch, and economy of material are so certainly obtained. In shooting, or grooving and tongueing a board (although curved), the machine follows the edge, removing no more than the skin of the wood, and by the use of a peculiar saw for deep cutting, the board comes off with a perfect surface, thus obviating the necessity of reducing its thickness in order to plane out the hollows. The Company being neither builders nor timber merchants, unconnected with any trade but that of sawing and planing, and depending solely on the public for a moderate interest on their capital, are determined, by an assiduous attention to the interests of their customers, both as regards workmanship and general business arrangements, to merit a continuance of their support.

CLARENDON PANTECHNICON, North-row, North Audley-street, Grosvenor-square. The proprietor, Mr. JAMES PONSFORD, begs most respectfully to inform the nobility, gentry, and public, that he has those exceedingly convenient ware and store-rooms for depositing furniture and other valuable property, and that the greatest attention is given to receiving and delivering all articles, and to their safety while in the ware-rooms, and the moderate charge he makes for the convenience is considerably less than similar Establishments in London.

FIRE BRICKS, Stourbridge, Welsh, and Newcastle; also Lumps, Tiles, and Clays, a large Stock of the best made Goods are selling at very reduced prices (a great reduction having taken place in freights) at WARD'S Honduras Wharf, Bankside. Windsor Nonsuch, and Town-made Oven Tiles, PP.N. and Circular Red Fire Bricks, Country Pan, Plain and Ridge Tiles, Paving Bricks, Corn Drying and Patent Malting Tiles.—Country Builders promptly supplied. Rough River Ballast for Concrete and Thames Sand, above and below bridge, freight or loads. Prepared Sand for Plastering.

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The Builder.
No. CLXXXVIII.
SATURDAY, SEPTEMBER 12, 1846.

THE northern wing of the Privy Council Office, Whitehall, as altered by Mr. Barry, is to be commenced immediately. A boarding has been formed preparatory for taking down the old Treasury offices, on the site of which it will stand, and an eyesore in one of our noblest thoroughfares will thus at last be removed. The structure in question would probably have been removed long ago, for the completion of Sir John Soane's design, but for an oversight in setting out his new building, which would have made the continuation of it advance so greatly on the foot-path, as to have interfered with the regularity of the street. Now that the old deformity is really coming down, we have one plea to make for it, which is that its Tudor doorway, and other similar parts, relics of a more ancient building, may be safely preserved.

Little did Sir John think when he finished his Privy Council Office in 1825 or 1826 (with the exception of the north wing), that the artistical part of it would so soon give place to the work of another; indeed, a much less partial witness if appealed to could scarcely have expected that such would be the case. So quietly and quickly too has it been done, that the public have been asked how they like the alteration, before they had inquired whether it was necessary or desirable. The want of greatly increased accommodation, and the required alteration of the line of front, appear conjointly to have led to it, and unquestionably the metropolis is a considerable gainer in consequence.

The front is exceedingly ornate above the ground-floor, and displays that carefulness in the details apparent in all Mr. Barry's works. Attached Corinthian columns (a long series), on rusticated piers brought out from the front wall to receive them, carry a highly enriched entablature, which is crowned in the centre portion of the composition by a balustrade. The wings have an attic story, terminated with a similar balustrade. An enriched frieze is introduced under the cornice of the attic, and on the face of the attic pilasters are carved "drops" of fruit and flowers. The pedestals in the balustrade carry urn-shaped vases; those at the angles of the wings are more lofty than the others. The entablature breaks over every column, as does the attic cornice over the pilasters; and with the piers on which the columns stand, the pilasters, pedestals, and vases, give that predominance to the vertical line which obtains in the greater number of Italian structures raised during, or soon after, the Revival, and which resulted almost necessarily, from the employment of adventitious columnar decoration.*

These numerous breaks in the entablature produce a certain degree of flutter, not altogether free from objection. A stronger ground of objection, however, for those who are anxious to cavil, is a want of unity. We do not mean to say it can be urged justly that the parts are in any degree discordant—quite the reverse; all are homogeneous, and in good agreement,—but that it fails to point itself out as one public building. It may appear to the stranger to be a range of Government offices, or a series of private residences; and this we hold to be a failing; but then it is a failing which belongs rather to circumstances than to the architect.*

As we are in Westminster, let us look in at the new Houses of Parliament (notwithstanding the notice posted at the principal entrance),† where the same able architect is expressing himself in a different language.

The objection to which we have just now alluded, is often urged against the Westminster Palace, but has never seemed to us valid, even in its present state. And it would not be difficult to shew the reason why. Moreover, when the design is completed, when the towers rise to their intended height, the effect will be to alter the outline entirely, and group the whole, more perfectly still, into one pile.

In the House of Lords, to which, more particularly, attention is now directed, the works are making rapid progress. The ceiling and upper part of the walls are finished, and carvers and joiners are occupied in every corner of the place in fixing the wainscot fittings, both in the House and lobbies. Those in the former are most elaborately carved out of the solid, and reflect great credit on the workmen.

The decorations will be gorgeous—dazzling. The ceiling, formed into deeply-sunk panels, is covered with gold and colours. Under each wall-piece, from principal timbers, is a sculptured canopy and niche, solidly gilt where finished, between which occur the windows, to be filled with stained glass (six on each side), and compartments for fresco.

The *Athenæum*, in a recent number, expressed some misgivings as to the propriety of such adornments: "because, though casual visitors may be more than satisfied — even enchanted — 'My Lords,' themselves, are likely to feel sated by the constant blaze of so much architectural and pictorial pomp. Such a sumptuously, not to say extravagantly adorned hall, would be more in place within the walls of Windsor Castle, for royal banquets and festivities, than as a place for solemn debate on grave and anxious matters. Putting propriety of purpose out of the question, we entertain great doubts, too, as to the effect which such profusion of painted glass as is intended will have upon the fresco paintings. Besides that gleams of coloured light may occasionally fall from the windows upon parts of the mural pictures, quite different in hue from the colours on the latter,—will not the windows overpower the paintings, and cause them to look flat and dull, by comparison?—or can that inconvenience be remedied by exaggerating the colours of the frescos, and painting them up accordingly?"

It further says:—"We may be allowed, also, to ask, whether another matter has been taken into consideration—because if it has hitherto been forgotten or overlooked, attention should be directed to it without further delay. Will not the effect and character contemplated for the 'House' be, in great measure, lost at those particular times when the place will be chiefly used for business? After dark, the painted windows will not show themselves otherwise than as gloomy gaps and vacancies, occupying the upper half of the two side walls. A singular degree of brilliancy might, however, be obtained at night, by lighting up the House chiefly, if not entirely, from without—by means of gas burners on the outside of the windows. This would be further useful as helping ventilation. The plan appears to us to have, independently of its novelty, much to recommend it;—should there be objections to it, not perceived by us, we yet hope that while they have their due weight, the suggestion itself will not be wholly disregarded—merely because it is a suggestion."

The effect, we venture to think, would be much more agreeable without these illuminated windows than with them. Relative to the windows themselves, we cannot find that any of the glass painters are engaged upon them; certainly not the London artists, which is somewhat surprising, considering the shortness of the time which is to elapse before the Peers are to meet there.

Some anxiety, we know, prevails on this subject amongst the glass painters who exhibited their works to the Commissioners.

One work in fresco is already completed, the "Baptism of Ethelbert," by Mr. Dyce. It occupies a very honourable position at the west end of the chamber, and is an admirable specimen of the art.

This article having taken a gossiping form, we will say a word or two on some recent proceedings in another public building, which shew that we have yet much to learn.

After unsuccessful trial of divers new materials, the open area of the Royal Exchange is again paved with the "Turkish stone" that formed the pavement of the old building, and which, we cannot avoid saying, looks very coarse, inartificial, and unworthy of its position. Tessellated pavement was laid in the first instance, and failed. This gave place to asphalte; and then the asphalte was cleared away to let in the old stones again. We look on these failures as something almost disgraceful, not to the architect of the building, but to industrial and artistical England. The Romans constructed magnificent pavements here more than fifteen hundred years ago, which, when opened, as at Woodchester and Cirencester, lately referred to, or in Threadneedle-street, close to the building in question, are found even now solid and substantial, brilliant and effective. We, with what they have done before our eyes, and with all our boasted advances in knowledge and our improved machinery, make two attempts to produce a pavement for the chief building in the city of London a *little* out of the common way (only *very* little), and failing utterly, are obliged to go back to the old stones of the former area!

The occurrence is suggestive, and should induce consideration.

A WORD TO ARTISTS.—Use the simplest and best-understood medium: do not risk the premature destruction of your paintings by indulging your caprice or making experiments in the wrong place. Several of Hilton's pictures are beginning to present a melancholy appearance, through the failure of the medium employed. The eye of the principal figure, in his fine work from Spenser, deposited in the National Gallery, has actually *floated out of its place*. The picture has been reversed, in order to get the eye back again—but success seems doubtful.

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* The predominance of the vertical line in the new building has been already remarked on in the current number of "The Civil Engineers' Journal," which, we should mention, gives an excellent representation of the front.

* The whole length of the front, when completed, will be 296 feet; the height of centre part, 56 feet 6 inches; and of the wings, 57 feet 6 inches. The latter is made out thus:—

	ft.	in.
Height from pavement to base of column	19	0
" of columns	26	6
" entablature	7	6
" attic	11	0
" balustrade	4	6
	67	6

† "Great inconvenience and interruption to the progress of the works having been occasioned by the admission of strangers, the issue of all further orders of admission is henceforth prohibited."

THE ECCLESIASTICAL ARCHITECTURE OF PISA.*

In the early churches the campanile was not employed, as bells were not introduced into Italy till the seventh century. It then long continued to be not an integral part of the design, and was frequently quite detached, as in the example at Pisa. By some, however, it is thought that the foundations in Italy, frequently precarious, prevented its erection, as unequal pressure would perhaps have occasioned disastrous results. The writer in the *Quarterly Review* argues that it originated north of the Alps. The campanile of Pisa is in eight stories, but had originally but seven. The plan is circular, consisting of six peristyles, or stories of circular porticoes, besides the lower and bell stories. It is not improbable that the design, which is of great beauty, was suggested by similar towers in Roman buildings, of which there was one called the Septizonium, at Rome; and the Coliseum itself may have had some influence.† The columns support arches, and have capitals of Corinthian character, but displaying great variety. The arches in the lower story are solid, and the wall is here 13 feet 5 inches thick. The staircase is in the thickness of the wall. The upper story is vaulted over, an opening of hexagonal form being left; above this is the bell story, which according to Morrona, was added by Tommaso, of Pisa, in the middle of the fourteenth century. But the greatest interest attaches to this campanile from its inclination, which is about 12 feet 6 inches from the perpendicular, and though the line of the centre of gravity falls within the base, it could hardly have remained standing, had not the architects taken extraordinary care, by means of metal cramps and good construction, to keep the masonry together. It withstood the shock of the earthquake, which lately did so much injury to some of the buildings at Pisa. The writer of a letter, already quoted from in these pages, says, "The leaning tower survived the shock, and is still firm. I ran to see what had become of it, and great was my surprise at finding it still standing and firm. What an object it must have formed at the moment of the shock. Those who had the opportunity of observing it, assured me that its vibrations were most awful." It not only leans, but is twisted in a curious manner, which it is almost impossible to represent. The architects seem to have attempted after the first failure, to bring it back to the perpendicular, so that the lines seem in no regular direction. An idea has long prevailed, that the architects, Bonano of Pisa, and William of Inspruck, who commenced the building in 1174, intended it as a display of their skill. Such might have been the case in a building like the Garisenda Tower, at Bologna, another remarkable instance, but could hardly have influenced the architects of a beautiful structure like this. The altar of the cathedral, erected in 1774, standing within a short distance of the campanile, sank soon after it was put up, and would seem to prove the nature of the foundation. The campanile has sunk much into the ground, which has had to be excavated round it to show the base. The note-books of travellers record all kinds of impressions, either at looking up at the overhanging mass, or on looking down at the low side from the summit, protected by a single iron rail, where the feet seem to be without support. The steps lean in all directions, and a curious delusion is produced in descending to the open doorway, where the jambs appear perpendicular, and the columns and windows of the cathedral inclined.

Of the different buildings included within the monastery of the middle ages, the quadrangle of cloisters is perhaps the most beautiful and interesting. There, meditation seems to hold her residence, and memory to tell of those, who once paced the long-drawn aisle, but are now beneath the turf which those cloisters inclose. Something of this, we might feel, within the Campo Santo of Italy, that cloistered quadrangle, which took its name from the cemetery of Pisa, the earth of which was brought from the Holy Land.

Towards the end of the 12th century, Archbishop Ubaldo, having been driven from Palestine, brought his vessels home laden with the sacred earth, which he deposited on ground on the north side of the cathedral. The present structure was commenced in 1278, according to the Pisan chronology, which is a year later than the common style, and is said to have been finished in 1283. Giovanni di Pisa was the architect. It forms a quadrangle, resembling the cloisters of a monastery, within which certain families had the right of burial. The walls were decorated with frescoes, and monuments were erected to those whose remains were deposited. Many of these monuments were Roman works, some of them intended for a very different purpose, whilst others represent scenes from the heathen mythology, or subjects strangely at variance with the Christian religion. Subsequently, many remarkable works of art have been collected within the walls, and the building is now one of the most valuable museums in Italy. Externally, it is extremely plain, consisting of a range of pilasters and arches; the mouldings of the latter springing from busts or corbels, immediately above the capitals. It is entered on the side next the cathedral by two plain doorways. In the "Architecture Toscane" a work we have frequently referred to in these pages, the plan is drawn rectangular; but Messrs. Cresy and Taylor represent it slightly varying from that form: we believe the last is correct. Piers, composed of clustered pilasters standing upon pedestals, support semi-circular arches, busts being again inserted at the springing. The pedestals stand upon a step, upon which rises a dwarf wall. But the most curious part of the building consists in the filling in of these arches, which are enriched with mullions and tracery, resembling that of good Gothic examples. It is of the geometrical decorated character, but the mullions, for so we must term them, have bases and capitals, imitated from those of the piers. The Campo Santo formed one of the subjects in the controversy, before mentioned. Mr. Smirke, in the *Archæologia*, vol. xv., having alluded to the building, as indicating the early use of Gothic architecture, Sir H. C. Englefield, Bart., gave arguments to prove that the tracery was later in date. Mr. Smirke re-asserted his opinion that the building had not undergone any alteration, and argued from the tower of the church of Il Frari, at Venice, of which he gave a drawing, but which has since been shewn to be of the date 1361, and not by Niccolo da Pisa, like the body of the church, that it was not unusual to have circular and pointed arches in the same building. He believed that the tracery and window openings in the Pisan building, were of the same date, but that there was no stained glass. The careful examination of Mr. Arthur Taylor, however (*Archæologia*, vol. xx.), placed the matter in a different light. He discovered that, whilst the main portion of the building was from quarries in the neighbourhood of Pisa, the tracery was of Carrara marble. The Gothic portions had certainly been added, for the tracery and the half pillars, or responds, were not connected with the piers, whilst the capitals were unconnected with the adjoining mouldings of the pilaster. The Gothic capitals, also, were more delicately worked, though freely imitated from those of the pilasters. In reference to the date of those additions, he referred to an inscription, recording the erection of certain marble windows in 1464. It had been supposed that Gothic architecture was discontinued at an earlier period, but the date was, at all events, when the use of large panes of stained glass was practised. In the *Archæologia*, vol. xxiii., Mr. Sidney Smirke took up the subject, and endeavoured to show that, there *were* circumstances of construction, tending to prove the tracery part of the original design. Judging from inscriptions, he thought that, the building being erected by Giovanni da Pisa, in 1283, Antonio Pisano, in 1464, completed the work with four arches, probably doorways, and twenty-eight windows; on which occasion some old materials were used again, therefore that the first architect intended to fill the openings with tracery, and stained glass. As he had discovered a small piece remaining, he considered that there must have been glass, and that this glass was subsequently removed. The tracery corresponded in style and date with English examples, and the design of Sienna Cathedral, attributed to Giovanni, was Gothic, and was executed by his pupils, Agostino and Agnola, in 1333. Notwithstanding these arguments, which we have been induced to give, because some importance must be attached to them, it seems to be now conceded that the tracery is of late date, and the original intention of glazing with stained glass was afterwards abandoned. The richness of the varied tints has been lost, but in the effect of light and shade, and in the beauty of the materials, it is thought that few buildings can surpass the Campo Santo of Pisa. Several volumes might be filled with illustrations of the fine collection of works of art, which the building contains. Heathen tombs were collected, and used as Christian monuments, and works of art of all kinds have been deposited from every part of the Pisan territory. The late *conservatore*, Lasinio, still further increased this collection, and through his exertions, which the government do not seem to imitate, many beautiful works of art were preserved, particularly during the French invasion, which left its traces in so many of the buildings of Italy. Several capitals from the cathedral and campanile are here deposited; they were removed during the repairs of those buildings. In England, such fragments are carted away by the dealer in old materials, or become the perquisites of the workmen, an instance of which amongst a hundred others, occurred at the restoration of the Temple Church. Had there been a few square yards of ground and a shed, anywhere, to receive such fragments, a valuable collection might ere this have been formed, of objects, now irrecoverable, and the arts would have reaped a great benefit.* The ambulatory of the Campo Santo is paved with tomb stones, having figures upon them in low relief, and the costumes of the different classes of citizens being represented, the collection is one of high interest. The walls are covered with subjects in fresco, which have of late excited some interest in England; they consist of subjects from the Holy Scriptures, and the lives of the saints; the earliest were by Giotto. Connected with the ambulatory are one or two small chapels, which do not require further notice. The churches of Pisa are all most important examples in the history of Italian architecture, and it is curious to observe the influence of the type of the cathedral, of which we meet with so many examples in England. Thus, the very curious church of San Paolo a ripa d'Arno is a copy of the cathedral, on a reduced scale. It has three ranges of arches, similar to those of the cathedral, and by many it has been supposed, that the latter building was taken from *it*. There is much obscurity about its date: that generally ascribed to it is 1100.—Sta. Maria della Spina, of which Mr. Knight has given a good illustration, stands on the banks of the Arno, and received its name from its possessing, as was said, a spine from the Saviour's crown of thorns. It was originally an oratory at the foot of a bridge. Its plan is a simple oblong, with an extension at the east, as a chancel. This portion is probably a later addition, and upon it are three spires. It is believed that the building was commenced in 1230, Giovanni da Pisa being the architect. The side next the river, and other parts are in their original state, but great alterations were commenced in 1323, in which the building gained its present appearance, which is that of a beautiful shrine crowned with pinnacles and tabernacles, with ranges of beautiful statues, said to be the work of Giovanni da Pisa and his pupils. Giovanni is said to have had the work of the Campo Santo given to him in consequence of his success—an instance of the identity of the pursuits of architect and sculptor, during the middle ages. The principal front has three gables curiously arranged. The lower story has round arches, inclosing work of a Gothic character; and above are wheel windows with the pinnacles and sculpture. It was in progress during great part of the 14th century, and, when completed, was considered a miracle of art. The upper portion is all Gothic, of white marble, and most delicate workmanship; and if the sculpture appears somewhat profusely used, we must recollect the peculiar ability and taste of the Italians for this species of embellishment.

† Murray's "Handbook for Travellers in Northern Italy."

* See p. 409, *ante*.

Druidical Temples.—The Rev. E. Dukes, F.S.A., has published a volume to elucidate the temples of Abury and Stonehenge.

* On this subject, the papers "On the Preservation of National Antiquities," in Vol. III., may be referred to.

PORTLAND CEMENT.

THE FAILURE ON CORNHILL.

We have taken some pains to learn if the recent failure should weaken our opinion of the material in question, or throw any slur upon the manufacturer of that particular specimen, and are disposed to think it should do neither. It appears to have resulted from a departure from the usual mode of manufacture, made with a view to meet a wish on the part of plasterers to have a cement that would set fast, and not occupy much time in working.

Portland is an artificial cement, composed of chalk and clay in certain proportions; which ingredients being ground together in water are run into a reservoir, where they are allowed partially to dry. After being further dried by stove heat, the mixture is ultimately burnt in kilns, from which it is delivered in two conditions, viz. perfectly burnt and not perfectly burnt. The proper admixture of these two qualities of the cement mainly affects its nature; and it appears that in the specimen under notice, too much of the unburnt, or quick setting part, was introduced.

Portland cement differs from what was used some time ago as "Frost's cement" only in the proportions of the materials employed and the manipulation,—upon which, indeed, its goodness or otherwise entirely depends.

General Pasley in his work on limes and cements, when speaking of Frost's cement, objects to the washing and long drying practiced, as both very prejudicial to the strength of the cement. He further thought that the chalk predominated too much over the clay, and recommended certain proportions of his own. Whether or not the Portland cement more nearly approximates these than Frost's we may take an opportunity to investigate.

PUDDLE.

Sir,—Your correspondent in seeking information respecting puddling, omitted to mention the depth of the proposed reservoir, as upon that would depend the strength or thickness of the puddled wall.

To render the dam head water-tight, a puddled wall should be carried up at the back of the masonry, and in connection with the puddled lining of the reservoir, in a similar manner to which the side walls of docks are rendered impervious to water, and from two to three feet thick, or more, according to the altitude; and the puddling should proceed in courses as the masonry proceeds. The interior slope also from the dam-head, I would recommend to be lined with puddle, as an additional security. The roots of trees should be carefully grubbed up before the puddled lining is laid, or otherwise they may shoot and penetrate through it, and allow the water to escape. Some judgment is requisite in the selection of proper materials for the construction of a puddle, for instance, neither sand, granite, nor chalk would separately form a puddle, but all or either of them mixed with even a small proportion of clay, and well wrought, may be made into an excellent puddle.

It was formerly contended that clay alone was the most suitable material, but modern practice has discovered that clay mixed with a small proportion of sand, gravel, or chalk, or a compound of all these, constitutes the best puddle. Some persons use common mould, wood or coal ash, brickdust, &c., and this mixed with clay, when sand or gravel cannot be procured, will make a durable lining for water works.

Clay of a soft or soapy nature is very apt to slip; and if too stiff and hard is wrought with difficulty, and is very liable to crack afterwards by exposure to the atmosphere. Mr. Telford (the late eminent engineer), in describing puddle, says: "It is formed by wetting earth to fluidity in an inclosed space, and then turning and working it with a shovel, until it has acquired that alluvial state which experience has shewn to be requisite; it is then left to settle; and when the water has been evaporated from the sediment, a similar stratum of alluvial earth is superadded from time to time, and thus rises with the canal banks, in which it forms a concealed wall of earth, impermeable by water; in effect it prevents leakages through a canal bank, or any dam or other earthwork which requires that kind of precaution." I cannot close this article without adding extracts from the specifications of two of our most eminent hydraulic engineers, the late Mr. Telford and Mr. Walker, in allusion to this subject. The former says: "The whole of the puddles are to be composed of a proper mixture of clay and sand, or gravel, not exceeding the proportion of one of the latter to three of the former (unless the engineer shall direct to the contrary), to be thoroughly worked by cutting and heading in courses not exceeding eight inches thick when laid on, so as to be, when completed, perfectly water-tight, and all joinings must be carefully united."

The latter says: "The canal in excavation, when not in clay, is to be lined with a two-feet thickness of puddle, as shewn on the cross section. In the embankments, when not in clay, the bottom of the canal is likewise to be lined with a three-feet thickness of puddle, meeting that at the sides, as shewn in the cross section. When in clay, side puddles are to be made one yard in thickness, carried up from the clay, the surface of which is to be first turned over to the depth of ten inches, and perfectly worked. Hoping these remarks may prove satisfactory to your correspondent,

I am, Sir, &c., B. Baylis.

Merthyr Tydfil, Sept. 7, 1846.

FOREIGN ARCHITECTURAL AND COLLATERAL INTELLIGENCE.

Berlin.—Amongst the latest establishments of that city, the *Polytechnic Society* occupies a prominent place. It contains now 800 regular paying members (a great number for a city of merely 300,000 people). They applied for a site to erect a building of their own, first to government, and a fine plot in the Thiergarten, near the Brandenburg Archway, was fixed upon. Some impediments, however, having come across, another site, near the Royal Building School (*Königliche Bau Schule*), in the very centre of the town, has been selected. Its price, however, is considerable—80,000 dollars; and as the society intend, hereafter, to establish an especial Polytechnic school (what we would call *college*), an aggregate capital of 200,000 dollars will be required.

The new hôtel of the Secretary of War, which, like a princely mansion, is raising in Leipzig-street, will be ornamented with a number of brass statues, representing the different *corps* of the Prussian army. In fact, the number of statues in Berlin—be they of metal, stone, or even stone-cement—is so much augmenting, that it can be said of the Prussian capital now, what Cassiodorus said of Rome of the Emperors, viz. that "it contained two kinds of personages nearly equally numerous—living beings and statues."

"*François de Hollande*"—*a hitherto unknown Architectural Author.*—Count Raczynski, of Berlin, previously known by his writings on modern art, has, on searching the library of the Jesuits at Lisbon, discovered the MSS. of the above artist, a contemporary and friend of Michael Angelo and other great men of that period. F. de Hollande is called in these MSS. *architecte et enlumineur*. Amongst them is a dialogue which took place at Rome between F. de Hollande, Michael Angelo, Victoria de Colonna, and other celebrated personages of the time. Another very curious work is an official report made to King Sebastian "On the utility of the art of design in a Christian republic, as well in time of peace as in war." The following passage, extracted from a chapter—on the utility of design to a monarch, might nigh induce us to believe, that F. de Hollande had some glimpses of the discoveries of Lavater and Gall even in the 16th century. "One of the reasons, why the king ought to know to draw, is, that thereby he will become aware of the character of the persons he has to employ, as exhibited in their physiognomy. This will enable him—a thing, certainly, very useful and important—to distinguish in his council, according to their features, the men whom he has to choose as viceroy of India, or for an ambassador, &c. He will also thereby avoid the making a man a captain, who is but suited for a groom." Count Raczynski has travelled over the whole of Portugal in an artistic point of view, viewed all their important sites and monuments, and states, that "the love of the *beautiful* and the taste for arts have been spread, at different epochs, throughout the whole of the realm."

Engineer, Mr. G. Potenti, of Pistoja.—This gentleman, a professor in a small Roman town, has raised himself to great celebrity as a railway *mapper* and writer. After three years' travels through Europe, Mr. P. has just completed "Mappe routière historique et statistique des chemins der fer, et autres voies de communication exploitées à vapeur, du milieu de l'Europe."* It contains—all railways completed, building, or projected; all courses of steam-boats, with their periods of arrival at the sea, or rivers and lakes; an account of steam-engines of the atmospheric system, of lines and rails. The map contains, moreover, several very interesting tables, viz.:—a comparative review of all lines all over the world in 1845; a survey of the most important rail systems in Europe; a survey of the ascent and fall on European and North American railways; a table on the gradual improvement of steam-engines since 1825, in regard of their power, speed, and amount of fuel used, &c.; a survey of the smallest radii of the average bent of lines; a table on the average speed of trains—a comparative table, in fine, of the most general geographical and railway measures.

A curious Sepulchre.—Count Sternberg, the celebrated German geologist, has ordered in his last will, that his body shall be inclosed in the hollowed-out trunk of one of those gigantic antediluvian palm-trees, which have assumed the hardness of the most compact sandstone. We are not aware, whether his desire has been already carried into effect.

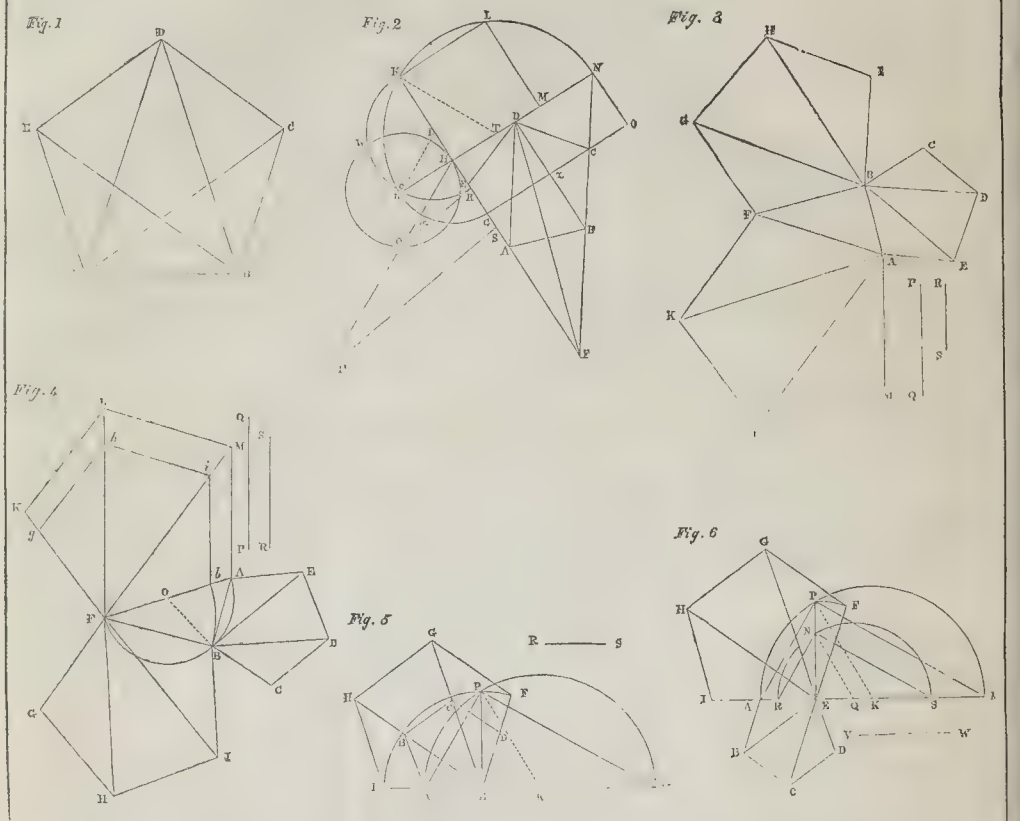
Prague, Austria.—The corporation of this ancient city have restored the venerable chapel of St. Mary, adjoining the *Teyn* church, and placed therein the statues of Cyrillus and Methodius (Bohemian apostles), made by Mr. Marx of Tuscan marble. They are sterling, well executed pieces of statuary. The pedestal, of Gothic style, is made of red Bohemian marble, after the designs of Architect Mr. Herrmann. In it a bronze tablet will be sunk, representing deeds of the life of the above two saints. The chapel contains many works of the fifteenth and sixteenth centuries, as a metal font of the year 1414, also properly restored now. A Gothic altar, made after the designs of Mr. Hellich, will be adorned with a carved in wood and gilt statue of the Madonna of the fifteenth century. The next improvement to be made in Teyn church, by order of the Prague corporation, is the restoration of a very remarkable pulpit; that of an altar of St. Luke; the lifting from out of the ground of several interesting old obituary tablets, &c. On the chief altar will be placed the remarkable old wood crucifix, described by Professor Wach in his history of Bohemian wood carving.

Count Giovanelli, Lord Mayor of Trento.—The death of this patriotic citizen (Jan. 1846) is much lamented throughout Tyrol. After having occupied the above situation for several years, he eventually succeeded in making that dismal, dark place of the once council, resemble a clean and cheerful Dutch city. The aqueducts, constructed by his suggestions, pour an abundance of water out of marble troughs. Where once large spaces of rubbish and sand were to be met with, smiling greens with plantations of trees are to be seen. In the same way Mr. Giovanelli reformed the paving to a great degree of symmetry and solidity, built public slaughter-houses, erected a new town-hall, perfectly cleansed and regulated the Place before the cathedral; and even the Campo Santo of Trent, with its Doric columns, is his work. J. L.

Chelmsford Church.—A Chelmsford paper, quoting, it now appears, from the *Essex Herald*, a paragraph relative to "the old church in this place," has led to the mistaken idea that the roof of Chelmsford Church has fallen into a state of decay, whereas the paragraph related to Halstead old church, the church at Chelmsford having "never been in a more substantial or better state" than at present. We are indebted to the *Essex Herald* for the correction of this error.

* Brussels, Vandermaelen. The same publisher has also brought out another work of Professor Potenti, on the Belgian lines: both to be had of any foreign publisher in London.

GEOMETRY OF THE PENTAGON.



THE GEOMETRY OF THE REGULAR PENTAGON.

Shewing the Method of its Construction, and its Conversion into an Equivalent Triangle, a Rectangular Parallelogram, a Square, and a Circle; together with the Method of Adding, Subtracting, Multiplying and Dividing regular Pentagons.

THE regular pentagon or five-sided right lined figure, being of the greatest utility in the erection of various civil and military structures, it might reasonably be expected that its nature and properties would be perfectly understood by architects, engineers, and other practical individuals; and there can be no doubt but such is the case, in so far at least as its construction and mensuration are concerned; but with regard to its conversion into equivalent figures of different forms, and the other manipulations mentioned in the preamble, it may very justly be questioned if such a familiar knowledge of this very common and simple figure has yet been acquired, and the more especially so, as there is no system in our language in which those and similar operations are pointed out, or even hinted at.

Examples of the conversion of areas have, it is true, appeared in several of the late numbers of THE BUILDER, but they are only to be regarded as particular cases of the general theory, and the attentive reader will readily perceive that the subject of the present paper is another application of the same principle, and one which is well adapted for displaying its efficiency, in the resolution of many curious and interesting problems, peculiar to architecture and several kindred branches of the constructive arts.

The delineation of the pentagon is effected in various ways, all of them simple and well-known; Euclid has given a very elegant and ingenious method of doing it, in the fourth book of his elements of geometry, and a much simpler method is pointed out by Ptolemy in the first book of his Almagest; but both these methods of construction, as well as the general process given by Renaldinus for all polygons, have reference to the inscription and circumscription of the figure in and about a circle; this, however, is not the object of the present inquiry, for it is not a given circle, but a given straight line, which is here supposed to constitute the datum on which the construction depends.

The methods of describing a pentagon upon a given straight line are also various, some of them very simple in practice and rigorous in their principles, while others are only approximative and difficult to apply. It is not, however, intended in this place to notice the several means of obtaining the same end: the main point is, to select from amongst many that method which is the easiest in practice, and the best adapted for general purposes.

The geometrical property, *that all the inward angles of every right-lined figure, when taken together, are equal to twice as many right angles, wanting four, as the figure has sides*, furnishes the easiest and most expeditious method of constructing the pentagon when the proper angular instruments are at hand, and the construction by this method will be correct in proportion to the delicacy of the instruments employed, and the skill and dexterity of the operator.

Since the pentagon has five sides, all the inward angles, or those contained between the adjacent sides of the figure, when taken two and two, will be expressed by the following theorem, viz:—

ten right angles — four right angles = six right angles;

and since a right angle contains 90 degrees, all the inward angles of the figure, five in number, will contain $90 \times 6 = 540$ degrees, being 108 degrees for each angle; for $540 \div 5 = 108$. This result distinctly indicates the method of constructing the pentagon, for we have only to make an angle of 108 degrees at each extremity of the given line, to obtain the directions of the two adjacent sides; then, by setting off in each of these directions a distance equal to the given line, the other two sides of the figure will from thence be readily determined.

This method, however, admits of considerable modification for practical purposes, and under such modification it is more readily applied in any particular case; the mode of construction is as follows:—

Let AB (fig. 1.) be the given straight line, on which it is proposed to construct a regular pentagon. At the extremity A of the given line AB, make the angles BAC, BAD and BAE, respectively equal to 36, 72, and 108 degrees, a process that can be performed with one application of the semicircular protractor. And, in like manner, at the extremity B of the given straight line AB, make the angles ABE, ABD, and ABC, respectively equal to 36, 72, and 108 degrees; then will C, D, and E, the points in which the several lines are found to intersect each other, be the angles of the pentagon. Draw the straight lines CD and DE, and ABCDE is the regular pentagon sought.

It would extend the present paper to too great a length to give a demonstration of the several constructions; it must therefore suffice to detail the steps of the operation in each case, and leave the demonstrations, either for exercise to the readers of the journal, or to their candour in taking it for granted, that the principles on which the operations depend are true. In the present instance, however, the truth of the construction is self-evident; and it is so

easy by this method, and so well adapted to practice, that operatives of every class will find it greatly to their advantage to employ it.

Having thus exhibited a simple and practical method of describing the pentagon, we have now to shew the method of its conversion; first, into a trapezium; second, into a triangle; third, into a rectangle; fourth, into a square; and fifth, into a circle. The figure by which all these conversions are represented must necessarily be very complicated, and might have been separated into several subordinate parts with considerable advantage as regards distinctness; but wishing as much as possible to avoid a multiplicity of diagrams, the whole is condensed into one figure, as under.

Let ABCDE (fig. 2.) be the given regular pentagon, of which the sides are AB, BC, CD, DE, and EA respectively, and which it is required to convert successively into the several figures specified above.

Draw the diagonals AD and BD, dividing the given pentagon into the three isosceles triangles ADE, ADB, and BDC, of which ADE and BDC are equal and similar in every respect. Extend the side BC directly forward to N, making CN equal to CB or CD, the side of the pentagon, and draw DN; then is the triangle CDN equal to the triangle BDC, or ADE; and consequently the trapezium ABND is equal to the pentagon ABCDE; for the triangle CDN, which is added to the pentagon on the side CD, is equal to the triangle ADE, which is separated from it by the diagonal AD.

Produce CB and EA, the sides of the given pentagon, to meet each other in the point F, and draw DF; then is the triangle FDN equal to the pentagon ABCDE, for it is equal to the trapezium ABNP, and it has just been shewn that the trapezium and pentagon are equal, so also are the triangle and pentagon.

Bisect the diagonal BD perpendicularly in the point Z by the straight line CG, and from the point N let fall the perpendicular NO, meeting GC produced in O, and complete the rectangular parallelogram GHNO, which will also be equal to the given pentagon ABCDE; for it is obviously equal to the trapezium ABND, and it has been shewn that the pentagon and trapezium are equal.

On the point H as a centre, with HG as a radius, describe the circular quadrant G*mn*, meeting NH produced in *n*, and making H*n* equal to HG, so that N*n* is equal to the sum of the sides of the rectangular parallelogram GHNO extended in one line. Bisect N*n* in T, and on T as a centre, with N*n* as a diameter, describe the semi-circle *n*KN, meeting GH produced in K; then is HK a mean proportional between HG and HN, the sides of the rectangle GHNO. Consequently, the square, HKLM, described on HK, is equal to the given pentagon ABCDE, for it is equal to the rectangular parallelogram GHNO, and it has been shewn that the pentagon and rectangle are equal.

From the point H draw the straight line HP, making any convenient angle with HF, and set off HP proportional or equal to the number 7·1, or some multiple or submultiple of it, and make HQ equal to HK. Similarly, on HF set off HS proportional or equal to the number 2·26, or the same multiple or submultiple of it that HP is of 7·1, and join PS; then through the point Q, and parallel to PS, draw the straight line QR, meeting HF in the point R, and HR will be the diameter of a circle whose circumference is KH. Bisect KR in I, and on I as a centre with the radius IK or IR, describe the semi circle RWK intersecting H*n* in *c*; then is *c*H the radius of a circle, HQW, of equal area as the given pentagon, ABCDE; this is obvious, for by the principles of construction it is equal to the square HKLM, and it has already been shewn, that the pentagon and square are equal. So much then for the conversion. Now for the other operations.

And first, to add pentagons together retaining the form; that is, to constitute a given pentagon that shall be equal in area to two or more given pentagons; or which is the same thing, to convert two or more regular pentagons into a single one containing the same area.

Let it be supposed in the first place, that there are only two given pentagons, and let the straight lines, PQ and RS, fig. 3, denote their sides respectively, PQ being the side of the greater, and RS the side of the lesser. Upon the straight lines PQ and RS as the base and perpendicular, construct the right-angled triangle ABF, right-angled at B, and having AF for its hypothenuse; then, upon the sides AB and BF, which form the legs of the right-angled triangle ABF, constitute by the method shewn in fig. 1, the regular pentagons ABCDE and BFGHI; and in like manner, upon the hypothenuse AF, constitute the regular pentagon AFKLM; then shall this last be equal to the sum of the other two. This is obvious, for by the property of the right-angled triangle, the square of AF is equal to the sum of the squares of AB and BF; but the areas of similar polygons are as the squares of their like sides, therefore, the pentagon AFKLM is equal to both the pentagons ABCDE and BFGHI. If a third pentagon were to be added, it is only necessary to place it in such a manner, that one of its sides shall be at right-angles with a side of the large pentagon just found; then another pentagon similarly constituted upon the hypothenuse, will be the pentagon that is equal to the sum of those given; and so on in the same manner to any extent at pleasure.

In the second place, it is proposed to shew, in what manner one regular pentagon can be subtracted from another, the remainder still retaining the form of a regular pentagon; or, which is the same thing, to convert the difference between two given regular pentagons into a regular pentagon.

Let the straight lines PQ and RS fig. 4, denote the sides of the given pentagons, PQ being the side of the greater, and RS the side of the lesser. Upon AF, which is equal to PQ drawn in any convenient direction, constitute the regular pentagon AMLKF, which will be that from which the other given pentagon is to be taken. At the point F set off on FA and FK respectively, the parts F*b* and F*g*, each equal to RS, the side of the lesser given pentagon, or that which is to be subtracted, and complete the pentagon F*bihg*; then is the intermediate space AMLK*ghib* the difference sought, and that which has to be converted into a pentagon.

Bisect the side AF in O, and on O as a centre with AF as a diameter, describe the semi-circle ABF; then on the point F as a centre, with the distance F*b* as a radius, describe the circular arc *b*B, intersecting the semi-circle ABF in the point B, and draw AB, BF, and ABF is a right-angled triangle, the side AB being that of a pentagon, which is equal to the difference of the given ones, FB being the side of the lesser, or that which is subtracted.

Upon AB and BF construct the pentagons ABCDE and BFGHI, and the first of these will be the pentagon sought, or that which is equal to the difference between the other two, the second being the lesser of the given pentagons, and equal to F*bihg*. The truth of the construction is manifest from the property of the right-angled triangle, combined with that other most elegant and important property, *that the areas of similar polygons, are to one another, as the squares of their homologous sides.*

The multiplication of the pentagon, or the determination of a regular pentagon, that shall be equal in area to any proposed number of times a given pentagon, requires a process somewhat different, but it is nevertheless very easily performed, as follows, on the supposition that the given pentagon is to be multiplied by 3.

Let the straight line RS fig. 5, be the side of the given pentagon, for which one is to be found that will contain its area three times. Draw the straight line IM in any direction, and of any convenient length at pleasure. Assume any point E in the straight line IM, and make EA equal to RS. Upon EA construct the pentagon ABCDE which will be that whose side is given. Make EM equal to three times EA, and upon AM as a diameter and centre K, describe the semi-circle APM intersecting the perpendicular from E in the point P; then is EP the side of the pentagon required. Produce EA and ED the adjacent sides of the pentagon and make EI and EF each equal to EP. Complete the pentagon EFGHI, and it will contain ABCDE three times. This is manifest, for by the principles of construction and the property of the circle, the square of EF, which is equal to EP, is three times the square of EA, and the areas of similar polygons are proportional to the squares of the like sides.

The process of dividing a given pentagon into any proposed number of equal pentagons is very easy, and is effected in the following manner. Let the straight line VW, fig. 6, be the side of the proposed pentagon, which is to be converted into any number of equal pentagons, say three. Draw the straight line IM in any direction, and of any convenient length at pleasure, terminated at I but infinite towards M. From the point I set off towards M the part IE equal to VW the side of the given pentagon, and on IE describe the figure EFGHI, which is that proposed to be divided. At the point E, and in the direction EI, set off ER of any magnitude at pleasure, and make ES equal to three times ER. On RS as a diameter, and Q as a centre, describe the semi-circle RNS, intersecting the perpendicular EP in N, and draw NR, NS. Make EP equal to EF, the side of the given pentagon, and through P draw PA, PM respectively parallel to NR and NS, and meeting IM in the points at A and M; then is EA the side of the pentagon sought. Upon EA describe the pentagon ABCDE, and it will be equal to one-third of the given pentagon EFGHI, as is manifest from the mode of construction itself.

Note.—It may probably be somewhat recommendatory of this method of describing pentagons, to state, that all the figures in this paper have been constructed in this way, and it has been found to apply with almost the same facility and accuracy as the description of a circle with a pair of compasses; it is therefore confidently recommended to practical men, in consequence of its very easy application.

T.

THE MAGISTRATES AND THE OFFICIAL REFEREES.

Sir,—Allow me one word more on the subject of magistrates' decisions on the Metropolitan Buildings Act. You advise me, in your note at the foot of my last letter, that I had overlooked the 77th section of the Act. I had not, however, overlooked it, but had, on the contrary, looked it over very carefully, and have done so again, but I cannot bring my mind to see that by that or any other section of the Act, the magistrate is authorized to decide doubts or differences between parties as to the effect of, or the construction to be put upon, any of its provisions, rules, and regulations.

In such a case as Badger *versus* Dean, I conceive that the magistrates' duty is very clear; and it is simply this:—to ascertain whether the work has been done; and if so, the builder's reason for refusing to pay the fees demanded; and upon its being made known to him, that the builder offers a single fee only, whilst the surveyor claims a double fee,—then at once, seeing it to be a question as to the effect of Schedule M., to require of the surveyor to produce the award or certificate of the Official Referees, confirmatory of his claim. This course, I conceive, would be easier for the magistrate, fairer to the parties concerned, more in accordance with the law, and moreover, more beneficial to the public.—I am, Sir, &c.

London, Sept. 7. Συνιργος.

East Cranmore Church.—The ancient little church of East Cranmore (the door-case of which, still preserved, is supposed to be of Saxon workmanship), having become much dilapidated, was taken down in April, 1845, and an entirely new and enlarged structure, from a design by Mr. T. H. Wyatt, has been erected on the old site. On the 18th of August, the new building, dedicated like the former to St. James, was consecrated by the Lord Bishop of the diocese. *Felix Farley* says, "The church, which is of the early decorated character, with a tower over the porch, surmounted by a broach spire, is substantially built of Doulting freestone, both within and without, and is fitted with spacious open sittings of oak, with an open hammer-beam roof of the same material, supported on corbels of stone, richly carved. The space around the altar is paved with encaustic tiles. The communion-table and rails, reading-desk and pulpit, are of carved oak, with chairs of the Glastonbury pattern."

VIEW OF CREWE HALL, CHESHIRE.



VIEW OF CREWE HALL, CHESHIRE.

Crewe Hall was erected by Sir Randulph Crewe, an eminent lawyer, in the reigns of Elizabeth and James the First. He was appointed Lord Chief Justice of the Court of King's Bench by the latter sovereign, and is celebrated for his uprightness—having been dismissed his office after only two years' possession, for not concurring in the proceedings of King Charles the First in levying money without the authority of Parliament.

The house was commenced in 1615, and was finished in 1636; the name of the architect is unknown. The plan of the building is a perfect square, each side being 97 feet in length; three sides are broken by the projection of the porch and bow windows. The materials used in its construction are red brick, with greyish vitrified bricks disposed in diamonds throughout; the porch, the entablature, windows, quoins, and balustrades are of stone.

Crewe Hall is undoubtedly one of the finest remaining examples of the English branch of the Italian cinque-cento architecture. The interior presents an extraordinary variety of decorated ceilings, enriched plaster-work, and carved wainscoting. The view shews the south and west sides; in the centre of the latter, on the ground floor, is seen the window of the chapel. It may here be observed, that the chapel attached to the domestic buildings of the reigns of Elizabeth and James the First, were generally in the Gothic style (and this, although the buildings to which they were attached might be Italianized), of the low character of Gothic which then prevailed, but unmixed. The builders of that period, though they thought the "new manner" of building most adapted to domestic architecture, seem to have considered the Gothic as exclusively ecclesiastical.

Crewe Hall was garrisoned by the Parliamentary troops in 1643: the Royalists, under Lord Byron, laid siege to it the same year, on the 27th of December, but were beaten off, with the loss of sixty killed and many wounded. The garrison, wanting victuals and ammunition, yielded it up the next day. It was retaken by the Nantwich troops the year following.

The building has been lately subjected to a very extensive repair and restoration, under the superintendence of Mr. Edward Blore.

Fig. 1. Sketch of the upper entablature and balustrade.
Fig. 2. The lower entablature.
Fig. 3. The plinth mouldings.
Fig. 4. Part of ornamented gable.

C. J. Richardson.

WESTMINSTER BRIDGE.

Workmen continue busily engaged in the removal of the upper part of the structure, in those parts where the arches have failed, but whether or not any really competent person is directing the operations, we cannot say. Our impression from a recent examination is certainly in the negative; and we shall not be surprised, if the doctoring be continued much longer, to hear the bridge declared unsafe for traffic even while the new bridge is building.

The interesting pamphlet on the subject, by Sir Howard Douglas, M.P., which has reached a second edition,* shews that since 1838, when the repairs were first commenced, no less than one hundred and thirty-five thousand five hundred pounds have been expended in vain attempts to prevent the damage from extending, or more than a new bridge would have cost.

"There is a point," says the writer, "beyond which the settlement and declension of piers cannot proceed, without ruin to the adjoining arches; and those which, though distorted and unbalanced, still stand upon piers that have sunk considerably, obliquely, and unequally, and which continue, up to this time, to sink, cannot be far from that point. Some of the arches have obviously lost the balanced form; and had it not been for a peculiarity in the construction of this bridge, the masonry above the voussoirs being made to radiate in the direction of the arch stones (which, however, betrays some want of confidence on the part of the architect in the stability of the bridge) those arches must have fallen."

It appears to be generally admitted, that the bridge must come down: the best place for its successor is not so generally agreed upon. Sir Howard Douglas, in the pamphlet alluded to, points out Lambeth-stairs as the proper place for it; but as the honourable baronet's views are somewhat extensive and deserving of consideration, we give them at length, though we cannot agree wholly with them. There must be very strong reasons, indeed, to justify the removal of the bridge far from its present position.

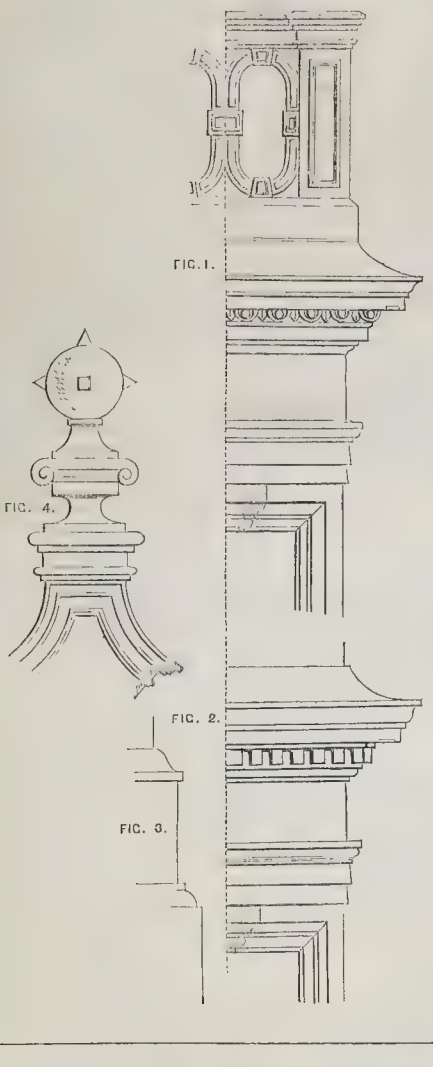
"A new bridge," says Sir Howard, "cannot be constructed on the present site without previously removing the old one; and this would involve an expense of at least 40,000*l.* in erecting a temporary bridge, to avoid stopping altogether the communication between the Borough and Westminster whilst the new work is proceeding. There is no room for a new bridge between the Parliamentary palace and the present bridge, for these are already in contact; and the construction of a bridge any where below the present site, say from Maudesley's premises to Manchester-buildings, would occasion a very great outlay in providing new approaches. But if, leaving Westminster-bridge, in its present state, as a temporary communication, a new bridge were constructed from Lambeth stairs to the nearest part of the opposite bank, no expense for new approaches would be incurred, a direct communication with Westminster would be established, and a magnificent entrance into the capital formed at an interesting and venerable part. The river face of the new Parliamentary palace would be seen to great advantage; and, no longer disfigured and obscured on the other flank, when the distasteful structure which now defaces it shall have been removed. The edifice, standing gracefully and boldly out, would form a beautiful object upon the concave sinuosity of the river, extending thence to Blackfriars-bridge and Somerset-house, which, for this purpose, should be reclaimed from its present unwholesome and disgusting state, by the proposed embankment and terrace, which it were easy to shew is an interference with the state of the river much required at that part,—and thus that pestilential locality would be transformed altogether into a beautiful and highly embellished portion of the metropolis.

From the Westminster end of this new Lambeth bridge, a street should be opened to lead directly to Shaftesbury-terrace, Eaton and Belgrave squares, or to communicate with some part of that which is now being executed under the provisions of a late act, &c.; and another formed by the river bank, to Victoria Tower and Whitehall; passing between Westminster Abbey and the parliamentary palace.

Entering the court end of the town by this magnificent portal,—St. Margaret's Church removed, in conformity with the unanimous

* "Metropolitan Bridges and Westminster Improvements." Boone, New Bond-street, 1846.

DETAILS—CREWE HALL.



recommendation of a select committee, from the immediate vicinity of a splendid and ample place of worship, which requires not the aid of an adjoining church, and the relics which lie around that incongruous building exhumed —the western face of the quadrangle, by which, according to the present design, it is intended to inclose Westminster Hall, set back, to give greater space between it and Henry the Seventh's chapel;—Parliament-street widened, by removing the block of buildings between it and King-street,—Downing-street finished,—and the Board of Trade completed, a majestic communication would be formed, between the regal and parliamentary palaces; and if Whitehall-street may not, or cannot be straightened throughout, those buildings at least should be thrown back, which, on approaching Trafalgar-square, obtrude, more immediately on the left, to destroy its symmetry."

The recommendation of a select committee to remove St. Margaret's church we protest against strenuously: restore it,—improve it,—make it a fitting adjunct to the neighbouring buildings, but don't think of destroying it.

THE WOODS AND FORESTS IN CHELSEA.

We inserted a letter, a fortnight since, respecting the manner in which "White Stiles," in the King's-road, had been arranged by the office of Woods, and expressed astonishment at the beggarly appearance presented. It did not occur to us at the moment that the building sites around the open space belonged to the crown, and had been leased to various builders by the office, or our astonishment would have been much increased. No private individual owning such a plot of land, and anxious to ensure the erection of good buildings upon it, would venture now-a-days to leave the centre space in so un-artistlike, not to say disreputable a condition, as the government authorities are about to leave White Stiles. It is seriously to be hoped, for the credit of the office, and the respectability of the neighbourhood, that some improvement of it will be immediately attempted.

Our correspondent on that occasion has since sent us the following remark:—

"Your commentary on my note, respecting White Stiles, Chelsea, is just, but it needs a word of explanation. The Chelsea Commissioners are known to have received, in the matter of the Hospital road, and the embankment road, great favour and consideration from the office of Woods, &c. It is understood that there are other considerable improvements dependent on the favourable consideration of the same board. Such being the case, it might be questionable policy to move at present in other matters; but there is another interest that you represent, viz. Public taste; which is outraged by such anomalous proceedings. W. D.

Chelsea, 3rd Feb. 1846.

THOMAS GRAY, THE AUTHOR OF THE RAILWAY SYSTEM.

The claims of Thomas Gray on the British public, as the man who first proposed, urged in all ways, and assisted in establishing "a general iron railway or land steam conveyance," have been alluded to by us several times. William Howitt, in the "People's Journal*" for September, has an eloquent "word for Thomas Gray." The introduction gives a picture of many earnest men filled with one great idea (or valuable or worthless), whom we, and all, have at different times met with; called bores by their short sighted fellows, and doomed in nine cases out of ten to disappointment and neglect. He says:—

"About twenty years ago Mr. Thomas Gray, then, like myself, residing in Nottingham, used to be noted for what was considered a whimsical crotchet—namely, that a general system of iron-railways might be and ought to be laid down, on which trains of carriages drawn by locomotive steam-engines should run, and thus supersede the use of coaches, and also, in a great measure, canal-boats and stage-waggons for goods. This scheme, it was said, had for years completely taken possession of and absorbed Mr. Gray's whole mind; that it was the one great and incessant subject of his thoughts and conversation; that, begin where you would, on whatever subject—the weather, the news, the political movement or event of the day—it would not be many minutes before, with Thomas Gray, you would be enveloped with steam, and listening to a harangue on the practicability and immense advantages to the nation, and to every man in it, of 'A General Iron Railway.' Of course, Thomas Gray was looked on as little better than a madman, a crotchetty fellow, a dreamer, and builder of Spanish castles—one of the race of discoverers of the elixir of life, the philosophers' stone, and the perpetual motion. With one consent he was voted an intolerable bore. But to Thomas Gray it mattered not what they voted him, what they thought or said of him; a general iron railway for the kingdom was his only and enthusiastic theme. Anon, Thomas Gray and myself came in contact, and true enough he soon broke out ten thousand strong on this railway topic. Visions of railways running all over the kingdom, conveying thousands of people and hundreds of thousands of tons of goods at a good round trot; coaches and coachmen annihilated; canals grown over with duck-weed, or turned into cow-pastures; enormous fortunes made by good speculations; and people coming to dine with you from the Land's End, and going on to tea at John O'Groat's, were thrown out and talked of as sober realities that were to be."

Little thought the world that such things would soon come to pass.

"Thomas Gray saw all this before it existed; planned it, and recommended it by every means in his power. Repulsed by the great and learned, he was not put down; ridiculed, he was not abashed; neglected, he was not daunted; opposed, he still persevered. He omitted no scheme, he spared no exertion to convince the British nation that a new social revolution was at hand; that a new power was about to spring into existence; that a mine of wealth inconceivable, and a field of mechanic glory unrivalled, was lying at its very feet, and soliciting its acceptance. He had at this very time written a book detailing his views and his great plan, which was in its fifth edition, and about to enter its sixth."

Nevertheless, when the idea was admitted, when the truth became apparent, and the vision was a reality, Thomas Gray remained unno-

* A new illustrated periodical for all classes, published by Bennett, 69, Fleet-street.

ticed; and when he solicited employment on the Liverpool and Manchester line, *was refused*.

A pamphlet by Mr. Thomas Wilson first drew public attention to Gray's claim, who was then in a state of positive distress, and shewed how much was owing to him. Gray's book gives a map of direct lines, shews slides and turn-tables for turning carriages, and moving them from one line to another, and cogged wheels with notched rails, which have been recently exhibited as an improvement.

"These very turn-tables," says Mr. Howitt, "were secured by patent by some of the men who live on other people's ideas; and there was actually a law-suit between two parties for the priority of the invention—Mr. Gray having invented them, and published his plate of them long before." In short, his book, when we remember the time at which it was written, must be considered a very remarkable production, notwithstanding that the *Edinburgh Review*, when noticing it, treated the scheme as a grand farce, and said "the author was a madman, and ought to be put into Bedlam." We hope the public will now put him into a comfortable house instead.

RAILWAY JOTTINGS.

Amongst the lately established law precedents affecting the liabilities of parties concerned in railway proceedings, are the following:—An engineer or other officer of a company may, by his conduct, render himself personally liable to creditors of the promoters of a scheme, though the mere circumstance of his holding office in the company cannot render him responsible. On the other hand, as we have already instanced in one case lately reported, no engineer or other officer has power to bind a company by virtue of his office alone, though such a power may be expressly conferred on him. A director or promoter of a scheme may recover a proportionate contribution from each of the whole number of his associates for what he may have been called upon to pay; solvent directors not being liable at law, however, for insolvent; though, in equity, no regard is had to the original number of promoters, but only to the solvent members. All the promoters must sue and be sued for any breach of contract entered into by them with engineers, allottees, or others, so that it will generally be difficult to maintain proceedings on such contracts in a scheme which has no charter or Act of Parliament. Hence indiscretion in entering into such contracts by the general name of office, such as "Committee," "Directors," &c. Contracts in such cases ought to be made with a certain small number of persons as trustees. Other well-established principles affecting allottees, scripholders, &c., will have been already inferred from our occasional reports of cases.——In the *Rapport* to the French Chamber of Deputies on the *Projet de Loi* on the Northern line, is the following comparison of passenger fares in 1844, in centimes per kilometre:—

	1st Class.	2nd Class.	3rd Class.
England	19	12	7½
France	10¼	7¾	5 7-10
Germany	9	6½	4
Belgium	7½	5 4-5	3 7-10

A new railway signal, patented by M. J. H. Dutton, was tried on the Eastern Counties Railway on Tuesday week. It is a simple enough contrivance of India-rubber and copper tubes running along the train of carriages, with mouth-pieces and loud whistles for the guards, drivers, and breaksmen to communicate with each other for the stopping of the engine and the simultaneous application of the breaks. The result is said to have been quite satisfactory. The expense for each carriage does not exceed 30s. The invention, as the *Mining Journal* remarks, has another claimant, Mr. John Goldring, of Chichester, who published a description of it in *The Spectator* of the 20th September, 1845, and transmitted a copy to the Board of Trade. Mr. Dutton, himself, appears only to claim some improvement in the insertion of the whistle relative to the mouth-piece.——The South Eastern, according to the *Mining Journal*, have determined that the extensive works for the widening of the Greenwich Railway, shall be proceeded with. The works comprise another viaduct, built on brick arches, the entire length of the Greenwich line, so as to provide for three additional lines of rails—one of which is for the atmospheric railway, and the other two for the North Kent line. Half the work, we are informed, is under contract, and the remainder will be let in the course of three weeks or a month. It is to be executed under the direction of Mr. P. W. Barlow, the company's acting engineer. The joint station at London-bridge is also to undergo important improvements, and to be enlarged to nearly twice its present dimensions. The contracts for widening the Greenwich line include the works at the station.——The Gravesend and Rochester line also, under the direction of the South-Eastern, is about to be converted into a double line, for which purpose works of some magnitude will be required, more particularly within the tunnel, where the canal must be filled up. Mr. Stephenson, the engineer of the South-Eastern Company, has surveyed the line, and it is proposed to close it about the first week in November, in order to accomplish the work. Arrangements have been entered into with Messrs. Grissell and Peto for the purpose, and a great number of hands are to be employed, so as to insure its completion within a given time. Under this arrangement it is calculated that the traffic will not experience an interruption of more than six weeks. In connection with these works it is also intended to proceed immediately with the line from Woolwich to Gravesend; and those to Maidstone, Chilham, &c., will next engage the attention of the company.——Amongst the railway bills which have passed the ordeal of committee is one which, for tunnelling, as observed by a contemporary, one would think had been planned by Pluto himself. It is the Manchester, Buxton, Matlock, and Midland Junction Railway. The length of the line is forty-two and a half miles, or, with its two branches, forty-five. It has fifteen tunnels, one of which is two and a half miles long, and their aggregate length six and a half miles, so that passengers will perform one-seventh part of their journey under ground. The estimated cost is, 1,650,000*l*., or 36,000*l*. per mile.——The total amount of the contracts for the high level bridge across the Tyne and viaducts is 304,500*l*. Messrs. Hawks, Crawshay, and Co.'s contract for the iron-work amounts to 112,000*l*. of this sum. Messrs. Losh, Wilson, and Bell, and Messrs. Abbot and Co., it is understood, will take part with the contractors in the execution of their work.——The Glasgow, Kilmarnock, and Ardrossan Railway Company have recently purchased the Ardrossan Harbour and Railway, from the Earl of Eglintoun and other proprietors, for 208,000*l*.——The *Commerce* states, that the unlucky viaduct of Barentin, on the Rouen and Havre Railroad, has nearly been levelled with the ground in consequence of an adjoining house having taken fire, the flames having communicated to the beams which support the arches of the viaduct.

GLASGOW SCHOOL OF DESIGN.

The annual distribution of prizes, awarded at the end of last session, when flattering reference was made to the exertions of the master, Mr. Macmanus, took place on the 17th, Mr. Leadbetter in the chair. The names of the successful pupils appeared in our advertising columns last week. Mr. Leadbetter, in the course of his address, shewed, as evidence of the importance of design in manufactures, with reference to some articles in metal, particularly stoves and fenders, that while, in the year from September, 1839, to September, 1840, the number of such articles registered was 392, in the following year they had increased to 813; in 1842 to 1306; in 1843 to 9835; by September, 1845, to 21,953; and by January, 1846, to 33,188, whilst a sum had been paid to Government in fees on the above mentioned class of registered goods of 99,564*l*.

Mr. Sheriff Bell addressed the meeting at considerable length.

The *Glasgow Citizen*, in a notice of the proceedings, has the following remarks:—

"What external evidence can the most civilized people give of their culture, or of their advancement, other than in the proofs which are presented to the eye of their taste in art? A national gallery of pictures is hardly a proof, as it is only available to a limited number in an age; for all the individuals composing a nation have not like facilities for seeing them, and educating their eyes by the examination of them. Time and distance are bars in the way, but the fact that such a gallery does exist, proves that the national taste is not totally careless of art; for the Government, which lays out money for such pictures, is supposed to present, to a certain extent, the concentrated reflex of the national mind. The architectural purity of the public buildings of a city, again, goes farther to prove the national taste, but is not all which is requisite to give that nation a claim to high culture. But when a whole people, in their clothing, in their houses, in the arrangement of their small plots of garden-ground, in the character of the decorations they have on their furniture, in the frames of their mirrors, in the paper on the walls of their houses, &c.; when a whole people show in these a nice appreciation of the elegant in form, and the harmonious in colouring, then we are forced to acknowledge that that people have arrived at a highly cultivated position in the scale of nations. It is such a position that the British Government means to put the nation in by the establishment of schools of design, and to such a position she will inevitably and necessarily arrive, or she will not grasp the means which have so freely been placed within her reach."

MEMS. FROM THE PROVINCES.

The differences of opinion about the mode of procedure to be adopted in the restoration of St. Lawrence Church, Reading, are said to be in a fair way of settlement, the question having been referred to the bishop, who recommends a complete restoration.——A marble monument to Miss Linwood, the celebrated needlewoman, has been executed by Mr. S. Hall, and placed in St. Margaret's church, Leicester. The inscription commemorates her needle-works as "Monuments of Art and Perseverance."——The Roman station, Burgh Castle, at the confluence of the Yare and the Waveney, near Yarmouth, supposed to be the ancient Garianonum, and constituting one of the most perfect specimens of a Roman fortress now remaining in this country, was sold on Wednesday week to a Mr. Butcher, of Yarmouth, together with 27 acres of land surrounding its walls, for 1,500*l*. We learn that it has been purchased for Sir John P. Boileau, Bart., the President of the Norfolk and Norwich Archæological Society. The manor-house and farm have also passed into the same hands, and it may be hoped that the new proprietor of so interesting a relic, which, in truth, belongs to the public at large more than to any mere private individual into whose hands it may happen to pass, will regard it as an ornament to his property, and as such take a pride in its preservation.——The whole scheme for the formation of new markets at Hull has fallen to the ground, in consequence of the adverse votes of the majority of the town council.——A national school is to be erected at Fleetwood, as a testimonial to Sir Hesketh Fleetwood, the "Father of the Town," who converted it from a rabbit-warren to a thriving port, the growing rival of Liverpool itself. The first stone was laid a few days ago. Mr. R. B. Rampling is the architect.——The Health Committee at Liverpool have been instructed to consider the requisite number, and the most suitable sites for the erection, of additional fresh-water baths and wash-houses there. In the establishment at Frederick-street, while the number of baths for the quarter ending August 27th, 1845, was 6,116; in the corresponding period of 1846, it was 8,481. The receipts for the baths and wash-houses were, for the same period, in 1845, 131*l*. 4*s*., and in 1846, 145*l*. 2*s*. 5*d*., so that the establishments are in a decidedly thriving state.——The purchasers of Ford Abbey are said to be the leading bankers of Bristol, who had the estate knocked down to them at 50,160 guineas.——The Dowlais Iron Works employ about 6,000 people, amongst whom are 1,000 miners, and 700 colliers,—the former earning from 21*s*. to 25*s*., the latter 18*s*. to 20*s*. a week. At the works there are eighteen furnaces in blast.——The altar monument of the 15th century to Sir Thomas Vaughan, of Hergest, and his lady, Elena, in Kington church, has been of late extensively repaired and restored by Mr. Jennings, the sculptor, of

Hereford. —— The recommendation of his Royal Highness, Prince Albert, as president of the Society of Arts, to turn to account the fine green Irish marble which has hitherto lain so entirely fallow, has been so far acted on, that samples have been sent over for the official consideration of the society, who are desirous of applying it to various economical as well as ornamental purposes.

CUNDY'S PATENT VENTILATING STOVE.

Close stoves, unless other provision be made for ventilation in the rooms heated by them, must necessarily produce very injurious effects. With an open fire-place there is always some ventilation, however partial and insufficient; but then we have cold drafts, and much waste of fuel. What we want is, an arrangement by which the vitiated air shall be removed, without waste of heat, and a proportional quantity of fresh air admitted at a higher temperature than the room is required to be of, so as to prevent cold currents.

The stove illustrated by the accompanying sectional diagrams appears to have considerable advantages in these respects. Its construction is very simple.

a.a.a.a. Show a fresh air channel, for admission of the external air.

b.b.b.b. Hot air chambers (formed with artificial stone, *d.d.d.d.*) through which the air passes into the room, and in its passage is heated without being injured.

c.c.c. The direction the smoke and vitiated air takes after it has passed through the fire and heated the artificial stone of the hot air chambers.

e. Blow pipe to preserve perfect combustion, placed immediately underneath the grating of fire-place.

A. and D. are regulators.

"The arrows shew the way the external fresh air is admitted, next passing through the hot-air chambers into the room, and lastly taken out of the room through the fire and up the chimney."

We have had no satisfactory opportunity, with such weather as we now enjoy, of examining these stoves in active operation; but a consideration of the principles on which they are constructed, and the encomiums passed on them by the minister of St. Thomas's Church, Charter-house, where they have been used for some time, lead us to think that we are properly carrying out one of our chief objects by rendering them known to our readers.

St. Thomas's church contains about 200,000 cubic feet of air; it has 1,000 feet superficial of glass; the horizontal area is about 5,200 feet superficial; and this building is warmed by two of the stoves, 27 inches square.

A correspondent writing to us on the subject, says: "If we calculate that the two stoves will supply fresh air, and take air out of the church at the moderate rate of a gentle pleasant wind, then 1,200 cubic feet of air will be introduced and removed per minute. The average rate is only about a foot in five minutes, at which the whole body of air would travel if, by the ceiling falling, it was forced out at two openings, each a foot square, and the air passing through each opening at the rate of 600 cubic feet per minute.

This is so very slow, that the motion of air travelling at that rate could not be perceptible; while the fact is, that a sensible motion can be given to the air in the church supplied with air and ventilated by these two stoves.

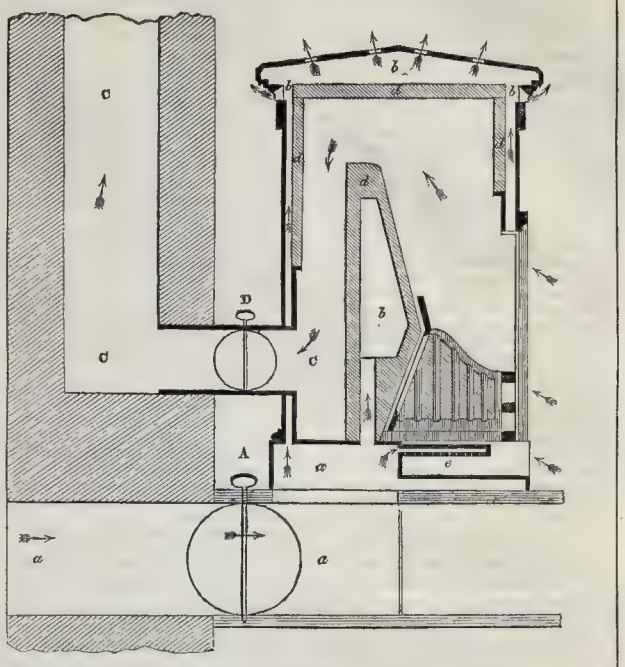
The quick motion which can be imparted to the air in the immediate neighbourhood of the stoves, by the ingress and egress of the air, and by the heat communicated to the air by radiation from the open fire-place, gives a rotary motion to the whole body of the air in the church, and which may be compared to the whirl given to water in a vessel into which water is running in at one place, and running out at another place at the same time. The cooling of the air by the walls and windows also assists the circulation; the air, as soon as it is cooled, descending.

All these motions combined soon mix the warmer and cooler portions of the air, and produce a temperature nearly the same.

While the most gentle and refreshing motion is perceptible, there is nothing like draft, and no sensation of cold air.

The ventilation is essentially downwards.

PATENT VENTILATING STOVE.



The hot air, at first leaving the stoves, rises rapidly in a column immediately to, and then spreading over, the whole space under the ceiling, while the air supplied to the fires is drawn from strata near the floor. The process of heated air ascending to the ceiling being continued, the warm air is brought down to the floor by the cooler air having been withdrawn by the continued operation of the fires.

In raising the temperature of the air twenty degrees, 8,000 cubic feet of air would be expelled by expansion from this church.

Circulation of air may be produced by a difference of temperature. But to produce ventilation, to a difference in temperature, must be added a constant supply of fresh air, at a higher temperature than the room is required.

From a church or building of the magnitude of the one now referred to, when properly warmed and ventilated, we ought to be able to obtain data by which to determine the heat and air requisite to supply smaller buildings, dwelling-houses, and rooms in dwelling-houses, with the required warmth and ventilation, and to vary these according to season and circumstances."

ELECTRIC TELEGRAPH AND CLOCK.

Experiments with a portion of the submarine telegraph at Portsmouth have clearly proved the possibility of annihilating distance in the transmission of intelligence between countries or lands divided by the sea.——Dr. Murray, of Hull, a correspondent of the *Mining Journal*, in noticing the damage done by the lightning to the telegraph just alluded to (which, however, was speedily remedied), recommends the application of a protective copper wire to every post through which the telegraphic wires are threaded along the line. Such wires running from about two or three inches above the post to a depth of eighteen inches below the surface of the earth would act, he observes, on the principle of the paragreles; and he thinks that had paragreles been attached to the various hot-houses, conservatories, &c., about London, which were devastated in the late storm, the destruction of glass would have been inconsiderable, and perhaps entirely averted. But, admitting that *the formation* of hail is an electrical phenomenon, we confess we cannot precisely see how such "miniature lightning rods" even though twenty feet long, could have either prevented the formation of the hail, or have protected the glass from the percussive effects of the hail *already formed*.—In the preceding week's impression of the same journal, Dr. Murray gives a very interesting account of the electric telegraph and electric clock of Mr. Bain, of Edinburgh. The simplicity of the first, its chief recommendation, we ourselves have already remarked: Dr. Murray thinks it the *ne plus ultra* of all that is desirable. The electric clock, however, "is the great source of attraction." Nothing, he says, can be more satisfactory or complete. "Allowing for tear and wear of materials from friction, and the oxidating influence of the atmosphere, the *perpetuum mobile* is here certainly realized. As long as the electricity of the earth continues—in other words, as long as the laws of nature last—so long will Mr. Bain's clock continue its oscillations, and register the transit of time;" and "it requires no prophet to foretel its entire ultimate adoption for public clocks. How singular and interesting the reflection," adds the doctor, "that by means of wires connecting the various public clocks of the metropolis with the main one, the pulse of the same *duplicate second* (for a double oscillation is registered) shall be *simultaneously* announced, however distant, or the index in the various rooms of a house beat in perfect unison with the parent one—verily, we live in an age of wonders! This wonderful power is entirely derived from the electricity of the earth—the pendulum conducts, and is the treasury of that power, and two simple wheels and their attachments, with the dead escapement, complete the magic machine—mimic of the movements of the *mechanique celeste!* By an ingenious provision, Mr. Bain's electric clock, at the manufactory, extinguishes the gas light, which illuminates its dial, at half-past twelve precisely."

ELECTROTYPED CASTS FROM DAGUERREOTYPED PICTURES.

We have now before us some beautiful *casts* in copper from daguerreotypes, and impressions from these casts, produced by Dr. Paterson, of Glasgow, by means of the electrotype. Smooth as the surface of a daguerreotype would seem to be, a cast taken from it in the manner arranged by Dr. Paterson, serves as a mould, from which almost any number of impressions may be taken. Dr. Paterson says in a letter to a friend, "There is no limit to the number of impressions that may be taken, the last of a thousand being as perfect as the first, and by taking a number of these moulds, numerous casts can be rapidly produced as bold and clear as the original type. There is very little difference in the look of the mould and of the cast, but in the cast the lights of the picture being higher, like those of a wood-cut, they catch the rays of light, and strike the eye with more force and clearness.

As to the uses of these casts, independent of their great beauty, they will put into the hands of artists the finest studies from the living figure, permanently fixing those almost momentary actions which the quickest pencil could not trace. They are well fitted also to hand to posterity, with faithful reality, the all but living pictures of eminent men; and they will, no doubt, be employed to preserve and multiply copies from many fine drawings, before time has destroyed their beauty."

The most highly burnished parts of the casts present the deepest shade, and the brightest lights are the deepest cut, so that they probably will not serve to print from.

MEASUREMENT OF AREAS.

A QUESTION FOR SOLUTION.

Sir,—The following question, arising out of the circumstances of an actual survey, being somewhat of a novel and practical nature, it may prove interesting to many of your readers, as it is not improbable that such exchanges may very frequently be required. By giving it a place in your paper you will very much oblige yours, &c., Urun Stuart.

A gentleman has three separate plots of building ground, numbered 1, 2, and 3, which he wishes to exchange for a single plot in the form of a square, as being more convenient for his intended purpose.

No. 1 is in the form of a triangle, of which the base is 400 yards, the vertical angle 61 degrees, and the angle at the middle of the perpendicular subtended by the base a right-angle. No. 2 is also in the form of a triangle, of which the perpendicular from the vertical angle upon the base is 360 yards; the difference of the segments of the base made by the perpendicular 246 yards, and the difference of the other two sides of the triangle 120 yards. No. 3 is in the form of a quadrilateral or four-sided figure, capable of being inscribed in a circle, and of which three sides are 221, 140, and 170 yards respectively, the fourth side being the diameter of the circumscribing circle.

Now, for these three separate plots he has been offered a square of 332 yards in the side; but as the land is of equal value, quantity for quantity, he wishes to know whether he will gain or lose by the exchange, and how much; the comparison to be made both geometrically and numerically.

Lime Burnt with Wood.—Some time ago, we announced that a series of successful experiments had been made at Lowther, with respect to obtaining lime by burning the stone with thick wood, instead of coal or coke; and we have now to add, that a few days ago another attempt was made with complete success. The stones (many of them of large size) were deposited in the kiln by Messrs. Parker and Jenkinson, under the superintendence of Mr. Mawson, architect, and the lime has turned out of first-rate quality. One of the stones thus converted into lime measured in length thirty inches, breadth eighteen inches, and depth fourteen inches. It required thirty-six gallons of water to slake it, and when completely pulverized, filled nine Winchester bushels.—*Carlisle Patriot.*

New Books.

Remarks on Architectural Character, by the Rev. J. L. Pettit, M.A. Oxford: J. H. Parker. Longman, London. 1846.

Remarks on the Principles of Gothic Architecture, as applied to ordinary Parish Churches, by the same. Rivington.

The author of these works is one of those zealous and enthusiastic amateurs of Gothic architecture, who have been produced in the universities during the last few years, and is already known by a valuable book on the subject.

The first of the two works is a handsome folio volume containing an essay of eleven pages, read before the Lichfield Architectural Society, and chiefly remarkable for the number of the illustrations (46), and the novel manner in which they are executed.

They consist of a regular series of examples, from the Saxon period to our own day, in the shape of spirited but slight pen and ink sketches, transferred to stone, quite guiltless of detail, but nevertheless sufficiently indicative to those who understand architecture. The intention is to give simply the outline and general effect of the different specimens, with the view of shewing that each style has a character of its own.

From the second work, a pamphlet, we make one or two extracts.

Mr. Pettit is less wedded to symbolism than some of his contemporaries in both Universities. "That the architecture of a nation," he says, "should take a decided tone from its historical reminiscences, or religious views, is so natural, that the conventional propriety on the observance of which depends its peculiar distinctions and characteristics, seems almost to take its place upon a level with natural propriety. Yet, influential as it is, it must, in the foundation, and even in the development of an art, occupy a subordinate position. No great work can be based on conventionality; and therefore I am unwilling to admit that symbolism is in any way to be considered as the basis and groundwork of our architecture, however materially it may have influenced it during its progress. Those great and sacred truths which are the objects of symbolism, while their contemplation cannot fail to give a tone to the productions of art, are not calculated, as they were never intended, to take the place of its natural principles; and to set them in this position is, in my opinion, to misapply them utterly, both to their own disparagement, and to the prejudice of the art itself."

The conclusion of the essay conveys a caution which well deserves consideration. "My object has been," he remarks, "not to lay down new principles, or to shake those already established, but simply to throw out suggestions which may enable us to ground our judgment upon extended, rather than limited views. The pleasure we receive from the contemplation of works of art will thus be immeasurably increased, while our correctness of discrimination will be in no way diminished. By narrowing our views, we run the risk of exchanging a natural for a conventional taste; we shall be led to regret that we have no longer that tendency to unqualified and unquestioning admiration which we possessed in our childhood, when we see the noblest works disfigured, to our eye, by some fancied disagreement with notions which have been studiously inculcated; we shall sacrifice our sense of the majesty of such buildings as York and Gloucester, to the idea that they are defective, from the want of high pitched roofs and spires. By framing our ideas of fitness according to one arbitrary standard, we shall lose the perception of that beautiful variety which pervades the whole range of Church architecture; we shall learn to criticise fastidiously, where a correcter taste and a more just impulse prompt us to admire; we shall become insensible to the solemnity of some of our grandest ecclesiastical structures, when we ought to be able to recognise, even in the simple village church, the development of an art, grounded on the firmest principles, devoted to the highest purposes, and taking a tone from the deepest and purest feelings of which the mind is capable."

The Quadrant, Piccadilly.—The inhabitants have petitioned for leave to remove, at their own expense, the colonnade in the Quadrant.

Correspondence.

SCHOOL OF DESIGN.

Mr. Editor,—There having been so much said respecting "The School of Design," I shall esteem it a favour if you will insert this letter in your valuable journal; as, although my friends are acquainted with the fact that it was projected by me, I wish the public and them to know that I have not had any thing to do with carrying it out. They have fallen into the error of making it a school of drawing instead of "design," and allowing the pupils to imbibe the notion, that the world will give them credit for greater attainments than they have actually arrived at, as at the Society of Arts, as I remarked in my evidence, and which caused them to make the request that I should draw up a plan, as you or any of your readers will see by consulting the minutes of evidence on "Arts and Manufactures."

My object was "a School of Design," where any day, at a few hours' notice, the manufacturer of any class, becoming a subscriber, might have any number of designs for an article, according to the number of the designers I had trained in the school for the purpose.

I subscribe my name, and remain, Mr. Editor, yours, &c.

Sept. 7th. Robert T. Stothard.

DISTRICT SURVEYORS' FEES.

Sir,—I have lately been repairing the roofs of eight fourth-rate houses at Balham Hill, and the district surveyor claims 10s. per house as his fee thereon.

No brickwork has been altered or repaired, but a portion of each roof was stripped for the purpose of repairs to gutters, at an expense of 12s. per house.

As a 10s. fee in a 12s. outlay appears most exorbitant, I shall feel obliged by your insertion of this letter, and a statement of your opinion as to the justice of the charge.

I am, Sir, &c.,

Devonshire Cottage, W. Woods.
Wandsworth-road, 8th Sept. 1846.

*** If the whole case be stated here, the district surveyor's charge is illegal.

Miscellanea.

Egyptian Architecture.—We reached Thebes, or rather Luxor, which is opposite to it on the eastern bank of the Nile, in the night, and as before going to bed the wind had sunk to a very gentle breeze, we gave orders to anchor there. Somehow or other, notwithstanding our determination not to make an unnecessary halt any where short of our ultimate destination, we could not reconcile ourselves to the idea of passing by Thebes in the dark—our resolution, which had valiantly resisted the Pyramids, staring us in the face, as it were, broke down in anticipation before the fallen majesty of those stupendous remains, and we even agreed that we would indulge ourselves with a partial peep at them, and so we retired to rest to dream of obelisks and sphinxes, and awoke to behold the sun rising above the colossal pillars of the Temple of Luxor, and tinging with rosy light the summit of the lovely obelisk of pale red granite, whose sister has been transported from this sublime solitude to adorn the Place de la Concorde at Paris. A fragment of fourteen gigantic columns faces the river; this was my first view of the architecture of ancient Egypt, and—shall I confess the truth to you?—while lost in astonishment at the might and massiveness of what I beheld, I could not detect in the emotions they excited any of that delighted admiration which has filled me with enthusiasm at the sight of monuments far less imposing. 'This is *stupendous*, indeed,' said I to myself, 'but is it *beautiful?*' and candour answered No!—*Pilgrimage to the Temples of Egypt, by Mrs. Romer.*

Fastening for Shop Shutters.—A mode of fastening shop shutters, by which the old-fashioned and destructive shutter-bar is superseded, has been registered by Jennings, of Great Charlotte-street, Blackfriars-road, and is advertised in another part of our paper. It is simple and inexpensive, and seems worthy the consideration of builders.

RECIPE FOR MAKING "AVENTURINE."—This costly and beautiful sort of glass, used for the ornamenting of objects of art and vertu—could not be hitherto made but at Venice. Only so much was known, that it was very minute crystals of metallic copper of great lustre, which, mixed throughout the mass of dark yellow-reddish glass, imparted to this substance that lustrous and iridescent appearance, for which it was so much praised. Messrs. Frémy and Calendeau, chemists, have lately laid before the French Institute their procedure of making this valuable substance. It consists in the mixing of pounded glass with hammerschlag and oxide of copper, and keeping both for a considerable time in a state of fusion. By these means, the copper crystallizes in the glowing mass of glass in the shape of small octohedra, which being dispersed through the mass, impart to it that beautiful scintillating appearance. Still the original Venetian samples and those made by Messrs. Frémy and Calendeau were not of equal quality, the mass of glass wherein the crystals are imbedded, being in the former clear and pellucid, in the latter rather soily, and only transparent: the crystals in the Venetian are large, very regular; in the French, small, irregular, and fibrous. The principle, however, is found, and it will only require (as with every thing else) time and experience to equal the Venetian patterns. This information may be useful to our now unshackled glass manufacturers.

THE PLANTERS' HOUSES IN THE MAURITIUS.—They are built in detached pieces, so that a great deal of ground is covered by the buildings belonging to one residence. These consist generally of a principal dwelling-house, and a number of small buildings, which in India are called "bungalows," here "pavilions." They have generally a verandah attached to them, and commonly contain two or three small rooms, which are used as apartments for visitors—a mode of lodging them which possesses many recommendations, though they are somewhat counterbalanced by the fact of their having to provide themselves, on retiring to rest, with cloaks, lanterns, and umbrellas, in order to make their way through a storm of thunder, lightning, rain, and wind, to their bedrooms, situate perhaps at the very extremity of the establishment. The principal dwelling-house usually contains a "salle à manger," and a "salle de compagnie," or drawing-room, on the ground floor, over which are bed-rooms, occupied exclusively by the planter and his family. The staircase is generally on the outside; the kitchen and store-room all detached buildings. The drawing-rooms are generally furnished in a showy manner, with a superabundance of looking-glasses. The dining-room is the worst apartment in the house. The floor is of dark wood, which generally takes a fine polish, and by being rubbed every morning with wax and a brush, rivals a mahogany table in brilliancy.—*England's Colonial Empire.*

HOISTING.—On the morning of the 31st ult., while the workmen at the Hamburgh Theatre were hoisting to its place a splendid bronze chandelier for gas lights, just brought from London, and weighing above 10,800 lbs., the rope broke, and the enormous mass, falling to the ground, was broken to pieces, crushing two Englishmen who had come over to superintend its being suspended.—*Morning Herald.*

ARCHITECT FOR ST. CLEMENT DANES.—The managers of the St. Clement Danes Holborn Estate Charity, requiring an architect to spend about 10,000*l.* in building some almshouses, advertised for parties willing to act in that capacity. Thirty applications were sent in, and on Thursday last, "Mr. Hesketh, builder, of Arundel-street," was appointed!

THE ROAD IN FLEET-STREET.—The appearance presented by the paved way laid down in Fleet-street, the execution of which has annoyed all London for some weeks past, is far from satisfactory. The surface is irregular, here and there convex instead of concave, and, indeed, appears in parts to have sunk considerably.

FREE EXHIBITION.—The exhibition of pictures and sculpture, selected by the Art Union of London prizeholders, was visited last week by more than 50,000 persons, without the occurrence of the slightest accident or disturbance. In the present week the numbers have been even greater still.

WEST LONDON RAILWAY.—A meeting of the shareholders was held on Wednesday last, to receive the report of arbitrators, appointed to decide the rate at which the rent to be paid by the London and Birmingham Company shall be apportioned to the different classes of shareholders. Considerable displeasure was expressed on account of the Birmingham Company not having opened the line for passenger traffic. The inhabitants of Kensington, Hammersmith, Bayswater, and other large districts, are forced unnecessarily to travel to Euston-square and Paddington with locked-up stations at their own doors.

SALE OF SOUTHEND PIER.—An attempt was made on Friday week to sell by auction the pier at Southend, the longest it is said in Europe (unless the Leith pier now exceed it), as it extends to a length of a mile and a quarter at low-water mark. The bidding began at 10,000*l.*, and rose to 16,000*l.*, at which sum it was bought in by the Public Works Loan Commissioners, the mortgagees in possession according to law, for advances for its construction. The materials alone, exclusive of the rights and privileges, are said to be worth 10,000*l.* to 12,000*l.*

THE NATIONAL GALLERY is closed and will remain so till the 26th of October. The East-India Company's Museum, where there is a collection of curiosities well deserving examination, is closed till the 30th of the present month.

NOTICES OF CONTRACTS.

[We are compelled, by the interference of the Stamp Office, to omit the names of the parties to whom tenders, &c. are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent Garden.]

For the erection of a new workhouse at Gravesend, on a plan altered and reduced from the former one.

For building about 600 yards of sewers at Ventnor, Isle of Wight.

For cleansing about 1,400 feet of sewer in the Edgeware-road, Mary-le-bone.

For the erection of a school and teacher's residence at Seer Green, near Beaconsfield.

For building sewers in Digbeth, St. Martin's-lane, and Edgbaston-st. Birmingham, a length of 368 yards (class B).

For deepening and widening the Louth Forty Foot River from Gutteran Gote to Donaby Lode, or thereabouts, and such other works as the engineer will recommend to be proceeded with, or as may be expedient.

For the Needham Market and Thurston stations on the Ipswich and Bury St. Edmund's Railway (short extension of time).

For the mason and brick work required in the erection of a church in the Trinity district of the parish of Rotherfield Greys, Henley-on-Thames.

For the plaster work required in the erection of the Trinity District Church, at Henley-on-Thames.

For the wright and carpenter work required in the erection of the Trinity District Church, at Henley-on-Thames.

For the slater, plumber, glazier, and other work required in the erection of the Trinity District Church, at Henley-on-Thames.

For repairing and keeping in repair for three years, certain roads at Norwich.

For iron roofing, to cover an area of 460 feet in length by 120 feet in breadth, over the passenger shed at the Dublin terminus of the Midland Great Western Irish Railway.

For the supply of 100 tons of cast scrap iron, free of rubbish.

For six locomotive engines and tenders for the Dundalk and Enniskillen Railway Company.

For the erection of stables and sheds on the Workhouse ground of the Midleton Union Cork (promptly).

For painting the whole of the old exterior work of the Middlesex Hospital buildings, twice, in the best oil colours, in a workmanlike manner.

For a supply of Guernesy granite chippings and Kentish Rag stone, by the yard, to be delivered at Camberwell to the Board of Poor Law Guardians.

For lighting the streets of Stow-market for seven months.

For the whole of the works on that part of the Aberdeen Railway from Dee to the Cove, a length of about five miles.

For the whole of the works on that part of the Aberdeen Railway from Water of Cowie to Blackhills, a length of about two miles and a half.

For 20,000 to 30,000 oak or hazel rods, 10 to 15 feet long for Kirkaldy, Scotland.

For several first-rate masons at Windsor: liberal wages.

For several gas-chandelier makers for making gas pendants.

For letting on lease premises for a plumber or painter in Edgeware-road.

For the disposal of an oil and colourman's business in town: no premium.

For the disposal of a gas-fitter and ironmonger's business close to the city.

For the disposal of a forged nail manufacturer's business at Birmingham.

For the disposal of an iron-foundry business in the country.

For two journeymen glaziers, at Edinburgh.

For a painter to go to Demerara, as foreman, to imitate marbles and woods, and able to write: wages for three years, 60*l.*, 70*l.*, and 80*l.*, besides board.

For a brick and tile maker, also for two additional hands, at Lynn.

For the letting of a brick-kiln near Lynn, with jamb of fine brick earth.

For the letting of waterside premises for a builder, stonemason, &c., at Lambeth.

For the letting of a granite quarry in Argylshire.

For the letting or disposal of the well-known engineering, foundry, and machine-making works, in Hutchinson-town, Glasgow.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At Withernwick Wood, near Hull: about 2,500 ash, oak, and other trees, in small lots.

At Ingleby Wood, Lincolnshire: 65 acres of growing timber.

At Wivenhoe, Essex: several thousand feet of oak slabs in convenient lots.

At Nidd (Leeds): a quantity of timber and bricks.

At Saffron Walden, and Ashdon, Essex: 180 oak timber trees, 70 ash ditto, 49 oak and ash saplings, &c.

At Southampton: a cargo of Canadian-wood goods.

At Boxted, near Colchester: ash and oak timber.

At Pimlico: a builders stock in trade, comprising 700 dry yellow deals and planks, flooring and lining boards, &c., with stone, tools, apparatus, &c.

At Southampton: a large quantity of paper hangings.

At Liverpool: an extensive assortment of paper-hangings.

At Birkenhead: a varied stock of paper-hangings.

At Leeds: a stock of paper-hangings.

At Cork: the glass-works.

At Wolverhampton: an edgetool makers stock in trade.

At Hartshill, near Dudley: a high pressure steam-engine with appurtenances, an 800 gallon wrought-iron tank or gasometer, smith's bellows, &c.

At Leicester: an iron and brass foundry.

At Cairns, near New Alyth, Scotland: about 220 lots of old larch, fit for building or sleepers.

At the late Earl of Blessington's estates in Ireland: the largest plantation of timber in Ireland, and fit for sleepers, &c.

At Southwark: a stock of architectural ornaments, artificial stone statues, figures, &c.

At 2, Berners-street, Oxford-street: 4,000 pieces of paper-hangings.

At Bromley, Kent: about 600,000 stock and place bricks, in lots of 5,000 to 10,000.

BY PRIVATE TENDER.

At Poole: a cargo of Riga timber and deals.

At Southampton: a cargo of Canadian-wood goods.

At Woodchester-park, Gloucestershire: an extensive lot of oak trees.

At Callander, Perthshire: 2,000 to 3,000 Scots fir trees, planted in 1770, and fit for building or for sleepers.

At Southampton: a cargo of Canadian wood goods.

At Woodchester-park, Gloucestershire: a quantity of oak timber of large size.

At Lynn: 180,000 clamp bricks.

At Hythe: 300,000 white bricks at reduced prices.

At Kirkstall, near Leeds: three well cranes, &c.

At Birmingham: a builder's business of seven years standing.

TO CORRESPONDENTS.

"*Catholicus,*" accuses us discourteously of bigotry, on the ground that we do not describe the different Roman Catholic churches which are from time to time consecrated. We should have cause to blush if the accusation were true, and challenge "Catholicus" to point out a single sentence ever written by us to justify his assertion. Even if we did not personally profess toleration in its widest sense, art is of no sect or party. "Catholicus" must be aware that for descriptions of provincial buildings we are mainly dependent on correspondents. As to the structure of which he speaks, St. Giles's church at Cheadle, we should gladly insert any verified account.

"*C. B.*"—A notice to the district surveyor is unnecessary.

"*J. Yates.*"—The intention of our correspondent was precisely the reverse from that supposed by "J. Y.," and will be so understood by all those who have read our previous articles on contracts.

"*C. B. A.*"—No further modifications of the Buildings Act have yet been made.

"*T. I. M.*"—A memorial to the Sewers' Commissioners would probably be useless; the landlords should stir.

"*W. D. C.*"—The present Act of Parliament does not set forth any price for party walls.

"*Mechanic.*"—Apply to a patent agent. We may name Messrs. Barlow and Le Capelain, Nos. 89 and 36, Chancery-lane.

"*J. R. N.*" shall appear.

"*Carolus.*"—To become a candidate for admittance to the Antiquarian Society, a recommendation signed by four fellows is necessary.

"*Paint on old Iron.*"—A Correspondent says, "I am requested to paint, or otherwise renew, the iron railing round the church-yard; but I find it in a very rusty and cankered state, as it is now 20 years since it was painted. I am at a loss to know how to act with it, being told that if painted now, although well cleaned, the paint would all come off again. Can any of your readers advise me as to the best plan to proceed on?"

"*Palace Question.*"—Article postponed, plan not being engraved in time.

Received.—"A Professional Man," "An Idle Draughtsman," Kelly's "Practical Builders' Price Book."

*** Correspondents are requested to address all Communications to the EDITOR, 2, York-street, Covent-garden.

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GAS FROM 40 TO 60 PER CENT. SAVED.

CONTRACTS taken for Lighting Towns, Villages, Mills, Factories, Lighthouses, Railway Stations, Signal Lights, Dockyards, Churches, Colleges, Hospitals, Theatres, Public Institutions, Prisons, Barracks, Asylums, Schools, Union Poor-houses, Public Gardens, &c. &c., with pure and brilliant GAS by FRANCIS' PATENT GAS LIGHT APPARATUS, either by purchase or rental.—Applications at the office and factory, 112, High Holborn, and Eagle-street, Red Lion Square, London. The premises are lighted up by gas on the principle of this invention. Can be seen from Ten till Four daily, and where prospectuses and every information can be obtained.

PAVING, 2s. 9d. PER SQUARE YARD. Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27s. 6d. per ton.

COMMISSIONERS OF FINE ARTS' REPORT ON THE MEANS OF PREVENTING DAMP IN WALLS.

THE DIRECTORS of the SEYSSEL ASPHALTE COMPANY have much pleasure in recommending to the notice of Architects, Builders, and others, the application of the ASPHALTE of SEYSSEL as the only effectual means of preventing DAMP rising in WALLS.

J. FARRELL, Secretary.

Seyssel Asphalte Company's Works,
"Claridge's Patent."
Stangate Depôt, London.

The following account of its application is extracted from "The Appendix to the Commissioners of Fine Arts' Report," page 18:—

"In 1839 I superintended the construction of a house of three stories on the Lac d'Enghien. The foundation of the house is constantly in water, about 19½ inches below the level of the ground floor. The entire horizontal surface of the external and internal walls was covered, at the level of the internal ground-floor, with a layer of SEYSSEL ASPHALTE, less than half an inch thick, over which coarse sand was spread.

"Since the above date no trace of damp has shewn itself round the walls of the lower story, which are for the most part painted in oil of a gray stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so coated, yet the pavement of the floor, resting on the soil itself, is only about 2½ inches above the external surface of the soil, and only 19½, at the utmost, above that of the sheet of water.

"The layer of Asphalte having been broken and removed, for the purpose of inserting the sills of two doors, spots indicating the presence of damp have been since remarked at the base of the door-posts."

CHEAP ROMAN CEMENT is sold in Casks that will not contain five bushels, even by some manufacturers of a very respectable name. Consumers should see that the standard size cask is 29 inches long by 17½ across the head, outside measure. Any workman with a rule in his pocket can ascertain this.

A NEW CEMENT has been invented by an Operative, which, in its application, supersedes all others in use. He is willing to dispose of the same, under an agreement to manufacture it for any one finding capital, at a fair remuneration for himself.—Apply, by letter, to J. ALLEN, 91, Broadwall, Blackfriars-road.

PATENT METALLIC SAND CEMENT, requiring no colour or paint, and free from cracks and blisters, mixed ready for use at 8s. per cask; 2s. 6d. allowed for each cask returned in good order. 3½ bushels common sand to be added to each cask of Metallic Cement, which will float 14 square yards of stucco.—Apply at the Metallic Cement Wharf, King's-road, Camden New Town.

THE PROJECTED RAILWAYS.

BENSON, LOGAN, and CO.'S PATENT METALLIC SAND CEMENT.—Its merits, as stated in letter to the Proprietors, by James Thomas Knowles, Esq., Architect, Raymond's Buildings, Gray's Inn, are:—

1st.—"The great tenacity with which it adheres to brick, stone, and iron.

2ndly.—"Its freedom (when properly applied) from those cracks and flaws, by which the cements generally used for external stuccoing are so frequently disfigured.

3dly.—"The total absence of the unsightly tint produced by vegetation.

4thly.—"The increased hardness which it acquires from exposure to atmospheric influences.

5thly.—"The great beauty, accuracy, and durability of the mouldings, capitals of columns, crockets, finials, and other architectural enrichments and decorations formed of it, the smallest and most delicate members of which, as well as the sharpest arises, have withstood uninjured the severities of our climate during many winters, and now present the same perfect and highly finished appearance as would be produced by stone carvings carefully executed.

6thly.—"The excellent and agreeable tone of colour which it assumes naturally, and retains without the aid of any colouring or painting.

"And lastly, its extreme hardness and almost entire incompressibility when used as a mortar in the construction of inverted or relieving arches, foundations under important superstructures, and small bearing piers, which have to sustain great weights. For all these purposes it has been extensively used under my directions, and in some cases has been exposed to very severe trials. The results have, however, without one exception, been most satisfactory; and I do not believe that there are any known substances so well adapted for the execution of works, in which the greatest strength and durability are essential."

Price of Metallic Sand at Swansea (place of manufacture), 10s. per ton, or supplied in London at 20s. per ton of twenty-one bushels.

Further information will be given, and specimens shewn, on application to Mr. C. K. DYER, 4, New Broad-street, and at the Metallic Cement Wharf, King's-road (opposite Pratt-street), Camden New Town, London.

KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Millbank-street, Westminster.

MESSRS. THOMAS FREEN and CO., beg to inform their customers and builders generally, that they have made considerable additions to their Works, which will enable them to execute with dispatch all orders with which they may be favoured either for home use or export; they manufacture only one quality, THE BEST ROMAN CEMENT, and all the packages bearing their brand contain full measure.—ROMAN CEMENT WORKS, Tuscany Wharf, Kingsland Road, London.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

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JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

TO ARCHITECTS, BUILDERS, AND THE PUBLIC IN GENERAL.

GEORGE JENNINGS, of 29, GREAT CHARLOTTE STREET, BLACKFRIARS ROAD, begs to call the attention of Architects, Builders, &c., to his REGISTERED FASTENING for SHOP SHUTTERS, &c., which entirely supersedes the use of shutter-bars. Thereby effecting a great saving of labour, as by the old method, the bar has to pass through the hands of some one upwards of six hundred times in twelve months, which tends to deface the whole front more or less every time the bar is put up or removed. The fastening is secret, simple, and sure, in its action, and can be affixed to any shop-front in two hours, without any alteration to the shutters. New fronts fitted at a less expense than a shutter-bar would amount to. A liberal allowance to the trade, and any further information may be obtained by inclosing a postage stamp to the above address.—A Model may be seen at the office of "The Builder."

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A. SMITH'S PATENT COPPER WIRE ROPE is being daily employed for the protection of CHURCHES and other buildings from the effects of thunder storms; it possesses important advantages over other forms of conductors. References can be given where it has been applied for some time past to CHURCHES, PUBLIC and PRIVATE BUILDINGS, &c., &c. Its general adoption in the Naval and Mercantile Marine of this and other countries is the strongest possible EVIDENCE of its EFFICIENCY, &c.

A. SMITH begs the attention of those engaged in building to his IMPROVED PATENT PANELLED AND REVOLVING IRON SHUTTERS,—Also, the Patent Weather-tight Fastening and Gill Bar, for French Casements, which are so much admired for their security, simplicity, cheapness, and efficiency. Of the merits of his

Patent Double and Single Action Door Springs,
Improved Flooring Cramps,
Patent Wire Sash Lines, &c. &c.,

Little need be said, as they are pretty generally known and appreciated.

Manufactory for Iron Suspension, Sliding, and other Doors, Strong Rooms, Plain and Ornamental Palisading, Gates, and Columns.—Also, Metal Sashes, Shop-fronts, Stall-board Plates, Brass butt, and other Hinges. Buildings heated upon a new, safe, and superior plan.

Estimates given for every description of Metal-work.

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SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

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THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

INJUNCTION.

BUNNETT and CORPE'S Patent REVOLVING IRON SHUTTERS.—Since the verdict found in favour of the Patentees, in the Court of Exchequer, in the action tried by order of the Court of Chancery, that Court has granted a perpetual Injunction for restraining all infringements of this Patent, and therefore all parties are hereby cautioned against infringing the same.

THE PRICES ARE GREATLY REDUCED, and BUNNETT AND CORPE'S PATENT IRON SHUTTERS ARE THE CHEAPEST AS WELL AS THE BEST. They are made with convex laths, if required. The worm and wheel motion for raising and lowering revolving iron shutters (as secured by this Patent) is the only safe and durable mode of effecting that object. In large shutters it is indispensable.

Some thousands of Bunnett and Corpe's Shutters have now been put up, without a single complaint of their want of strength or security; and nine years' practical experience (during which they have adopted every real improvement) enables the Patentees to challenge comparison with any others. They will guarantee all Shutters put up by them to keep in order, and last twice as long as any with thin convex laths.

B. and C. also manufacture REVOLVING WOOD SHUTTERS (the Patent for which has expired), at the same prices as other makers, but greatly superior, being fitted with their patent raising gear, and proper metallic hinges, without which no shutter can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop-fronts fitted with Iron Shutters, Patent Brass or Zinc Sashes, Plain or ornamental, handsomely Engraved, Moulded, Stall-board Plates, best Plate Glass, and Internal Brass Fittings of all kinds, superior in quality and workmanship, and lower in price than any other house.

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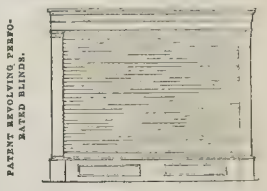
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The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 115, Old Street, London; or at the Licensees.

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The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using SUNK LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

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Books, price 5s. 6d., had at Reeves, 113, Cheapside; Dean's, 35, Threadneedle-street; Brodie, 79, Long-acre; and Ackermann, 95, Strand.—Will admit to Exeter Hall, Strand, Free.

TO BUILDERS, PAINTERS, DECORATORS, AND OTHERS.

MESSRS. WOOD AND COMPANY, Grainers and Writers to the Trade only, by contract, measure, or otherwise.

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The Builder.

No. CLXXXIX.

SATURDAY, SEPTEMBER 19, 1846.

IT is said with justice, that London is not England. Intelligence, wealth, and power, dwelling in fine cities, and carrying out noble institutions, are to be found in every quarter of our island, and make up an extraordinary aggregate. But in a very short time it seems certain, that all England will be a London, if we may so express ourselves; meaning, that all the advantages possessed at one time exclusively by the latter will become universal, and that the higher degree of cultivation attained formerly by the inhabitants of the metropolis, as compared with those of the provinces, will be found in the remoter parts of the country.

To a great extent, indeed, this is already the case. Railways have brought all the large towns into close proximity to the centre. Every improvement or discovery made in one is immediately known in the other; and a powerful mind residing in Manchester, or Birmingham, or Oxford, or York, or the Land's End, may be felt throughout the kingdom as fully and as speedily as if in London. By ten o'clock in the morning, great part of England is in possession of the same wonderful record and review of the events of the previous day, that is in the hands of the Londoners; and when railway management is improved, *and improved it must be*, and the expense of travelling lessened, as it might be, to one-half, personal communication will be general and constant, and all England, as we said, *will* be a London.

One result of this more general intercommunication is that the adornment of England has become a question of interest to a larger public. An individual confined to his own narrow street, and narrower views, will care less for the proper embankment of the Thames, the widening of thoroughfares, or the unsightly effect of a public building, than one whose avocations lead him into their neighbourhood, and make him personally interested in improvement. And on the same ground it is, that a much greater number of persons now feel interested in accounts of works executed in provincial towns, the progress of art in various parts of the kingdom, and schemes for the general adornment of England,—meaning always when we say England to include the sister kingdoms, Ireland and Scotland, as integral and most important parts,—than was formerly the case.

In our own pages we seek to give this information as completely as is practicable; and the result serves to place the industrial powers of the country in an extraordinary light. THE BUILDER has readers in the farthest corners of the kingdom; and we may perhaps be excused for mentioning, as a proof of its recognition as an organ, as well of the provinces as of the metropolis, that we have recently received invitations from several large towns to investigate their sanatory condition, examine the mode of construction adopted in their buildings, and advise as to general improvements. Enough, however, of this; to which we have been led by accident: suffice it to . we will at all times exert ourselves for the adornment of England, the advance of art, and the improvement of our homes.

Last week we spoke about some of the new buildings in London; we will to-day chat about a city which although nearly 120 miles distant, is now reached from London in two hours and three-quarters:—we mean BRISTOL, which ought, if it were true to itself, to hold a higher place and exercise a greater influence than it does. Improvements here have been long talked about and urged; an able local press have pointed out again and again, that it is necessary to make an effort to regain for Bristol the importance it has lost, and fit it to take the lead; but still nothing is done. It is to be hoped, that some vigorous mind, which seems to be wanting, will apply itself to the task, and that the Bristolians will see the necessity of sowing, in order that they may reap, and not be niggardly in expenditure.

The reproach of "penny wise and pound foolish," applies to too many of the doings in Bristol. There is an exemplification of it in the new *Guildhall*, where, in order to obtain a number of offices, and so increase the revenue (very proper if not inconsistent with the main purpose of a building), they have most injudiciously cabin'd and confined themselves, and exposed their architect, Mr. Pope, to abuse from all quarters, local and foreign.

As a Bristol paper says—

"They pulled down the old Guildhall, the hall was so small,
And then they built a new Guildhall, with no hall at all!"

The building, as many of our readers know by this time, is of the late Tudor style, and the front (of Bath stone, from the Coombe Down quarries), is elaborately ornamented with carved strings, scrolls, shields of arms, held up by hands projecting from the face of the wall, statues in niches, and carved parapets, the whole, though not particularly pure, displaying considerable fancy. The chief entrance is in the centre, where a good doorway, under a projecting portion of the front (which is carried up to a greater height than the rest of the building, and forms a central tower), opens into a narrow but lofty hall, the whole length and height of the building, with a staircase at the further end of it. This hall has an open timber roof, and is artistical in effect, though somewhat marred by the want of light: a fault which, unluckily, is not confined to this part of the building in consequence of the confined nature of the site.

The Court itself, into which we will now look, has not sufficient light, although nearly the whole of one side of it is filled with glass. This is a handsome room, but is not half large enough for its purpose in such a city as Bristol. The want of accommodation for counsel, solicitors, and witnesses, has produced some vehement abuse, and should at once be remedied as far as possible, by a fresh arrangement. The space set apart for the public must be lessened, and the entrance to the court altered, in order to give more room to those who are actually engaged there. We cannot understand how the accommodation required could have been so miscalculated as it has been, and are disposed to think the architect can scarcely have had his own way in the arrangement.*

All the fittings of the room are of wainscot; and it has an open king-post roof, elaborately carved. The panelling, into which the ceiling is formed, are perforated for ventilation.

The windows do not open, arrangements being made to admit air through gratings near the floor in various parts of the room. When the Court was in occupation, these were found to be quite inadequate, and, according to report, loud were the outcries for more air. If the only channels for air communicating with the atmosphere, are those we saw in a close yard adjoining, we can easily understand the greatness of the deficiency. If the person to whom the ventilation was entrusted, will take the trouble to calculate how much air per minute would be required to ensure comfort for the number of persons the court will hold, (and this can be done without difficulty), and then estimate with judgment, from the sectional area of the channels provided, bearing in mind also their position, what quantity of air could *possibly* get into the court to meet this demand, he will at once see the mistake he has committed. In still, warm weather, we venture to say the air in the court would be nearly stagnant.

One word to those who have wholly condemned the new Guildhall, because of the objections to which we have been compelled to allude. There is much about the building deserving of great commendation, and we should not be blinded by some few obvious failings to all besides, or forget how much time, thought, and labour are required from the architect, in the erection of a structure of this size and character.* Moreover, as the immortal William of Stratford says:—

"If to do were as easy as to know what were good to do, chapels would be churches and poor men's cottages princes' palaces. I can easier teach twenty men what were good to be done, than be one of the twenty to follow mine own teaching."

A very interesting restoration has been commenced not a long way from the Guildhall, namely, St. James's Church, a specimen of Norman work which has been long cased up by galleries, modern ceiling and whitewash, and was gradually falling to ruin. It consists of a nave and aisles, divided by solid Norman columns, and semi-circular arches, of the twelfth century. The clerestory which these carry, has very thick walls and small semi-circular headed windows. An open timber roof has been exposed by the removal of a modern ceiling, and will be restored.

The east end has been fitted up anew with a semi-circular arcade, interlaced arches above, and three semi-circular headed windows conjoined in the upper part, from the designs of Mr. Fripp, under whose directions the restorations are going on. We may perhaps speak of these when finished. A piscina was removed from the east wall (south side) to make room for the new work: but what the date of it was we could not learn. There are the remains of a second piscina, under a cusped arch,

* The courts in many of our towns require amendment, causing, in their present state, great loss of time, comfort, and health. The *Times*, a few days ago, had the following memorandum on the subject:—"At Reading the courts are formed, to use a medical expression, *pro re nata*, out of a long room divided in the middle by two sets of boards, so as to leave a passage between them; and the entrance to this splendid tribunal is up a narrow staircase from the street. At Abingdon the crown and civil courts are a quarter of a mile apart, so that all whose duties call on them to attend both in the course of the day have to take a walk in their forensic costume through the streets. Possibly, however, in this arrangement the county have had an eye to make a sanatory regulation for the bar, by obliging them to take exercise in the open and pure air, to compensate for the evil effects the impurities of the atmosphere in the courts themselves might produce. We have already noticed Oxford; and what we said of the courts there will apply to Worcester and Stafford. At Hereford the Crown Court is, by an arrangement displaying the greatest ingenuity, made incomparably uncomfortable. Ample accommodation is given to the idle spectators, while about seven counsel only can sit down; and, again, such is the art with which the jury-box has been placed, that almost every person passing to the bar seats from the passage between the two courts, must intercept the view the jury have of the judge, and interrupt the proceedings. The arrangements of the Monmouth courts are admirable, their only fault being that they are hardly large enough to accommodate the number of barristers who now attend them."

* Wilcox and Son executed the mason's and bricklayer's work, and Langdon the carpenter and joiner's work. The ironwork was cast by Room and Grazebrook.

projecting from the south wall, supported on a small column; it is apparently of the perpendicular period, and has been painted. The windows in this wall are perpendicular.

The main columns are in a very bad state; some of them are greatly out of the perpendicular two ways; so much, indeed, as to be scarcely safe. We were grieved to observe that preparations were being made to restore these to an apparent uprightness with compo or plaster. We trust, however, that the architect will exert himself to induce the parishioners to do the work thoroughly, if on no other ground than ultimate economy, and due regard to safety.

On taking down some boarding from a recess under the organ gallery, at the west end (which gallery, by the way, ought to be removed), a coat of arms was found, executed in distemper, and, probably, of the time of Edward III.*

The outside of this end of the church is, for the most part, hidden by houses: the upper part, which can be seen above them in one position, is exceedingly interesting. It presents an arcade of curiously interlaced ornamented arches, with semi-circular headed windows within the pointed panels formed by the intersections; and one panel on each side is made pointed without an intersection, in order to bring it up to the same height as the wider semi-circular heads. In the gables, and separated from the arcade by a string, is a rose window of the same period, presenting very elegant geometrical tracery, formed by a simple moulding, and which is unique so far as we know.

All the Norman work is apparently of Caen stone, and has endured well. It is curious that this fact should be made known, at the moment that this stone is being brought into the city,—probably for the first time since this very church was built,—for the restoration of St. Mary Redcliffe.

The works at this latter building are going on well. The ground has been lowered several feet all round the church and the drainage made perfect. One severy of the chancel aisle on both sides, has been renewed stone by stone, and the same operation is now going on at the east end and in the clerestory,—the committee having wisely determined to do the work thoroughly, although for want of funds it may be slowly. It seems extraordinary that some of the wealthy merchants of Bristol have not come forward for the execution of separate portions of this glorious structure, and so earning for themselves an enduring record in the annals of the church. There ought, indeed, to be a higher motive. We could point out half-a-dozen men who could themselves complete this magnificent work, without the slightest personal sacrifice, and who would thus hand down their names with honour while performing an acceptable Work.

Since the church was thrown open to the public without fee, in March last, 9,500 persons have written their names in the book which is kept for visitors.

The city schools are approaching completion, but of these and other matters, the suspension bridge, the fine arts in Bristol, the smoke nuisance, drains, and new streets, we will speak more at length on another occasion, as we have filled all the space that we can afford, just now, to venerable Bristowe. If our remarks should assist in awakening a liberal spirit, and inducing energetic measures, there would be good reason for congratulation.

* The arms are those of England, quartered with the fleur-de-lis of France; the supporters, a lion and griffin.

ON THE ADAPTATION, TO FURNITURE AND INTERIOR DECORATION, OF WOODS NOT GENERALLY EMPLOYED.

The furniture and decorations of rooms belong to a class of art, which has lately become of increased importance. The man of valances and fringes must be really expert in the practice of the arts, called decorative and ornamental. If he would get employment in any thing better than upholstery, he must use the pencil and the brush, as much as the hammer and tacks. He uses them, indeed, in the hands of the draughtsmen, or the decorative painters of his establishment, having himself, probably, neither ability to design nor skill in practice; but the circumstance that he is applied to, and for a purpose greatly varying from that of former days, is a matter which architects have reason to congratulate themselves upon. We shall less often find good designs for halls and apartments, and the intention of the architect, rendered nugatory by the intrusion of another party, whose ideas are confined within the limits of the trade. Still, as we have already endeavoured to urge, interior decoration is a department of *architecture;* and the design of a building, from the first conception of the ground plan, down to the decoration of the rooms, the design and arrangement of the furniture, carpets, and even the position of the pictures on the walls, should be the growth of one mind—that of the architect.

We believe that one cause of the division of labour in the art, here alluded to, originates in architects themselves. Few architects make interior decoration a part of their study, whilst there is hardly one who does not think the designing of furniture unworthy to rank as a branch of architecture, or can produce an appropriate design for a chair or a bookcase. The massive proportions, and the mode of treating stonework, are found in every case, with a strange forgetfulness of the altered object; a Corinthian or Doric pillar serves, perhaps, for a bed-post or the leg of a chair.

Having made the department of furniture design the subject of particular attention, we have been much struck with the prevalence of this difficulty, one which it would require a very slight review of general principles to overcome. Any improvement in designs for furniture, any thing like that elegance which is often found in old examples, must come from those who have been educated as artists, whilst, as we have said, there are other reasons why this department should be under the architect's control. It is only necessary that the designer should consider the object, which the article in question is intended to serve, the use of each part of it, the position in which it will be seen, and the nature of the material of which it is to be made. These are principles of art, which it should not be necessary to mention, yet they are those from the continual forgetfulness of which, nearly all the errors of architectural design result. Such considerations are required in the art decorative, as in that of more massive construction; but the circumstances are widely different. The furniture, and the panels of rooms, in the Louis XIV. style, of which there are so many examples in the shops of dealers, are remarkable for a degree of elegance, to which at this day we seldom approach. It is not only in their forms that these are to be admired, but some of them have great beauty of design, in the arrangement of different kinds of wood and other materials. We do not allude to the imitation of leaves and flowers, by woods of different colours—a curious branch of art, still practised, but which never has in our mind a satisfactory result, but to the geometrical patterns formed in the veneering. Mahogany and rosewood, or mahogany and ebony, are frequently combined with great taste, in a manner now seldom attempted, except in professed imitations of old works.

There are here, abundant means for the display of design and colour in interior decoration. The stiles and panels of doors, and different parts of the furniture, might be varied in colour, with great beauty of design, by substituting several materials for one, as oak or mahogany. The increased use of furniture woods, consequent on the favourable position we are now in, as regards the duty and the introduction of many new kinds, afford grounds for hoping that interior decoration may find new means of exercise; and provided that principles of design and colour be attended to, no circumstance could have happened more opportunely. The resources of art, in this respect, have barely been examined; the British colonies are rich in beautiful woods, applicable to all the purposes for which mahogany and rosewood are adapted. The *Totarra* wood of New Zealand surpasses any mahogany we have seen; it has great variety of grain, and a beautiful mottled appearance. It takes an excellent polish, and can be cut into veneers of any size, and fastened in the usual way on to mahogany. The trees grow as large as 12 feet in diameter. It is not much harder to carve than lime-tree. It is to be had by ton at 25*l.*, clear of all other charges. An elaborate sideboard, lately made of it for the King of Prussia, by Mr. J. M. Levien, has lately been exhibiting at New Zealand House, Broad Street Buildings. The design was elegant, and some of the carvings, as the fruit and flowers, and the grotesque heads forming the trusses, were well executed. We hear, also, that her Majesty has given orders for some articles. In other pieces of furniture, were specimens of six or eight kinds of wood, all of them of great beauty, and well adapted for this purpose. The *Maire* wood, of which a teapoy had been made, when cut in the direction of the grain, is of a yellow stone-colour, variegated in parts with dark brown of large pattern. It is close in grain and hard, and receives a beautiful polish. The price is 20*l.* a ton. *Hino*, of which the specimens were cut from the root, was of a dark brown colour. It veneers and polishes well, and can be had for 25*l.* a ton, which seems to be a pretty general price. Amongst other kinds, were the *Primo*, also beautiful, with a large mottled pattern; the *Kattore*, in all respects like ebony; the *May*, rather plain, with an appearance varying from that of satin-wood to the lightest mahogany; the *Kivverve*, and specimens of many other kinds. Names have been given by the natives to all the different species, these included.

But great beauty in interior decoration can be gained at a much less expense by the common English woods. We by no means agree with a writer in another place, who can see no beauty in the common deal. The red deal, certainly, is beautifully marked in the grain, and there can be no good reason why it should not be used without the addition of paint, further than a possible prejudice against it from its comparative cheapness. If well seasoned and dried, it might be used in the same manner as oak, without paint. If these precautions be always attended to, and if it be varnished, it can require no further addition, and might, we think, be kept clean with much less inconvenience than when painted. Indeed, painting in interior work has become so much a habit, that we seldom inquire whether it might be dispensed with or not. It is not found necessary to paint the boards of a floor, and why should we paint doors or window-shutters, unless to get rid of the original defects of seasoning, or from an idea that the appearance is improved. We contend, that the natural appearance of wood is seldom improved by paint, whilst that addition, as commonly given, readily shows the dirt, requires great trouble to keep clean, is vastly expensive, by reason of the frequent renewals, and spoils the sharpness and beauty of mouldings. If the wood be too light, or if a difference be required in parts, it can be stained with very little difficulty; and we cannot see a reason for objecting to this process. It is easy for those who have not entered very deeply into the study of art, to enunciate dogmas which they have had no means of testing practically, but the architect knows by experience the danger of hastily drawing general conclusions; and if we debar ourselves from everything that is called "deception" in architecture, we may find that we have also departed from the art, and gained nothing better than the architecture of the Druids. When actual deception is attempted, and unsuccessfully, it is to be condemned; but in the greater number of instances there is no intention to deceive. The triglyphs of the Doric frieze are not copies of the ends of beams, though they call to recollection those forms, from which they are said to have originated. The cornices and pediments to windows are similarly suggestive. Indeed, "the semblance of utility," one of the most valuable resources of the art, might by some people be ranked with "deception." But, when deception is

completely successful, as in the case of scagliola, and good construction is not interfered with, we think there might be few arguments against its use. The principles of utility and of integrity of material are valuable as advisers, but baneful as masters.—The woods which are indigenous to England have been as little used in furniture and interior decoration as those of foreign growth, whilst they are by no means deficient in beauty. Many an old root of elm is left to rot, or is chopped up, which could readily have been preserved, sawn into veneers, and made use of in place of mahogany, to which it is often quite equal in appearance. By means of Payne's process, even dry-rot, and the presence of vermin, it is said, can be prevented, at the same time that combustibility is greatly diminished. It is true that the *natural* appearance is not preserved by this process, but in many instances, a good surface of uniform and beautiful appearance can be gained. Oak, walnut, maple, elm, and some other woods become of very dark colour, but can be made to receive a fine polish, and could often be employed for panels with good effect. In some cases there is great contrast of tint in the same log, after preparation, so that these might be inapplicable except in smaller pieces, or perhaps by applying the process after the article of furniture had been made; but sycamore, elm, beech, and some others are generally uniform, except as regards the previous grain of the wood. The patentees look upon it as a complete substitute for paint, even in external work, and say that it requires much less seasoning; and that process is recommended to be performed subsequently. The top of a table, formed of a score of pieces of common wood of different kinds, and a door, which we have seen, prove to us that the resources of art might be greatly extended, in the manner we have pointed out. The pieces showed no signs of warping, being beautifully joined, and had received a high polish.

The cracking and shrinking of door panels in cheaply built houses, results not only from imperfect seasoning, but from the wood being often employed without undergoing the process of drying. Wood, which will have to remain three parts of the year in a heated atmosphere, requires a different preparation from that of external work. If the superfluous moisture be expelled, it undergoes no change, yet how great difficulty is found in getting this point attended to, is known to every one who has had even a drawing-board made, having omitted to give precise directions as to placing the wood in the stove.

We have thus endeavoured to shew that there is a new field for art in the use of various kinds of wood, not now adopted, and we do think that the limitation to oak in the new Houses of Parliament is not the best step towards the satisfactory decoration of those buildings.* We are surely getting beyond the mere imitation of art in a period, when its present resources were not known, and we cannot think that any description of wood is to be excluded from Gothic buildings. Why debar the art from such materials as teak, mahogany, or cedar, or from those resources in our country, which a building so decidedly national should be able to exhibit?

THE GAP IN PICCADILLY.

Month after month having passed since the houses on the south side of Piccadilly were pulled down to make room for a post-office, as was at first said, but in reality, as it afterwards appeared, for the Museum of Economic Geology,—and no movement being visible, we have been led to inquire into the state of things there.

So far as we can learn, it appears that the idea is not so near being a reality as it was some time ago. Plans were prepared, but not meeting entire approval, were sent back, as we are told, for alteration. A new administration has since come into power, and, up to this moment, we believe, nothing precise is determined on in respect of the proposed building; so that it seems probable that the dwellers around the spot in question (some of whom have written to us on the subject anxiously), will have the benefit of doubt and a dirty hoarding for some time to come yet.

* Vide The Builder, p. 339, *ante*.

THE ROMAN CATHOLIC CHURCH OF ST. GILES, AT CHEADLE.

The following description of this costly structure was written by the architect, Mr. Pugin, and cannot be read without interest.

The church of St. Giles, at Cheadle, which was consecrated on Monday, the 31st of August, and solemnly opened for Divine service on the day following, has been erected at the sole cost of the Earl of Shrewsbury, from the designs of Mr. Welby Pugin, and has occupied nearly six years in erection. It consists of a western tower, surmounted by a lofty spire; a nave of five compartments, with north and south aisles and porches; a Lady chapel; a chapel of the Blessed Sacrament; a chancel; with sacristies and organ-loft on the north. The style is that which prevailed during the reigns of the Edwards, commonly called decorated; and no labour or expense has been spared to render it as far as possible a perfect revival of the art of that glorious period.

The western entrance is in the tower; it consists of a deeply-moulded doorway, enriched with lions' heads and oak branches in the hollows; the label is square, resting on two shafts, and forming large spandrils filled with foliage and talbot shields. The doors are of English oak, strongly braced, and hung with hinges fashioned after the form of rampant lions, nearly covering the whole door; these are gilt, and the face of the doors painted red and bordered with iron gilt engrailing, being the armorial bearings of the family. In the lower part of the tower buttress are two canopied niches, containing stone images of St. Peter and St. Paul. Above the first stringcourse, on the south-west angle of the tower, two niches are formed out of the buttresses; in the southern one is an image of St. Giles, and in the other, an effigy of the Earl of Shrewsbury, kneeling with a model of the church, as founder, with his patron St. John the Baptist, standing behind him. Under St. Giles is a corbel with a hind, surrounded by foliage in accordance with the legend of that saint, and the other corbel is sculptured with the Shrewsbury arms supported by two talbots. Immediately over the west door is a single window of three lights, with foliage work in the jambs and arch. Over this are the windows of the ringing chamber, which is ascended by a spiral staircase, forming an external turret on the south side. The belfry windows are eight in number, and the spaces between the mullions filled with perforated lead work securely fastened to the stone work by iron cramps.

The bells are supported by a strongly-braced oak framing, rising from the floor of the ringing chamber, where it springs from a stone projection in the wall, carried out by corbel work, visible from the interior of the church.

At the spring of the belfry windows, the internal angles of the tower are gathered into an octagon by segmental arches, and the juncture of the spire and tower is strongly secured by an iron tie cased in copper. The four emblems of the Evangelists are sculptured on four small gablets resting on the stone weatherings at the angles of the spire; above these are four richly canopied niches running up into crocketed work and pinnacles, containing images of the Latin Doctors, seated on thrones of the natural size carved in stone. The eight crocketed ribs, which gradually diminish in size and projection as they approach the apex, spring from eight talbots at the base of the spire, and terminate in as many gablets with bosses to receive them.

There are four double light windows at the base of the spire, terminated by crocketed gables and crosses, four immediately above the angle pinnacles, and four smaller ones near the upper part of the spire. The whole is terminated by a cross, composed of iron and copper, partly gilt, and surmounted by a cock, and secured to the spire, passing down the centre of the stonework about twenty feet, and fastened to four bars of iron bolted to an iron collar going entirely round the interior of the spire. The whole height, including the cross, is about 200 feet from the level of the churchyard.

The southern porch is vaulted with intersecting stone ribs, springing from six engaged shafts, and enriched with foliage and heraldic bosses. The external roof is composed entirely of stone. The horizontal joints are all weathered, and the vertical ones covered with ribs terminated by gablets above the stringcourse. The label of the external arch is crocketed, and terminates in a corbel supporting an image of our Blessed Lady, with our Lord, under a rich canopy, with angels holding thuribles in quatrefoils on either side. The floor is paved with encaustic tiles of various devices, with this inscription, "We will go into the house of the Lord with gladness." On each side of the inner doorway are holy water stoups in niches.

The northern porch is similar in proportions, but plainer in design. The internal vault, as well as the roof, are of stone, but ribbed and arched instead of groined. The niche over the external arch contains an image of our Lord giving benediction, and the floor is laid with encaustic tiles.

The eastern end of the chancel is supported by two angle buttresses, with niches, containing images of St. John the Baptist and St. John the Evangelist. In the apex of the gable over the great window is another niche, with an image of our Blessed Lady with our Lord. The gable is terminated by a stone floriated cross, and immediately below the sil of the east window are three angels in quatrefoils, bearing sacred emblems. The eastern gable of the nave rises considerably above the chancel, and supports a belfry containing the sanctus bell. This belfry is composed of four pinnacles, with intermediate gables and a centre termination. The words, "Sanctus, Sanctus, Sanctus," are cast round the bell, which, as its name implies, is rung to give notice of the commencement of the canon.

The Chapel of the Blessed Sacrament extends eastward from the end of the south aisle, being groined with stone. The external buttresses are more massive, and the one which is placed at the end of the aisle wall contains a niche with an image of the resurrection of our Lord.

On the north side of the chancel are the sacristies and organ loft, ascended by a spiral staircase in a turret, weathered with stone and terminated by a lion. The roofs, which are very high pitched, are all covered with strong lead, secured by rolls at short intervals; the ridges are surmounted by cresting partly gilt. This cresting, which was anciently found on all the roofs of ecclesiastical and important buildings, not only produces a rich and beautiful effect, but is actually useful in confining the lead and securing it from violent storms of wind. The tower is open to the nave as high as the floor of the ringing chamber by a large arch, splayed off with massive mouldings, and several feet in depth.

The floor of the tower is laid with tiles charged with the bearings of Talbot and Comyn, intersected by borders. A wrought-iron screen runs across the lower part of the great arch, dividing off the tower entrance; but it is provided with large gates, that can be opened at pleasure.

The nave consists of five bays, or compartments, of twelve feet each; in height forty-five, and in width, including the aisles, forty feet. The ten arches are supported by eight detached and four engaged pillars, with richly foliated caps, all of different designs; these pillars, as well as every portion of the roof, walls, arches, &c., are covered with gilding and painted enrichments. Over every arch are two circles containing heads of prophets, copied from ancient Italian frescoes. The roof is framed entirely of English oak, all the beams, rafters, braces, &c., being open to the ceiling, and carved and moulded; each principal rests on a stone corbel, representing an angel playing on some musical instrument. The floor is laid with encaustic tiles and stone alleys, with borders of inscription tiles, having sentences from the pontifical office for the consecration of a church. A stone seat is built round the side and end walls, which are lined to the height of about four feet five inches with blue and yellow glazed tiles.

The western bay of the south aisle is divided off by carved oak screens, supported by brass shafts. The font, which is of alabaster, is fixed in the centre of this inclosure, and octagonal in form; four monsters or dragons are represented crushed under the pedestal, emblematic of sin destroyed by the sacrament of baptism. The bowl is surrounded by quatrefoils, containing emblems of the four evangelists and angels bearing crowns. The cover is

framed of oak, and forms a central canopy, supported by eight flying buttresses and pinnacles, and surmounted by a finial, to which the chains are attached for the convenient raising and lowering of the same. The baptistry window is divided into three lights; in the centre an image of St. John the Baptist, holding the lamb; above, the Holy Spirit descending, surrounded by rays and seven stars.

The side lights are divided into eight floriated quatrefoils, containing representations of virtues, such as Humility, Charity, Mercy, Modesty, &c., as females overcoming contrary vices under the form of animals. The seats are low and open. In the aisle, opposite the Chapel of the Blessed Sacrament, are several praying stools, with inscriptions carved on them:—"Vigilate et orate,"—"Adoremus in æternum sanctissimum sacramentum."

The Lady Chapel is divided off from the north aisle and nave by a low screen of painted oak, gilt and painted, and surmounted by a cresting of iron wrought into fleurs-de-luce.

The floor of this chapel is laid with encaustic tiles, representing roses and lilies, emblems of our Blessed Lady.

The altar is cut in alabaster, and divided into three front and two angle niches, containing angels bearing emblems, richly painted and gilt. The centre of an ancient oak triptych, of exquisite workmanship, of the Flemish school of the 15th century, is fixed over the altar; it represents the Passion of our Lord, and is divided into three larger subjects, and a number of small groups. The window of this chapel contains three lights, in the centre an image of our Blessed Lady with our Lord, and the sides the Annunciation, on a rich diaper of fleurs-de-luce.

The pulpit, which adjoins the Lady Chapel, is octagonal in plan. The four sides facing the nave contain subjects representing St. John the Baptist preaching in the wilderness; towards the chapel the three great friar preachers, St. Francis, St. Dominic, and St. Bernardin. It is ascended by a staircase in the sacristy, leading up through a door in the east wall.

Four coronæ of iron and brass, painted and partly gilt, each containing twenty-four tapers, are suspended by chains and counterweights from the roof. These are sexfoil in shape, and the Scripture—"† Domine da nobis lucem," is painted round them. Immediately over the chancel arch, which is wide and lofty, is a painting of the Doom or Judgment, filling up the whole space to the roof. It was painted by Hauser, at Rome.

The rood loft extends across the chancel arch, and is approached from the organ loft by a passage in the thickness of the wall. This loft is entirely of English oak, and consists of a centre doorway and six lateral divisions, each separated by a shaft, from which the overhanging groining springs, after the manner of several ancient examples in Norfolk, Suffolk, and Somersetshire. The front brestsumer is most artificially wrought with foliage, grapes, &c., and along it is this Scripture, "† Christus factus est obediens usque ad mortem: mortem autem crucis: propter quod et Deus exaltavit illum et donavit illum nomen quod est super omne nomen."

The sides of the loft are protected by pierced quatrefoils and carving, relieved by painting and gilding, and the lower part contains twelve panels, intended to be filled by images of the apostles. From the centre of the loft rises the great rood or crucifix, with the attendant images of our Blessed Lady and Saint John, which are placed on pedestals united to the foot of the rood with rich tracery. The cross is crocketed at the sides, and terminates at the extremities with quatrefoils containing emblems of the evangelists, and surrounded with foliage.

The chapel of the Blessed Sacrament is divided from the south aisle by a stone arch and an open screen of wrought brass. The lower panels are filled with chased and perforated work, representing chalices, with the Blessed Sacrament and lambs alternately, and a pierced cresting surmounts the upper part, rising into crosses and crowns for tapers. Although light in appearance, this screen is of immense weight, and has occupied nearly two years in execution.

The pavement in front of the arch contains the inscription—"Domine non sum dignus," &c., and on the risers of the two steps leading up to the chapel—"† Panem Angelorum manducavit homo;" and "Panem de cœlo dedit eis." Immediately over this arch a very rich cross is painted on the wall, with angels adoring, and this inscription—"† Adoremus in æternum sanctissimum sacramentum."

The chapel itself is entirely covered with gilding and decoration. The ribs of the groining, which is of stone, are richly diapered. The spandrils are filled with passion-flowers and foliage, and circles containing lambs, surrounded by running borders. The bosses are composed of vine leaves and grapes. The upper parts of the walls are powdered with crowns and rays, with crosses alternate; while the lower portion is diapered with a continuous pattern of vine leaves.

The reredos of the altar is entirely composed of the finest tiles, heightened with gold. In the centre is the tabernacle of metal gilt, covered with enamels. The altar is carved in alabaster, and is divided into five compartments, filled with winged cherubim. The floor is laid with encaustic tiles, in appropriate patterns, such as the lamb and cross, with the word "sanctus" repeated within a border.

The east window is composed of three lights, in the centre an image of our Lord under a high canopy, terminating in a cross, with the Evangelists. Beneath the feet of our Lord is this scripture:—"† Amen, amen, dico vobis, ego sum panis vivus qui de cœlo descendit." In the side lights a continuous vine forms six quatrefoils, containing cherubim holding labels, with scriptures in honour of the holy mystery of the Blessed Eucharist.

From a boss in the centre of the chapel a lamp is suspended from a coronel divided into six parts, symbolic of the six attributes of God, and inscribed, "† virtus † honour † sapientia † charitas † benedictis † fortitudo."

The altar is furnished with rich candlesticks, linen, and ornaments, and every detail of this chapel has been designed with reference to the adorable mystery to which it is consecrated.

The chancel is twenty-seven feet in length, and nearly the same width as the nave. The ceiling is of oak, arched and divided into panels by moulded ribs, with carved bosses at every intersection. The panels are powdered with gilt stars, with monograms of the holy name in the centres, surrounded by radiating borders. A stone string-course, richly moulded, runs along either side, immediately under the ceiling, with angels holding crowns, gilt and painted.

The ground of the chancel walls is entirely gilt—angels bearing scrolls with scriptures from the *Te Deum*, *Benedictus*, &c., are painted at intervals—encircled by garlands, which are connected by a continuous diaper of quatrefoils and foliage.

The great east window represents the root of Jesse, or genealogy of our Lord. On each side of this window are two niches with projecting canopies, containing images of St. Giles and St. Chad. The high altar is carved in alabaster; the front is filled with angels seated on thrones under elaborate tabernacle work, playing divers instruments, relieved with gilding and colour. The reredos represents the coronation of our Blessed Lady. This subject fills the centre compartment, while three niches on either side contain angels bearing thuribles and tapers. A string-course, richly carved with angels, runs above the tabernacle work, surmounted by perforated brattishing level with the sill of the east window. At either end metal brackets support curtains of tapestry with cipherings.

The sedilia are elevated one above the other on the three steps approaching the platform of the altar. The respective emblems of priest, deacon, and sub-deacon, are carved in panels at the back of the seats, and the whole is surmounted by elaborate canopies and pinnacles. Immediately opposite the sedilia is the sepulchre for the Easter service, under a deeply-moulded inverted arch.

The organ-loft opens into the church by six arches, three towards the chancel and three in the north, all filled with perforated brass screens. An ancient iron corona of most exquisite workmanship, brought from Flanders, is suspended in the centre of the chancel. It was executed in the 15th century, and, although considerably injured when originally purchased, it has been perfectly restored, and forms one of the most interesting and beautiful pieces of church furniture in this country.

The church is surrounded by a spacious garth, or church-yard, inclosed by a massive coped wall, and entered by two lich gates, the boundary of which will be planted with elm and other trees. In the south-west angle of the ground, and adjoining the porch, a lofty stone cross has been erected. It consists of a flight of steps, on which the base is raised; at every angle is an emblem of an evangelist, and on the four sides a chalice, with the blood flowing into it from the foot of the cross, symbolic of our Lord shedding his blood for the four quarters of the earth. A floriated shaft rises several feet above the base, from the stem of which are two projecting branches, sustaining images of St. Mary and St. John, with our Lord crucified between them, under a canopy. To the eastward of the church are the schools for the boys and girls, with a guild-hall seventy feet in length by twenty in width, over them; at the end a schoolmaster's house, with a bell-turret and other conveniences.

A rectory-house is in the course of erection, and some land adjoining the south side has been purchased for the purpose of erecting a conventual establishment, to be attached to the mission.

The *Tablet*, where this description first appeared, says,—that "the designs of Mr. Pugin were ably seconded by the skill of Mr. Denny, resident master of the works at Alton Towers, whose admiration for the Gothic style of architecture and acquaintance with its minutest details has made the erection of this building a labour of love. The smith and carpenters' work connected with it were also executed by the resident artisans at the village under his superintendence, it being the wish of the Earl of Shrewsbury that all his dependents should, as much as possible, be benefited by the effects of his munificence.

BLACKBURN EXCHANGE BUILDINGS.

DECISION.

The committee, with a view of arriving at an impartial decision on the numerous designs submitted to them, and doing justice to the great merit displayed by the competitors, solicited the professional assistance of Mr. Cockerell, R.A., who, after a careful investigation, awarded the first premium to Messrs. Dickson and Brackspear, of Manchester, the second to Messrs. Banks and Clarke, of London, and the third to Mr. Wilson, of Bath.

In his report to the committee, Mr. Cockerell remarks, according to the *Preston Guardian*, that "the advertisement for designs has been answered by very competent talent and experience in architectural composition, and that the problem of convenience, fitness, and beauty, has been fully canvassed in them, and solved to the satisfaction of every reasonable mind, in all the varieties of which the site and the programme are susceptible, and illustrated with great diligence and taste in the greater number of them."

Mr. Cockerell recommends that the offices should be on the ground floor, and the assembly or lecture room, such as it may be, at the top of the building. He approves of a tower, as a useful and characteristic feature in a public building of this nature, and recommends that the style should be Grecian or Italian, in preference to Gothic or any other style, especially when the magnificence of the scantling of the stone in the neighbourhood, and the smokiness of the atmosphere, are taken into consideration. The three principal designs, Mr. Cockerell is undoubtedly of opinion, contain the essence of the ideas most appropriate to the subject in hand. The committee having premiated these designs, are at liberty, in his opinion, to appropriate, and they are recommended to appropriate the several ideas thrown out by them, these ideas to be harmonized by one of the architects themselves (each of whom, so far as the designs are evidence of professional skill and experience, is competent to carry out the work), or by such other competent party as the committee may appoint. Mr. Cockerell laments that so much disbursement of professional talent and time cannot be more extensively premiated, as the cost of the designs to the parties contributing cannot, on the most moderate competition, be estimated at less than one thousand pounds. Of Webb and Mee's, in particular, he speaks in terms of high praise for its artistic merit, although their brilliant design does not seem to have been in all respects in harmony with the programme, the scale being larger than the one dictated by the committee.

CLUB CHAMBERS FOR THE MARRIED.

Sir,—In this enterprising age, when companies are formed for every useful purpose, and when capitalists are eagerly seeking every mode of safely investing their money, it has often been a matter of surprise to me that some scheme has not been adopted to improve the dwellings of the middle class of society. There are model lodging-houses for the labouring population which appear even as a speculation, to answer in a pecuniary point of view, and it cannot be doubted that a company, properly authorized by Act of Parliament, might carry out some such plan as I am about to propose, with profit to themselves and benefit to the public.

I propose, therefore, that a society should be formed to purchase land or houses, upon the site of which a handsome and commodious building should be erected suitable for chambers for *married* people, each suite of rooms to be complete in itself, and to contain, say two handsome drawing-rooms, communicating with folding doors, a best bed-room and dressing-room, kitchen and servant's offices. Rents to vary according to situation, from about 50*l.* to 150*l.* per annum (a few sets might be let furnished at an increased rental), so that persons who are now compelled to reside in small inconvenient houses in the remote districts of Islington, Pentonville, or Camden Town, shall be enabled to live in handsome apartments at less expense and in a better and more central situation.

This system is universal on the continent and in Edinburgh, and indeed is very popular in London with *single men*, who find by combining they may occupy apartments at a trifling cost, which would require an income of ten thousand a year to maintain.

Allow me now to exemplify the matter in my own case. I am a married professional man, without family (not an uncommon case), with a limited income (ditto), averaging about 500*l.* a year. I pay 100*l.* a year in rent and taxes, keep two servants, and have to keep up appearances. Thus, *one-fifth* of my *entire income* is consumed in rent. Now if I lived in chambers, I should live equally well at less cost, and could dispense with the services of one domestic. Should these crude and hasty lines be the means of the formation of such a society, I shall be ready and willing to take shares in the speculation, or become a tenant after the building has been erected. I am confident it would pay a very good interest: witness the Albany, the Club Chambers Association in Regent-street, Mark's establishment in Langham-place, where, by the bye, the rents are about double what I have ventured to name. I am not a practical architect; but when I see on every side new buildings erecting, it does appear strange that no attempts have been made to improve the already existing streets. All our great undertakings are the result of private enterprise; and after seeing the anxiety the public have for railway speculation, and every other investment that offers a better return for their capital, I think such a scheme as I have proposed has only to be properly taken in hand, to benefit the builder, the capitalist, and the public.—I am Sir, &c.

A Professional Man.

London, Sept. 9th, 1846.

MEMS. IN THE PROVINCES.

The Lords of the Admiralty went down to Devonport last week to entertain themselves, their friends, and others with the ceremonial, and the more substantial adjuncts following in the wake, of the ceremonial laying of the foundation-stone of "The new establishment for the manufacture and repair of machinery for her Majesty's steam-ships of war," as described on the stone itself, which is a rectangular block of granite from the Par quarries, near Fowey, 12 feet 10 inches long, and of proportional breadth and thickness, with a weight of nine tons. The First Lord laid the stone, or rather the lime in which it was to be imbedded. This rather bulky block of stone constitutes the key of the inverted arch which forms the western entrance to the lock of the south basin. In preparing for this dock, an excavation has been made 43 feet in depth, and 150,000 cubic yards in content, and of such extent as to form, when completed, a lock or dock 360 feet long and 80 feet wide, within which a further excavation will be made for a basin, 600 feet by 500 feet. The whole site to be occupied by the new works is 74¼ acres. The work was begun on the 19th of November, 1844. Mr. Nasmyth's tilt hammer has been used in driving the piles, the first of which, the dolphin or guide pile, was driven on the 30th of January, 1846. The tilting-machine is a very large one, driven by steam-power. In the dam, which extends to the unprecedented length of 1,600 feet, 8,000 loads of timber have been driven in piles in the course of a few months, instead of years, as by the old plan, and with a great saving of expense, although the cost, even as it is, has exceeded 130,000*l.* Up to the 31st of August, nearly 207,000 cubic feet of granite, and nearly 350,000 cubic feet of limestone, have been delivered on the works to Messrs. Baker and Son, the contractors. Eight hundred workmen are employed.——The Cambridge Paving and Lighting Board have been called upon to interfere, by remonstrance, at least, if not by law, with the plan and progress of a proposed new arcade about to be erected by the trustees of Storey's Charity, in Black Bear Yard. The ground of complaint is, that the narrowness of the passage may endanger the public health. Mr. Walters, the architect, expressed his willingness to produce the plans, though he doubted the competency of the authority of the commissioners. The plans, however, are to be laid before them at their next meeting. ——A dispute between the corporation of Cambridge and the authorities of St. John's College on the point of liability, has hitherto prevented the trifling outlay necessary to repair the bridge at the back of the college, which is allowed to stand in a state dangerous, especially in the dark, to every passer by. The very moderate sum of 5*l.*, it appears, would remove both the nuisance and the disgrace to all parties concerned.——At a vestry meeting at All Saints Church, West Ham, Stratford, on the 3rd instant, it was resolved that St. John's Church, Stratford, should be repaired by a church-rate of 8d. per pound; but a resolution to appoint a committee to inquire into the state of All Saints' Church itself, with power to engage surveyors to assist therein, was negatived by a large majority, though it was deemed necessary, and agreed that the vicar and churchwardens should form a committee for that purpose, and report themselves on the subject. The expediency of rating machinery was also negatived.——A gift of 500*l.* towards the cost of building the new church at Lynn has been presented by the Hon. Spencer Cowper, the high sheriff of the county. The consecration, previously announced for the 23rd inst., is to take place on the 24th.—It is expected that 100,000*l.* over and above the 100,000*l.*, or property of that value, bequeathed to found the proposed university in Manchester, will be collected by public contribution. ——The Rev. Hugh McNeile has himself laid the first stone of his new church of St. Paul, Prince's-park, Liverpool.——From Mr. Jesse Hartley's report to the Liverpool Dock Committee, on the general state and progress of the dock works, and the expenditure in his department for the year ending 24th June, 1846, it appears that the total expenditure on the new and old works, including a multitude of minor details, occupying some pages of the report, and far too numerous for special notice, is as follows:—

Total new works.....	£321,491	11	10
Total repairs	18,728	5	9
Increase of stock	12,305	3	11
Total expenditure ..	£352,525	1	6

From a report by Mr. Duncan to the Commissioners of paving and sewerage at Liverpool, it appears that great progress is making at the Water-works, Green-lane. It is intended, at a cost of 98*l.*, to render the pipes, laid down within the limit of the proposed dock extension at Wapping, serviceable in the event of fire. The engine and boiler house at the works are about ready for roofing. The surveyor's, Mr. Stewart's, account for surveying and buying land for the works, to the extent of 8,000*l.*, and amounting to 268*l.* 12s., was pronounced to be "exceedingly reasonable." ——At a vestry meeting held at Kemerton, on Thursday week, it was proposed to accept the highly liberal offer of the rector, the Ven. Archdeacon Thorpe, to rebuild the north aisle and tower of Kemerton Church, and erect a new spire, at an estimated expense of 1,500*l.*, on condition of the parish undertaking to raise 500*l.* on security of the rates, to be expended, if necessary, and to be paid off within ten years. Mr. Throckmorton and Mr. Tidmarsh, two Roman Catholics, respectively moved and seconded a negative amendment, which being lost, Mr. Tidmarsh demanded a poll, to continue till Monday last. At the close of the poll on Friday night, the numbers were—for the Archdeacon's offer, 80; against it, 41.—— Bidston Church has been considerably altered and improved in the interior, at the sole and voluntary expense of the parish; but much remains to be done in carrying out their laudable desire to redeem their church from its hitherto much decayed and dilapidated condition.

THE OFFICES OF GOVERNMENT AT WHITEHALL.

Sir,—It was my intention to have called the attention of antiquaries to the fact, that another of the ancient buildings of Westminster is about to be swept away; but seeing the edifice in question is lightly spoken of in your pages, I pause, thinking that in my veneration for the productions of former ages, I must be either before or after the spirit of the time in which I live—a time in which we have seen the most wanton devastation of our ancient buildings, as well as of those which can scarcely be called ancient. The Sainte Chapelle, in the Palais de Justice, at Paris, still exists all glorious, the perfection of beauty, while our own St. Stephen's Chapel, built a century after, in rivalry of the former and exceeding it in sumptuosity, has just been demolished. St. Edmund's Hall, in which that pious monarch dispensed justice and performed his deeds of charity,—the painted chamber, the princes' chamber, the jewel tower, &c., are soon to follow, while a worthy destructionist announced some time ago the "pleasing intelligence!" that St. Margaret's church was immediately to be pulled down, and thus, with the exception of the Abbey, Westminster will be completely denuded of all its ancient glories. Yet I see accounts of bodies of great men poring in rapture over a tile, or over a cloth rubbed with cobbler's wax! while national monuments are exultingly destroyed under their very eyes, without the least expression of regret.

Sir,—This "old deformity," this "eyesore," was once one of the most elegant buildings in the metropolis, and in Hollar's views of the then existing charming edifices of Westminster, this with its noble mullioned windows and four lofty turrets, appears most conspicuous, but strip a peacock of its feathers, and he becomes very ugly. The patronized architects of England for the last hundred years do not appear to have held the works of their predecessors in much respect; hence this building was despoiled of its towers, its windows of their tracery, the windows themselves filled up with brickwork, the walls and buttresses cased with brick, the interior divided into three floors, the walls pierced with three rows of holes for the insertion of sash lights, in short it became what we for a few weeks longer may see it. With your quick discernment you will easily conceive its original outline, and the pitch of its leaded roof is visible in the remains of the north cornice.

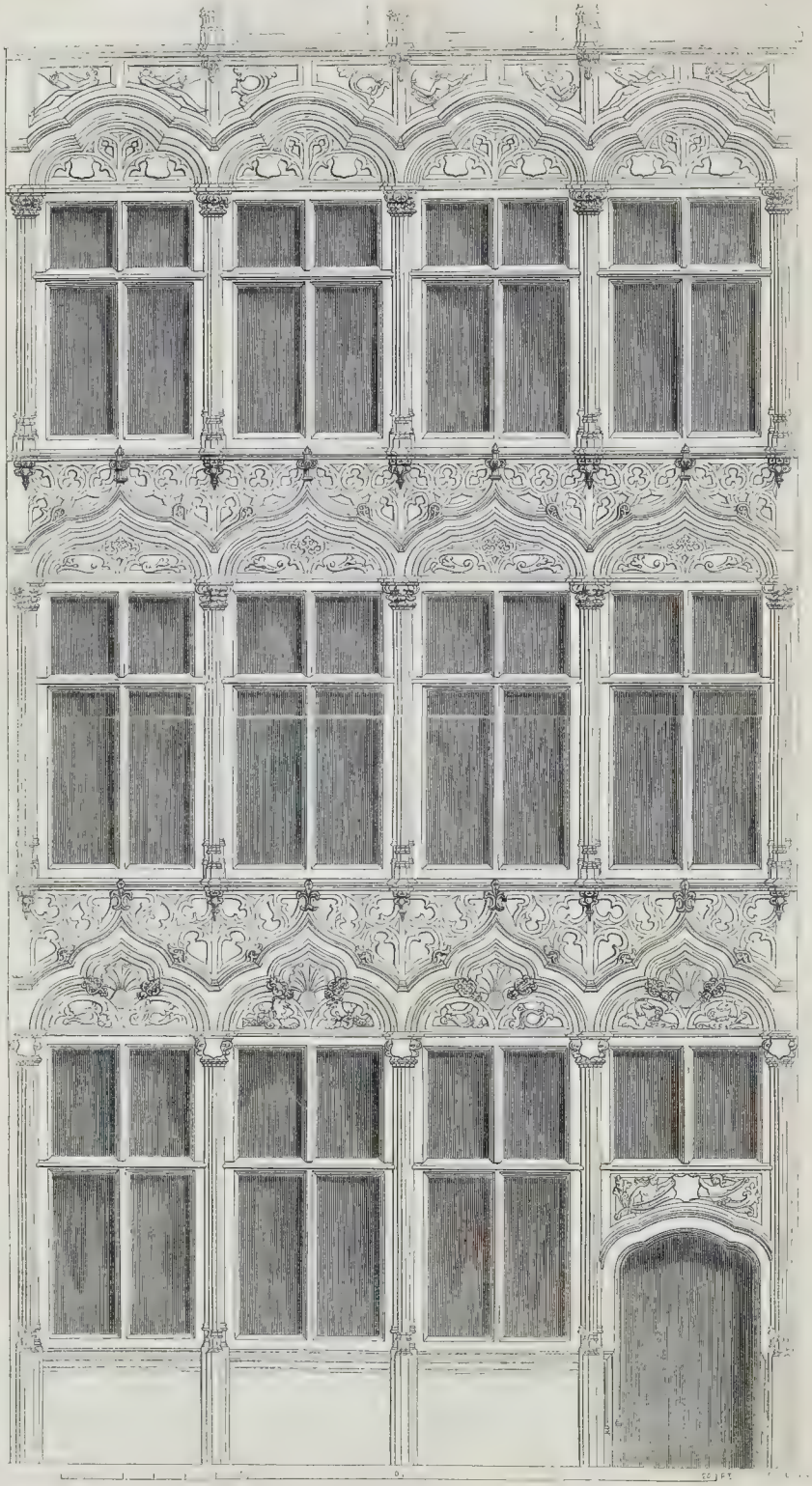
This now despised edifice was three centuries ago, the daily scene of the most gorgeous splendour ever witnessed in England: it was the chapel of Cardinal Wolsey, and is the last great relic of York House and (with the exception of the Savoy Chapel), of that long line of palaces which once studded the banks of the Thames.

I am, Sir, &c.,

William Bardwell,

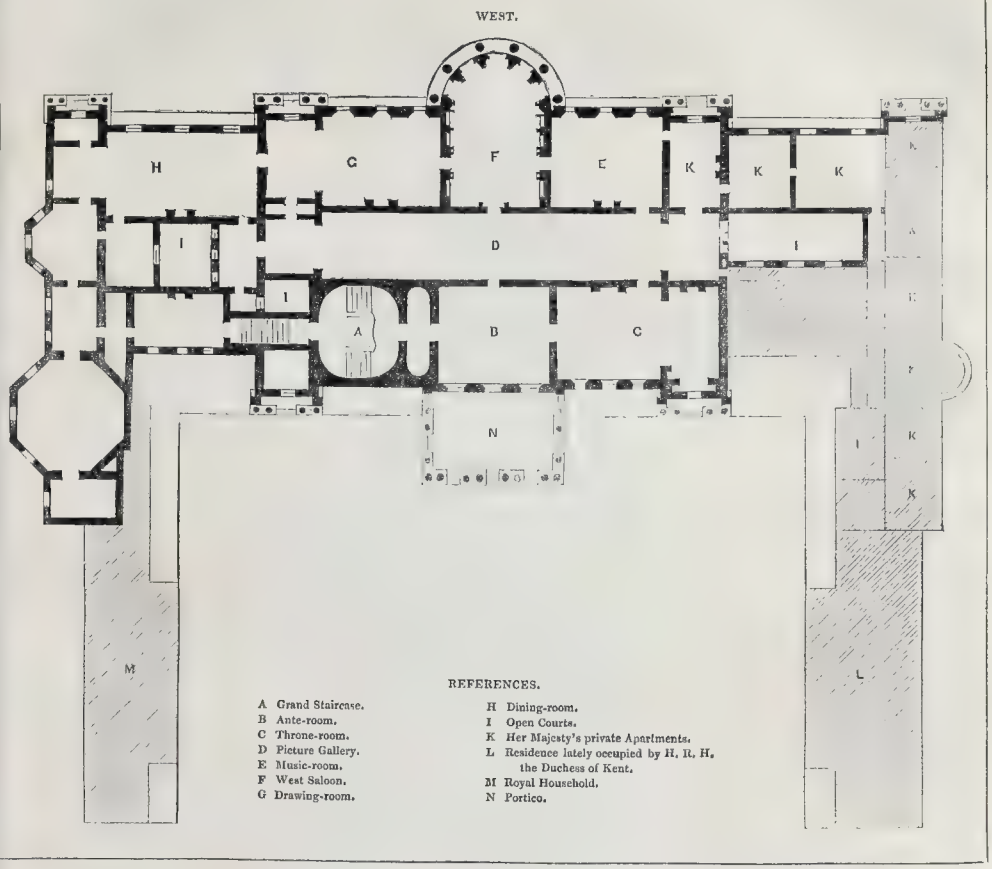
4, Great Queen-street.

Baths and Wash-houses, Euston-square.—Why Employ an Architect?—We are requested to state with reference to an article under this head which appeared in our last number but one, that the builder of the plunging baths therein mentioned (Mr. Ewart of the New Road Zinc Works), undertook to erect them without holding any party responsible for the cost, and to receive the proceeds of them weekly until he should have been paid the sum of 500*l.* This in no way interferes with our argument.



ANCIENT HOUSE AT MALINES.

BUCKINGHAM PALACE—PLAN OF PRINCIPAL FLOOR.



REFERENCES.

A Grand Staircase.
B Ante-room.
C Throne-room.
D Picture Gallery.
E Music-room.
F West Saloon.
G Drawing-room.
H Dining-room.
I Open Courts.
K Her Majesty's private Apartments.
L Residence lately occupied by H. R. H. the Duchess of Kent.
M Royal Household.
N Portico.

ANCIENT HOUSE AT MALINES.

Malines, or Mechlin, is now more celebrated as the central station of the Belgian railroads, than as the town which formed one of the seventeen united provinces, and whose manufactures rivalled those of the more important towns of Flanders. But although of much less importance in a political sense, its direct communication with Brussels, Antwerp, Louvain, Ghent, &c., enables it still to preserve its industrial character. The town itself has also much to recommend it; its wide airy streets, pleasant walks agreeably diversified with wood and water, and extending entirely round the town, render it a place in which the tourist may pass a short time with much pleasure; while the artist or the architect may spend hours in admiring the exterior embellishments and antique edifices of the once lordly and still busy Malines.

Many interesting remains of domestic architecture are to be found in the Grand Place and the adjacent streets, and others, of still better design and in a more perfect state, on the banks of the great canal; but the specimen which principally engaged my attention is that shewn in the engraving on the opposite page. This house stands on the bank of the canal; it is three stories in height, and has attics in the roof: the interior does not now shew any thing worthy of particular notice, but I was assured by the present proprietor (whose attention and civility were only to be exceeded by the love he displayed for his dwelling), that the internal details had been equally rich with those of the exterior.

The external walls are formed entirely of stone; and the whole of the details shew great variety in the design, and delicacy in the execution; the whole front is in very good preservation, except the attic story, the details of which are quite destroyed, the shafts of the column being suddenly broken off, and the outline of the gable formed by the raking lines of the roof. I have not thought it requisite to shew more than the commencement of the gable; and have thus been enabled to give the lower part of the building to a larger scale than I could otherwise have done. The date, 1536, appears immediately over the door.

The accompaning diagram shews the plan of one pier, taken through the window and door. W. C.



Expedition.—The gas works at St. Neot's have been erected under the superintendence of Mr. Thomas Atkins, gas engineer, of Oxford, in the short space of eleven weeks.

BUCKINGHAM PALACE THE NATIONAL GALLERY.

Sir,—In the event of her Majesty being graciously pleased to give her sanction, with the consent of Parliament, to the removal of her London royal residence from Buckingham Palace to a more congenial locality, I proceed to shew what accommodation the palace would afford for the reception of the national collection of pictures. The accompanying plan explains the arrangement of the first, or principal floor of the palace; and it will be seen that no alteration will be necessary in the apartments beyond admitting the light in some of them from the ceilings.

The centre of the building is at present occupied by the state apartments, a series of noble rooms, 32 feet high, opening to a picture gallery (D), about 180 feet in length, and 26 feet in breadth, which is already lighted by compartments in the ceiling, filled with rich diapered ground glass. The rooms opening into this gallery are (B) an ante-room, 44 feet by 35 feet, (C) throne-room, 64 feet by 35 feet, (E) music-room, 46 feet by 35 feet, (F) west saloon, 52 feet by 35 feet, (G) drawing-room, 68 feet by 35 feet, and beyond this (at H) is the state dining-room, 72 feet by 34 feet; and returning along the south side are several smaller rooms, which would be useful as cabinets either for small pictures, or for cameos, coins, and medals, illustrating English reigns and history, of which no national collection yet exists.

On the ground-floor the apartments would not be inappropriate for the reception of sculpture, of which there is at present hardly a specimen in the National Gallery; the ac-

commodation on this floor would be equal in extent to that on the upper story (although the rooms are much less in height); the gallery in the centre, being of the same size as the Picture Gallery above it, was originally intended for a "sculpture gallery," and the difficulties that exist to its being properly lighted at present, would cease when the building became a gallery instead of a royal residence.

It is my conviction that, if the opportunity were given by the assurance of a proper resting-place being provided for works of sculptors, we should soon see presented to the nation the productions of a Flaxman, a Bacon, and a Chantrey, as fitting companions for the paintings of a Hogarth, a Reynolds, and a Wilkie; and whilst we possess the beautiful works of Correggio, Raffaelle, and Claude, we might also hope to see among us, and under the same roof, the glorious conceptions in marble of *their* countrymen, the sculptures of a Michael Angelo and a Canova; nay, we might aspire yet higher, and as one of our national collections (the British Museum) contains the priceless treasures of a Phidias, we need not despair of seeing in another the work of a Praxiteles; and in THE BUILDER of this very day it is stated, that a "surprisingly fine" Greek statue of an Athleta or Apollo has been just brought to light in Greece; nor would it be an act unworthy of a British Parliament to encourage living sculptors to run a glorious race for immortality, by purchasing annually a certain number of their works.

The suggestion of Mr. Hume should not be lost sight of, viz. that part of the palace might be appropriated for a museum; and I would add the hope, that the relics might be such as would chiefly illustrate English history, for which sufficient materials would probably be presented in the course of the first twelvemonth.

In point of accommodation for the national pictures, it is obvious that the exchange must be highly desirable, from the present limited allowance in Trafalgar-square, of three tolerably-sized rooms and two very small ones for nearly treble the extent of space at once to be obtained, if only the state rooms of the upper floor of the palace are taken into account, with an opportunity of progressively increasing the accommodation as the pictures increase in number, by occupying part of the north wing.

The national collection need not encroach upon the private residences of the departments of the Lord Chamberlain and Lord Steward, forming the terminations of the east front, nor yet upon the private apartments at present used by her Majesty, and those lately occupied by her Royal Highness the Duchess of Kent, on the north side; thus much of the present palace might be retained for the use of the royal household,—a measure which would prevent the inconvenience of crowding too many establishments in a new palace, which therefore might assume more of the comfort of a private residence, and still have a proper proportion of state reception rooms.

I will venture once more to request a place in your pages, with reference to a new palace, not to offer a plan for one, which would be an impertinent intrusion on my part, uncalled for and unwarranted, but simply to submit a few remarks, which I hope will not be considered out of season; and trusting that a peaceful agitation of the subject may contribute to bring about the realization of a scheme which appears to have received much approving sanction, and which has to recommend it that true economy which consists, not in seeing for how small an outlay any given object may be obtained, but in so applying a sum of money, whatever the amount, that no after regret may be felt that it has failed in accomplishing its purpose.

GEORGE RUSSELL FRENCH.

Sussex Gardens, Hyde Park,
5th September, 1846.

*** Plans and views of Buckingham Palace will be found in Mr. Leeds' continuation of Mr. Britton's "Public Buildings of London."

Sir Frederick Trench has favoured us with copies of papers on the subject of the palace, published by him as early as 1825 and 1832, to which we shall take occasion to refer hereafter.

PROJECTED ALTERATIONS AT THE MANCHESTER INFIRMARY.

MANCHESTER GENERALLY.

THE idea of removing the Manchester Infirmary to the outskirts of the town has been almost abandoned, and a select number of local architects were lately applied to for plans for the enlargement of the present building. The existing structure, which we recollect occupies *one* of the finest sites in Europe, does not display any great architectural merit. It received its present form some twenty years since, and whilst Sir Robert Smirke was busy with his style of Greek architecture in metropolitan buildings, a Manchester architect studded the town with duplicates, the idea being the end of a temple attached to the front of a factory. In the case of this particular building the error was still greater, for the front consisting, in fact, of two separate buildings, the infirmary and the lunatic asylum, no other way could be devised than by adding a portico of four Ionic columns to the first, or principal building, and a lower portico of six Doric columns to the asylum. As these porticos, despite the holes in the wall at the back of them, always passed for copies of the antique, people hardly dared to criticise; but as some suspicion nevertheless existed, that the front looked rather like one of the brute creation, which the vulgar say is without one of its ears, drawings were actually made for a duplicate wing. This idea, it seems, was not carried out, and probably it would only have made the central feature less striking than before. But it having become necessary to enlarge the building considerably, and the wing being no longer occupied by the asylum, it is proposed to extend the building in a corresponding position, so that the edifice will be exposed on three sides, and indeed may soon be completely isolated. Three plans were received embodying various proposals, of which the best that could be selected was by the architect before mentioned, who could suggest nothing better than fronts of the old character with the identical Ionic portico to each, in stone, truly, but on the system of plasterers' architecture, which we have before had to condemn. The Doric portico would be removed along with the building to which it is attached, which has to be remodelled for its new purpose, and we suppose the former would not be re-erected in any other part of the building. At a late meeting of the trustees, reported in the *Manchester Guardian*, some discussion took place, as to whether the principal front of the building should not be made to appear so, some of the speakers suggesting a six-columned portico in that front, and others that the columns at the ends should be attached. The architect, and the original movers, however, adhered to the first plan, as they considered that all would be principal fronts, but ultimately the motion passed with little modification. In former notices of architecture in Manchester, we have spoken of the evidence of great improvement in taste in that town, but judging from the particulars to which we have had access, and other means of information, we can only say, that should the project in question be carried out in the manner at present contemplated, that opinion must be considered to be an erroneous one.

The two great Catholic churches here are proceeding steadily. Many of the intended ornamental parts are left in rough blocks, till funds are forthcoming. As it is contemplated to remove the Lunatic Asylum from its present site at the Infirmary, a new building has to be erected, for which there will be a competition. The pond in front of these buildings will probably be filled up. At Pendleton, near the same place, the foundation-stone of a new Independent chapel has been laid. The building is said to be 87 feet by 47 feet in external dimensions. The roof is to be formed of cast-iron principals. The front is said to be "designed after the example at Whitby Abbey," delineated in "Sharp's Abbeys of Yorkshire." The building and fittings are to cost 3,500*l*. Mr. Richard Lane is the architect.—Another architect at Manchester adds the title of sanatory engineer to his other qualifications, in an advertisement.—The Manchester parks are found to answer their object admirably. Additional seats are to be provided, see-saws and swings for children, and circular swings, or "giant's strides." It has, however, been remarked, that the working-classes cannot as yet derive all the benefit, which it is hoped they may from these parks, as they can be open only, for the most part, during the hours of labour. It is also regretted, that the Zoological Gardens, established for a similar object, to which we know their directors devoted incessant attention, were allowed to be given up, for want of a little timely assistance, and, perhaps, for one reason, because the mistaken principles of a majority amongst their shareholders prevented the working-classes deriving any benefit from them on the Sunday.

RAILWAY JOTTINGS.

ON an estimate, or average, two hundred thousand labourers will be required on railways for years to come.——Although, during the last two years there has been a diminution of horses and carriages for private use, yet, notwithstanding the great increase of railways, it is an interesting, and probably altogether unexpected fact (and one, moreover, full of reviving hope for those unhappy "whips" who may have meditated suicide), that not only the post-horse duties, but the imposts on stage-coaches have increased, and probably will increase, though for shorter but more numerous stages, as the railway ramifications are more and more multiplied throughout the country. ——The Great Western's "Great Western" "monster" engine, nicknamed by its stokers and drivers "The Russian," from its consumption of oil and tallow, and by the platelayers "The Mangle," from its influence on the rails, has been already docked for general repair at an estimated cost of 500*l*. to 600*l*.,—a considerable per centage on the 9,000 miles it may have run.——About fifty yards of the Marley Tunnel, on the South Devon Railway, have fallen in and killed four men, who were buried in the ruins, besides injuring others. The removal of the centre and uprights used in erecting the arch led to the accident, the masonry being erroneously considered to be sufficient and safe.——Strange to say, four men were also buried about the same time by the falling in of the roof of a portion of the tunnel of the Chester and Holyhead Railway, running under Upper Northgate-street, at Chester; only one man was killed, however, though all were injured.——The Stowmarket Morass, on the Ipswich and Bury line, is swallowing up all the materials, rails and all, so liberally thrown into the gulph, and gaping for more in divers places (see separate article). ——The Syston and Peterborough Railway was opened as far as Melton on Tuesday last, and trains are now running daily between Melton and Leicester.——Along the Yorkshire and other railways, flocks of health-seekers are flying in all directions towards the watering places. From cheapness of travelling and other facilities this sort of traffic is every season on the increase.——The iron viaduct across the Tyne, in the line of the Newcastle and Berwick Railway, noticed in our last impression, is to be one, it is said, not hitherto equalled in size and magnificence. It is to consist of six cast-iron circular arches, with a curved approach at each end, and will, in fact, be a double bridge; the railroad on the summit, and a carriage road and two foot-paths suspended from the arches. The span of the arches will be 125 feet, supported on pillars 21½ feet high, and 14 inches square; and the approaches from both Newcastle and Gateshead will be 251 feet in length, and precisely similar. Two courses of 3-inch planking will be placed beneath the rails, between which will be a layer of Borrowdale's patent asphalted felt, to render them waterproof; and the carriage road beneath will be paved with wood to prevent vibration, and the foot-paths planked. Every arch will be completely erected on the contractors' premises by itself, when the engineer, Mr. R. Stephenson, will inspect and test its strength and fitness. The quantity of iron required will be about 6,000 tons. It is to be finished, so as to be available for public traffic, by the 1st August, 1848.——On the Glasgow and Greenock line of railway, third class passengers pay only a farthing a mile. An assistant of our own has gone daily, for months, from Greenock to business in Glasgow, a distance of between twenty and thirty miles, for sixpence each trip.——A letter from Rome in the *Nuremberg Correspondent*, quoted by the *Morning Herald*, states that a plan has been

submitted to the Pope by Prince Conti and company, for the construction of railways in the Roman states, without recourse to loans. The company proposes to contribute to the expenses of construction 5½ bajochi per day for five consecutive years, at the expiration of which time there would be delivered to each person, according to the amount of the sums received, shares of 100 scudi, each bearing interest. The first line to be constructed would be that from Rome to Naples.

FAILURE OF EMBANKMENT AT STOWMARKET MORASS,

ON THE IPSWICH AND BURY LINE.

On the Ipswich and Bury Line, at the Stowmarket Marsh, strenuous endeavours have been made to carry through the requisite embankment. It has been repeatedly formed to a considerable extent and has as repeatedly disappeared, accompanied at first by rails and sleepers and all. More than 100 yards of the embankment thus repeatedly formed, and with great and unusual labour, have been altogether lost, although, on an average, 120 loads of material were discharged every day into the gulph, which has thus absorbed the enormous quantity of 25,000 cubic yards of material in addition to the original embankment. The plans of procedure have been changed more than once, and latterly half-a-dozen pile-driving engines were put in requisition for the formation of a platform for the embankment; but the depth of the marsh having been at length, as it ought to have been at first, ascertained by boring, to be no less than 80 feet and upwards (or within a few feet of the level of high water mark at Ipswich), it was determined to abandon that plan, and form a foundation by means of faggots, brushwood, and pollard trees, as was successfully done, if we remember aright, (see *Parliamentary Gazetteer*, article "Lancashire *Railways*,") in the formation of the very first of all locomotive railways, the Liverpool and Manchester, in crossing the formidable, and at that time worse than useless, though afterwards most valuable marsh, Chat Moss.

Immense quantities of the proper materials have been thrown in, and the embankment for a few yards has already re-progressed. But, unfortunately, a like disaster has occurred about half a mile along the valley, where the line recommences, towards Bury, with an eight feet embankment; about 80 yards of which have disappeared so suddenly and entirely, that a great many rails have been lost. The work had only readvanced about a foot, when 2,000 cubic yards of earth had been "dipped" in the interval. At both places the pressure of the sunken masses has bulged out the crust of the morass, as if it had been broken up by miniature earthquakes. The experience which overcame the like difficulties on the Liverpool and Manchester morass ought to be considered in such a case as this, ere good money and material are sunk along with what is already so hopelessly lost. It is even *feared* (though not even yet *ascertained*, it appears) that the space not yet operated on, between the two embankments in question, is entirely of this marshy nature, as piles 45 feet long, driven in midway for the purpose of erecting a bridge, after yielding 12 to 18 inches at each stroke of the "monkey," have at length disappeared. In crossing such a morass, surely the first thing, and not the last, to be ascertained, and that, too, directly and expressly, and not merely by accident or incidentally, and at great and irreclaimable cost, was the depth of the morass to be embanked, and the advantage of previous experience in the embankment of such morass.

Foreign Granite.—We mentioned, some time since, the arrivals of considerable quantities of granite from the Channel Islands, in a broken state, and also in blocks from Caen, in Normandy. Since the period of our former notice of the matter, no less than 121 vessels have arrived from Guernsey laden entirely with granite in a broken state, having collectively the very large quantity of 20,422 tons weight of the article on board; and 55 vessels have arrived from Caen, in Normandy, with granite in blocks, having together 2,355 blocks entire, and two others with 140 huge blocks of the same kind of stone in a dressed state.

THE ARTESIAN WELL IN SOUTHAMPTON.

An artesian well has for several years past been in the course of construction on Southampton Common, for the purpose of supplying the whole town with water. The sinking and boring together have reached a depth of upwards 1,200 feet, at a cost of nearly 20,000*l.*, to the great discomfiture of the contractors; and the boring tool has not yet penetrated through the chalk, below which lies the stratum of green sand, whence it is expected to derive the supply of water. The works have been suspended, and it is a question with the inhabitants whether to remain satisfied with the quantity already supplied by the well, which is scarcely half as much as is wanted, or whether they shall persevere in the boring to reach the green sand.

During the recent meeting of the British Association for the advancement of Science, a paper on the Southampton artesian well was announced to be read by R. Keele, Esq., but previous to his doing so, Professor Ansted undertook to explain to the audience the nature of artesian wells generally, and the natural conditions requisite to the successful formation of one. We are indebted to the correspondent of the *Morning Post* for the following particulars:—

The issuing forth of the water from the top of an artesian fountain depends on the well known principle that water will always find its level; and when a stratum of sand pervious to water lies in a basin form between two strata through which fluids will not pass, the water drained from the surface collects in this natural basin, and rises above the level of the enclosed lower grounds. When, therefore, a boring is effected from the surface down to this natural reservoir, the confined water is forced upwards by the pressure of the water above the level of the boring. The strata at Paris are thus disposed, and by the advice and under the direction of M. Arago, the boring for the artesian well was persevered in till at a depth of 1,800 feet a most abundant fountain of water spouted out. Mr. Keele's paper gave a minute description of the progress of the well at Southampton, and of the strata cut through. Instead of commencing boring from the surface, a shaft was sunk to the depth of 540 feet, passing through 300 feet of London clay, before the boring was commenced. The chalk was reached at a depth of about 380 feet, and the boring through the chalk was continued till a depth of 1,260 feet was attained. The question which it was anxiously requested the geological section should determine is, whether by continuing the work the requisite supply of water will be obtained. The section thus appealed to did not give a very satisfactory or encouraging answer. Mr. Hopkins alluded to the great disruptions of the strata near Southampton, as exhibited by the abrupt elevation of the chalk in the Isle of Wight, as a reason why success might be uncertain, as the water in the green sand stratum might have some vent through which to escape; at the same time he recommended a continuance of the work. Mr. Greenough wished to shift from the geologist the responsibility of giving an answer, as the condition of the same strata is so different in different situations, as to prevent the possibility of foretelling the result with certainty. He mentioned a circumstance connected with the sinking of the first artesian well in England, near Great Grimsby, in Lincolnshire, which, however, encouraged perseverance. The operations in that case were continued for a long time without success, and they were about to be abandoned in despair, when the spring was tapped, and the sudden influx of water put to hazard the life of the well-sinker, who was with difficulty extricated in time. The man having gone home to change his wet clothes, was on returning to the well astonished to find a river of rushing water issuing from it; and by this means an extensive tract of country that had been almost uninhabitable from the want of fresh water, was furnished with an abundant supply. Several Southampton gentlemen took part in the discussion, which, however, led to no results.

We learn from the *Mining Journal*, that a communication has been made to the Academy of Sciences, respecting an extraordinary improvement in the boring of artesian wells, by M. Fauvelle. The process has hitherto been one of great time, and, consequently, of great expense; for it was necessary, after boring a few inches, to draw up the instrument to clear away the earth, stones, &c., through which it had pierced. By M. Fauvelle's process the boring is never interrupted, for the instrument clears itself, and continues its course of perforation. This is effected by an injection of water through a hollow tube, so contrived as to cause a powerful rush under the borer, and clear away the accumulated contents by driving them to the surface. The injection is produced by a force-pump, worked simultaneously with the instrument of perforation. Our readers must conceive at once that the labour of boring is greatly accelerated by this process, for not only is it unnecessary to disconnect the borer from time to time, in order to clear it, but the cutting point is kept continually free. The account given of the success of this new invention would be regarded as fabulous, if it were not well authenticated. We are assured that, at Perpignan, M. Fauvelle bored, in the presence of M. Arago, to a depth of 170 mètres, for an artesian well, in the short space of fifteen days; whereas workmen have been engaged in the same town in making an artesian well of the same depth for a period of eleven months, and their labours have not yet been completed. This is certainly one of the most valuable discoveries of the present age, for it will enable private persons to make artesian wells at even a smaller expense than common wells, and to go to such a depth as to obtain pure water for domestic purposes. We hope to hear of the experiment being repeated, and that, too, upon an extensive scale.

NEW LIQUID CEMENT.

PIGMENT TO RENDER WALLS IMPERVIOUS TO MOISTURE.

We have lately seen specimens of cement, stucco, and imitations of Jaspar, marble, porphyry, and agate of considerable beauty, formed, as we are told, by a process derived from the Chinese. The leading feature of these operations is the conversion of common cheap materials into substances of value to builders;—1st, a cement, equal in other respects to Parker's, which, as is asserted, remains uninjured by the heat of chimneys or of the sun, and impervious to frost. 2nd, an easy mode of reconverting sand or pulverised carbonate of lime into compact stone. 3rd, imitations of various sorts of crystalized minerals, more diversified than scagliola; and, 4thly, a vitreous surface, which is applied with the brush over the other substances in thin coats like paint.

Mr. W. Couch, the possessor of these secrets, is an old plasterer, in early life foreman to James Wyatt, and afterwards, for ten years, in a similar capacity to Messrs. Cubitt, whose service he left to go abroad. He visited Canton, South America, and the Sandwich Islands, where he obtained a knowledge of some things which he believes to be unknown in England. After an absence of eighteen years he returned to his own country, but up to this time has been doomed to disappointment: there are but few men ready to believe and acknowledge that an illiterate workingman can be the possessor of useful knowledge; and illness and poverty have been his lot instead of fortune. An able artist, who has examined the vitreous pigment, says it appears to be a complete answer to one important query of the royal commission as to the success of fresco painting, and would in many ways secure architects and builders from annoyance from wet and expansion, consequent to moisture.

The cost of the vitreous pigment, or vainish, is fourpence per square yard for each coat—two or three being required.

We are not in a position to pledge ourselves to the truth of all Couch asserts, but from what we have seen, he does appear to have some knowledge which ought to be serviceable to himself and others.

St. Clement Danes Almshouses.—We are glad to learn that the gentleman selected by the managers of St. Clement Danes is Mr. Hesketh, the architect, late a pupil of Mr. Hardwick. The statement made in our columns last week was the literal reply to our inquiry at the Secretary's office, and was printed between inverted commas for that reason.

INTERMENT IN TOWNS.—ST. MATTHEW, FRIDAY STREET.

The frightful proceedings in respect of clearing out the "cellar" in Friday-street, recently brought before the public, will prove, it is to be hoped, another considerable blow to the present destructive system. They fully bear out the often repeated statements and assertions of Mr. G. A. Walker, which have exposed him to abuse instead of obtaining for him reward.

Mr. Parry, to whom our readers are indebted for, perhaps, the greatest amount of statistics in connection with the city churchyards that has yet appeared, writes to us as follows:—

Sir,—The very striking exposure which has just occurred at one of the city churches, will, I trust, exempt some brief remarks by the undersigned from the exclamation "*Ecce iterum crispinus!*"

The writer was aware that *St. Matthew, Friday-street*, containing with another about 600 inhabitants, *Bow church*, three parishes, with about 900, and some others, according to a *Times* correspondent ten or twelve, were without any churchyards at all! and perhaps general burial in vaults may be worse than slight external covering with continual disturbance. At Friday-street, where the writer was present at the funeral of the benevolent Rev. Mr. Hatch some years back, the vaults are descended by two wooden trap doors within the church. Granting, however, that the defence of the churchwardens is correct, that a large proportion of the dreadful load must have been brought from elsewhere, this only proves the extent of the system.

However, this frightful event is one of those "thunder-storms which clear the air." There must be early a better system, both of *prohibition* and *provision*.

PAPER-HANGINGS.*

Three kinds of paper-hangings have for some time past been much used on account of their beautiful appearance and their moderate price. The first and plainest is that which has on it figures printed or drawn either with one or more colours. The second sort contains figures covered with some woolly stuff pasted over them; and the third, instead of woolly stuff, is ornamented with a substance that has the glittering brightness of gold and silver. It appears that the idea of covering walls with parti-coloured paper might have readily occurred, but the fear of such hangings being liable to speedy decay may have prevented the experiment from being made. In my opinion the simplest kind was invented after the more ingenious, that is to say, when the woolly or velvet kind was already in use. The preparation of them has a great affinity to the printing of cotton. Wooden blocks of the like kind are employed for both; plates of copper are also used; and sometimes they are painted after patterns. Artists possess the talent of giving them such a resemblance to striped and flowered silks and cottons, that one is apt to be deceived by them on the first view. Among the most elegant hangings of this kind, may be reckoned those which imitate so exactly every variety of marble, porphyry, and other species of stones, that when the walls of an apartment are neatly covered with them, the best connoisseur may not without close examination be able to discover the deception. That the resemblance may be still greater, a hall may be divided by an architect into different compartments by pillars, so as to have the appearance of a grand piece of regular architecture. Whether M. Breitkopf, at Leipsic, was the inventor of this kind of hangings, I do not know, but it is certain that he brought it to great perfection.

The second kind, or, as it is called, velvet-paper (now called flock-paper), is first printed like the former, but the figures are afterwards wholly, or in part, covered with a kind of glue, over which is strewed some woolly substance, reduced almost to dust, so that by these means they acquire the appearance of velvet or plush. The ground and the rest of the figures are left plain; but the whole process is so complex that it is impossible to convey a proper idea of it by a short description. The shearings of fine white cloth, which the artist procures from a cloth manufactory, and dyes to suit his work, are employed for this purpose. If they are not fine enough, he renders them more delicate by making them pass through a close hair-sieve. This, as well as the third kind, was formerly made much more than at present upon canvas; and, in my opinion, the earliest attempts towards this art were tried, not upon paper, but on linen cloth. The paper procured at first for these experiments was probably too weak; and it was not till a later period that means were found out to strengthen and stiffen it by size and paste.

The invention of velvet-paper is by several French writers ascribed to the English; and, if they are not mistaken, it was first made known in the reign of Charles I. On the 1st of May, 1634, an artist, named Jerome Lanyer, received a patent for this art, in which it is said that he had found out a method of affixing wool, silk, and other materials of various colours upon linen cloth, silk, cotton, leather, and different substances with oil, size, and cements, so that they could be employed for hangings as well as for other purposes. The inventor wished to give to this new article the name of Londrindiana, which appears, however, not to have continued in use. It is worthy of remark, that this artist first made attempts to affix silk upon some ground; but that method, as far as I know, was not brought to perfection; that he employed for the ground, linen and cotton cloth, or leather; and that no mention is made of his having used paper, though he seems not to have confined himself entirely to leather or cloth.

Tierce, a Frenchman, has, however, disputed this invention with the English; for he asserts that one of his countrymen at Rouen, named François, made such kinds of printed paper-hangings so early as the year 1620 and 1630, and supports his assertion by the patterns and wooden blocks which are still preserved with the above-mentioned years inscribed on them. He is also of opinion, that some Frenchmen, who fled to England when persecuted for their religion, carried this art along with them. The inventor's son followed this business to a great extent for more than fifty years at Rouen, and died in 1748. Some of his workmen went privately to the Netherlands and Germany, where they sold their art; and the French, therefore, with great confidence maintain, without knowing our artists and their works, that foreigners in this branch of manufacture are still far behind them. In most works of the kind my countrymen, indeed, are only imitators, not through want of talents to invent or to improve, but because our great people, for whom they must labour, consider nothing as fashionable or beautiful, except what has been first made by the French or the English.

I shall here observe, that Nemeitz ascribes the invention of wax-cloth-hangings, with wool chopped and beat very fine (these are his own words), to a Frenchman named Audran, who in the beginning of the last century was an excellent painter in arabesque and grotesque figures, and inspector of the palace of Luxemburg at Paris, in which he had a manufactory for hangings of that kind. What particular service he rendered to the art of making paper-hangings, I have not, however, been able to learn. Equally uncertain and defective is the information of Von Heinecken, that one Eccard invented the art of imprinting on paper-hangings gold and silver figures, and carried on a manufactory for such works.

In regard to the time when these hangings began to be made in Germany, I can only say that the oldest information I know respecting them is to be found in a work by Andrew Glorez von Mahren, printed for the first time in 1670. It shews that the art was then very imperfect as well as little known, and that it was practised only by women upon linen for making various small articles.*

One of the most ingenious new improvements in the art of manufacturing these hangings, consists in bestrewing them here and there with a glittering metallic dust or sand, by which they acquire a resemblance to rich gold and silver brocade. From the above-quoted work it appears that artists began very early to cover some parts of paper-hangings with silver-dross or gold foil; but as real gold was too dear to be used for that purpose, and as imitations of it soon decayed, this method seems not to have been long continued. Instead of these, Nuremberg metallic dust as well as silver-coloured foil are employed. Metallic dust is the invention of an artist at Nuremberg, named John Hautsch, who constructed also a carriage which could be moved by the person who sat in it. He was born in the year 1595, and died in 1670. His descendants have continued to the present time the preparation of the metallic dust, which is exported in large quantities from Nuremberg, and is used in shell-work, lackered-ware, and for various other purposes. It is prepared by sifting the filings of different metals, washing them in a strong lye, and then placing them on a plate of iron or copper over a strong fire, where they are continually stirred till their colour is altered. Those of tin acquire by this process every shade of gold colour, with a metallic lustre; those of copper the different shades of red and flame colour; those of iron and steel become of a blue or violet; and those of tin and bismuth appear of a white or bluish-white colour. The dust, tinged in this manner, is afterwards put through a flatting-mill, which consists of two rollers of the hardest steel, like those used by gold and silver wire-drawers, but for the greater convenience a funnel is placed over them. I have in my possession samples of all the above kinds, which have an exceedingly beautiful appearance. This metallic dust is affixed so strongly to paper by means of a cement, that it is almost impossible to detach it without tearing the paper, as is the case with the paper-hangings procured from Aachen. In French, such paper is called *papier avec paillettes*. The lustre of it is so durable that it continues unaltered even on the walls of sitting apartments. The metallic dust, however, has a considerable weight which may undoubtedly injure the paper.

This inconvenience may have induced artists to employ, instead of metallic dust, that silver-coloured mica, which has been long used in the like manner. So early as the seventeenth century the miners at Reichenstein in Silesia collected and sold for that purpose various kinds of mica, even the black, which acquires a gold-colour by being exposed to a strong heat. The nuns of Reichenstein ornamented with it the images which they made, as the nuns in France and other Catholic countries ornamented their *agni Dei*, by strewing over them a shining kind of talc. The silver-coloured mica, however, has not such a bright metallic lustre as metallic dust, but it nevertheless has a pleasing effect when strewed upon a white painted ground, and its light thin spangles or scales retain their brightness and adhere to the paper as long as it lasts. At present I am acquainted with no printed information respecting the method of laying on metallic dust and mica, nor do I know where artists procure the latter, which in many countries is indeed not scarce. I shall here observe, that I once saw at Petersburg a kind of Chinese paper, which appeared all over to have a silver-coloured lustre, without being covered with any metallic substance, and which was exceedingly soft and pliable. It bore a great resemblance to paper which has been rubbed over with dry acid of borax. I conjecture that its surface was covered with a soft kind of talc, pounded extremely fine; but as I have none of it in my possession at present, I can give no further account of it.

[The manufacture of this important and elegant substitute for the ancient "hangings" of tapestry has undergone a gradual succession of improvements, and has now reached a high state of beauty and perfection. The patterns on these papers are sometimes produced by stencil plates, but more commonly by blocks, each colour being laid on by a separate block cut in wood or metal upon a plain or tinted ground. The patterns are sometimes printed in varnish or size, and gilt or copper-leaf applied; or bisulphuret of tin is dusted over so as to adhere to the pattern; and in what are called *flock-papers*, dyed wools mixed into

* From Bohn's edition of "Beckman's History of Inventions," edited by Dr. Francis and Dr. J. W. Griffith.

* The author says, "I shall give an account of a beautiful art, by which one may cover chairs, screens, and other articles of the like kind, with a substance of various colours made of wool, cut or chopped very fine, and cleaned by being made to pass through a hair-sieve. * * I remember that two Swabian women travelled about through some countries, and taught people this art, by which means they gained a good deal of money." Of the author I have been able to procure no information. His book is a compilation selected without any taste, and according to the ideas of the 17th century, from different writers, almost always without mentioning the sources from which the articles are taken; but it deserves a place in public libraries, because it contains here and there some things which may help to illustrate the history of agriculture and the arts.

powder are similarly applied. Powdered steatite or French chalk is used to produce the peculiar gloss known under the name of *satin*. Striped papers are sometimes made by passing the paper rapidly under a trough, which has parallel slits in its bottom through which the colour is delivered; and a number of other very ingenious and beautiful contrivances have lately been applied in this important branch of art. The invention of the paper-machine, by which any length of paper may be obtained, effected a great change in paper-hangings, which could formerly only be printed upon separate sheets, and were much more inconvenient to print as well as to apply to the walls.*]—Much improvement might still be made.

FINE IMPOSED BY COMMISSIONERS OF SEWERS.

A general report reached us some time ago, that the Commissioners of Westminster Sewers had imposed a fine of 3,000*l.* on Mr. W. K. Jenkins, for non-compliance with the instructions of the court; but the amount seemed so enormous that we did not give credit to the statement. Since then we have obtained exact particulars, and see that the fine named is contingent, and for the purpose of enforcing compliance with their directions. Mr. Jenkins obtained leave from the court to build a sewer in Monmouth-road, Paddington, with the provision that such sewer should extend to the boundary line of his land. Mr. J. built the sewer, but refused to bring it to the boundary, and built a wall against it, so that when a second party had constructed a further length of sewer to communicate with the former, he was unable, without committing a trespass, to make the junction. A jury was empanelled, and they amerced Mr. Jenkins in the sum named, "unless the said W. K. J. shall continue such sewer according to the order of the said commissioners, or do such other works as shall be satisfactory to the said commissioners, within one calendar month from the date hereof" (August 18th). They further amerced him in an absolute fine of 50*l.* for obstructing the commission.

The court have confirmed the presentment, but ordered that the fines be not estreated until after Nov. 10th. Mr. Jenkins may apply to the Court of Queen's Bench to remove the presentment into that court.

MR. COCKERELL AND WILLIAM OF WYKEHAM.

In our last volume we reported briefly a paper on the works of William of Wykeham, read by Mr. Cockerell at the meeting of the Archæological Institute in Winchester.† The volume containing the proceedings of that meeting is now published, and we avail ourselves of it for a continuation of it, which will be read by many with much interest:—

"The chief expression of Wykeham's architecture is its constructive character; throughout we trace the sound builder, the able mason, the ingenious carpenter, whose well-designed operations satisfying the mind, carry with it the fancy, by natural consequence, in harmonious consent; and an unsought felicity follows as a matter of course. He wrought out his design through the model, and an intimate knowledge of the materials, and careful consideration of the wants and requirements on the spot. His cornices and labels and water tables explain their purpose of carrying off the wet; the buttresses are never for ornament alone, but proportioned to the support and durability of the edifice. No parasitical excrescences obtrude themselves ostentatiously, no parts and prettinesses are indulged which may not be accounted for by a natural grace and logical fitness. Observe the buttresses or the windows at Winchester and Oxford; and we are astonished at the fitness of each to its place, the variety of resource, the absence of manner, and the mastery of design in the whole and in the minute detail of profile, the calculation of light and shade, and the contour in the forms; as for instance the acute external mouldings of the window frames or mullions, and the corresponding interior boutels, suited to the light and situation in which they are to be viewed. He was one of the first to employ in his towers and turrets those polygonal forms of greater suavity and grace; thus mitigating that harshness which the radical elements of the style, the eternal square and triangle, are so apt to involve; the acuteness and the dryness of which are its inherent vices, as contrasted with the flowing and milder forms of classical architecture. He was one of the first to recognise the utility of the four-centered arch, and to employ its depressed form where a superincumbent floor made it convenient. It is probable that he did not encourage that fashionable adoption of it, which introduced it (under Edgington, his predecessor in the see of Winchester) into the cathedral itself, for we find uniformly the two-centered arch in his halls and chapels; while the four-centered was confined to situations of limited elevation. He was one of the first to condemn the tenuity, elongation, and weakness, real and apparent, of the Lancet and Decorated style, and to introduce the so-called Perpendicular, which fortified by its mullions or constructive subdivision of skeleton framing, or network, the enormous openings then demanded by the growing fashion of fenestral decoration; as Chaucer says,

> richly peint
> With lives of many divers seint.

He abandoned the high-pitched shingle roofs, excluding sun and air, and was one of the first to employ the low pediment, and roof covered with lead; and in his works we first discover the hammer-beam roof in all its varieties,—a system of the highest ingenuity and constructive economy, both for space and material, as well as beauty and power, as exhibited in Westminster Hall, Eltham Palace, Windsor Hall, and our college chapels and halls; and we may judge from the professed imitation of New College Chapel, in All Souls' Chapel, built shortly after by Archbishop Chichele, and the evidence of veterans who have survived Wyatt's repairs, that he employed it in that ceiling, in preference to the vaulted form adopted at Winchester; whether on account of cost, or from taste, does not appear. In the distribution of his staircases, doorways, passages, and easements, his economy of contrivance is perfect, and reminds us of the self-formed creation of the testaceous tribe; the mansion-shell of which has grown into harmony with the wants of the inhabitant. His winding staircases (scala a lumaca, as the Italians call them) deliver their passengers upon their several floors with admirable convenience to the foot, and precision to the eye; the arches and corbels grow out of their walls by natural processes, according to their use, and are admirably shaped to the exigencies of the occupier: the walls indeed generally, and the buttresses more particularly, grasp the soil of their foundation with digitated extensors, always proportioned to their perpendicular and lateral pressures. They produce their plain and robust sides in gradual diminution against the building they are calculated to fortify; they seem to ramify in the window-heads and muntens; and separating themselves from the parapet above, shoot forth and efflouresce in graceful pinnacles and crockets."

* Brande's "Dictionary of Science."

† See page 448, *ante*.

Correspondence.

SMOKED BRICKS—CAUTION.

Sir,—I have erected a building this last spring, and in the interior of its walls have used bricks from an old chimney, taking care to turn the smoke-stained part of the bricks inward. The walls have since been covered with three coats of chalk-lime plastering, through which a disagreeable stain from the old bricks appeared. Paint was then applied to the stained parts, and, hoping thereby that the evil was remedied, the walls were then papered; but unfortunately the stain is still visible; and if, Sir, you will be kind enough to inform me, through your valuable journal, of a way by which the stain can be stopped, without having recourse to battening, I shall feel very greatly obliged.—I am, Sir, &c.

Burnham, Essex, Sept. 10. W. N.

** We have never tried it, but are disposed to think that tin foil affixed to the wall would effectually answer the purpose. Perhaps some of our readers may have had occasion to remedy a similar error, and will let us know the result.

COMPETITION FOR LAYING OUT THE JEPHSON GARDENS.

Sir,—I perceive by the *Leamington Spa Courier* that the trustees of the Jephson Gardens have awarded the first premium for the best plan for laying out these grounds, to Messrs. Wills and Hopton, otherwise Hopton and Wills, which, I believe, is the correct address; and the second to Mr. J. W. Papworth, of Bedford-square, London. But I was much surprised to find, by the same paragraph, that "Messrs. Jackson and Squirhill had received instructions from the trustees to prepare drawings for two lodges," &c. Now, I had the pleasure of viewing the various plans submitted to the trustees, which were publicly exhibited, and I saw upon the selected design various plans of lodges, which appeared to me quite appropriate to the intended purpose. Have Messrs. Hopton and Wills nothing to do with the carrying into execution of their own design? If they have, why do not the trustees allow them to furnish other designs for the lodges, if required? If they are not to carry their design out, I should like to ask for what reason? You will probably say, that the information I seek ought to be most readily obtained in the locality where the events occur. This may be true, where jobbing is not so prevalent as at Leamington, where to arrive at the truth requires more patience and perseverance than I have time to exercise upon the present occasion.

One Interested in the Prosperity of Leamington.

Miscellanea.

Improvement of London.—Where there is a will there is a way. London needs only the will to assume a decorous aspect due to her greatness. There are uncommon natural advantages in the site. The wealth of the community exceeds that of any other—vastly exceeds that of the communities that made such noble use of "the golden Arno," paltry stream. The principal street thoroughfares, the great arteries of London, far too narrow for the traffic, would be immeasurably relieved by a road-way parallel to the water-way. And we verily believe that the alteration would pay itself in the increased value of the property. Suitably constructed, the banks of the river might combine the utmost sightliness with the utmost convenience for mercantile purposes, and might be surmounted with houses that would be eagerly sought as residences by the wealthy tradesmen of London—palaces overlooking the broad stream, with its open view, adorning the prospect they shared, yet close to the shop or office in the neighbouring part of the great inland thoroughfares. What value might not such a double row of palaces add to the rental of the Thames banks! And it is true that minor contingent improvements would follow. The miserable lanes would become handsome streets, the Thames would no longer be a sewer; and all the Surrey side would benefit in salubrity and value by effectually diking. This would be drawing the west-end through the heart of London; bringing magnificence and comfort to the citizen without his going out of town for it. It would convert our great city into the most imposing capital in the world. What visions of grandeur, and of profit, does the bare idea conjure up!—*Spectator*.

Church Renovation.—Truro.—During the past week, says the *Falmouth Packet*, the granite pillars and arches dividing the aisles of St. Mary's church have been freed from the covering of lime and plaster, with which, in the days when ecclesiastical architecture was called "Gothic," they had been Grecianised and disfigured. The pillars of the chancel had been previously restored by the rector, and the improvement was so striking, that several parishioners undertook to complete the work, each restoring a pillar. The improvements effected here in the last three years have been very encouraging. The seats in St. Mary's church have been better arranged, a very ordinary wooden rere-dos has been replaced with a costly one of Caen stone, having an altar-piece in the centre, after Rubens. The space within the rails has been paved with encaustic tiles. Two very large east windows of stained glass have been put in, and a mortuary window in the aisle; three others are in preparation.

SCARBOROUGH.—A letter from Scarborough mentions the recent completion of extensive, and elegant ranges of buildings. The sites are well chosen, with commanding prospects and delightful walks. A new saloon, added to the spa, is of good character, and the house of Mr. Woodall is also a good specimen. The latter building is large and substantial, of good brick-work, with mouldings in stone. Apparently the style is Elizabethan, rich of its kind, and the house is supposed to have cost nearly 20,000*l*. It has a good effect from the sea, yet has more the appearance of a public than a private building.—The railway station, at the same place, our correspondent describes as the most beautiful he has seen; it is in the Italian style, and built of stone. We should be glad to hear more about it.—Filey, near the same place, which we recollect some short time since was a village of fishermen's cottages, has now a great number of handsome houses, and a very large hotel.—The drainage at Scarborough is in most parts very defective, and there must shortly be plenty of work for engineers in rich old towns, the march of the cholera towards this part of the world being pretty evident, and pestilence of some sort or other being naturally expected to follow the disease in vegetables.—Many alterations are contemplated at Leicester, which we hope will not be undertaken without proper supervision.

MODE OF FIXING PENCIL DRAWINGS.—The *Patent Journal* says:—Dissolve pale resin in spirit of wine; lay the pencil drawing on its face upon a sheet of clean paper, and brush the back of the drawing with the solution. This penetrates through the paper in a few minutes, and as the spirit evaporates the resin is deposited as a varnish on the drawing. This has the advantage of not cockling the paper, which aqueous solutions will do; and as the brush only passes over the back of the drawing, none of the pencil marks are in any degree removed. This process will not answer with drawings on card, or any other substance too thick to be penetrated by the solution. In this case a weak solution of isinglass may be placed in a shallow dish, the drawing being passed through it, so as to wet every part without touching it with a brush.

WOOD PAVEMENT, CHEAPSIDE.—At a meeting of the Commissioners of Sewers for the city, held in the Court-room, Guildhall, last week, it was determined that the wooden pavement in Cheapside should remain till next spring, when it is to be taken up, and Cheapside paved with granite, in the same manner as Fleet-street.

NOTICES OF CONTRACTS.

[We are compelled, by the interference of the Stamp Office, to omit the names of the parties to whom tenders, &c. are to be addressed for the convenience of our readers, however, they are entered in a book, at Imay be seen on application at the office of "The Builder," 2, York-street, Covent Garden.]

For the erection of stabling for 60 horses, with sheds and other works, for the Regent Canal Company.

For the conversion of a house and premises at Atherstone into a Lock-up House.

For providing and fixing two water-closets at the Chelmsford Union Workhouse.

For 500 to 1000 tons of the best blue Guernsey Granite, broken to a two-inch ring, and sifted and delivered to the surveyor of Christ Church, Surrey, in the upper pool of the Thames, at per ton, cash.

For the road sand on the several districts of the new cross turnpike roads.

For lighting the parish of St. Mary, Rotherhithe, with essential oil of tar for one year, 169 lanterns included.

For the supply of lead and lead piping for the Middlesex County Pauper Lunatic Asylum.

For the supplying of Rock-hill, Castle-hill, and Yorkshire paving, kerb stones, granite pitchers, pit gravel screened and unscreened, Croydon gravel, broken granite, dug flint broken, flint hoggin, Kentish rag, broken and unbroken, for St. Giles', Camberwell—separate tenders.

For supplying the workhouse at Farnham and Aldershot with wrought iron single and double bedsteads, such as are used in union workhouses.

For the supplying of carpenter's work for St. Giles', Camberwell, Peckham, and Dulwich.

For the supplying of smith's work for St. Giles', Camberwell, Peckham, and Dulwich.

For the supplying of ironmonger's work for St. Giles', Camberwell, Peckham, and Dulwich.

For the supplying of painter's work for St. Giles', Camberwell, Peckham, and Dulwich.

For the supplying of bricklayer's work for St. Giles', Camberwell, Peckham, and Dulwich.

For 3,000 gallons of the finest sperm oil for the Liverpool lighthouses.

For the immediate supply of 2,000 tons of freestone of equal quality with the Penshet and Gateshead Felt Quarries, and of one to three tons weight, in various lengths and breadths, none less than 2 feet 6 inches in breadth, and 12 to 18 inches thick: 500 tons at a time, to be delivered and paid for at Sunderland.

For the immediate supply of 100 tons of Italian pozzolano, newly imported and of best quality, delivered at Sunderland.

For the whole of the works on the Portlethan contract of the Aberdeen railway, from near the Cove to Elsick Mill, a length of about 4½ miles.

For the whole of the works on that part of the Aberdeen Railway from the River Dee to the Cove, a length of about five miles.

For the whole of the works on that part of the Aberdeen Railway from the Water of Cowie to Black Hills, a length of about two miles and a half.

For the erection of a workhouse at Gravesend on an altered and reduced plan.

For lighting the town of Gainsborough with gas for a term of years.

For the execution of the works on the Nidd Section of the Leeds and Thirsk Railway.

For the execution of the works in contract No. 1, on the Whitehaven and Furness Junction Railway, comprising the earthwork, masonry, fencing, &c., from Whitehaven to near St. Bees, a length of about four miles and a half.

For the execution of the works in contract No. 2, on the Whitehaven and Furness Junction Railway, comprising the earthwork and fencing of Sea Mill Cutting, near St. Bees, being about 130,000 cubic yards or thereabouts.

For the execution of the works in contract No. 3, on the Whitehaven and Furness Junction Railway, comprising the earthwork and fencing of Nethertown cuttiog, containing 144,000 cubic yards or thereabouts.

For certain works in the building of a dwelling-house for a school-master, and for the reception of scholars in the Grammar-school at Durham.

For the construction of three groynes of masonry on the South Rocks, Sunderland.

For paving and keeping in repair the horse and foot ways in the borough of New Windsor for one year, from 29th September (promptly).

For a new steam-engine, cylinder steam-chest, hand gear, &c.; new cylinder boiler, 26 feet long, 6½ feet diameter, of best Staffordshire crown plate, and all steam hot and waste water pipes.—At Sunderland; also

For erection of certain other machinery as above.

For building about 600 yards of sewers at Ventnor, Isle of Wight.

For the completion of a fever-hospital on the site of the Drogheda poor-house.

For building sewers in Gun-square, Ebenezer-square, and Jewry-street, city.

For a great number of bricklayers, bricklayers' labourers, and stock and slop brickmakers: constant employment near Lynn.

For several good plumbers and Glaziers at Hull.

For an active foreman to a brick-yard at Litcham: wanted at Michaelmas.

For the letting of steam saw-mills at Hull.

For the letting of a seven-acre field of superior clay, at Sydenham, near the Croydon railway.

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BY AUCTION.

At Carlton Rode and Tibbenham, Norfolk: 100 oak, ash, and elm timber and pollard trees, &c.

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At Hull: a cargo of Honduras mahogany.

At Liverpool: 471 logs Cuba mahogany, 58 logs Havana cedar, 126 lancewood spars, &c.

At Datchet, Bucks: about 24 loads of elm timber, last years' fall.

At Liverpool: 192 logs Cuba mahogany, 72 logs Havana cedar, 915 lancewood spars, &c.

At Lewisham: 12 acres of brick earth.

At Woolwich: the whole materials of eight houses, &c.

At Erith: a large quantity of materials.

At Bromley, Kent: about 600,000 bricks.

At the East and West India Docks: 25 tons of nails, 2 tons of lead, copper, brass, &c., a fine engine, 5 tons of wrought and cast iron, &c.

At Luton: about 8 acres of brick field.

BY PRIVATE TENDER.

At Lower Beeding, Sussex: a quantity of larch and Scots fir, for sleepers, fencing, &c.; also beech, some of large size.

At Luton: beech, oak, chesnut, ash, and elm of large size.

At Great Whelnethan Hall, near Bury: a quantity of oak, ash, elm, beech, and pollards.

At Luton Hoo Mansion, Luton: a magnificent portico of Bath and Portland stone, suited for a railway terminus, or other public edifice.

At Newington Causeway: a second-hand sawing machine, cutting 24 inches deep.

At Blackfriars': an oil and colour shop.

At Worthington, near Castle Donington: 360,000 four year old quicksets, suitable for railways.

At Leeds: two cast-iron cisterns, nearly new, one 5 feet 5 square, and 4 feet deep, the other 4 feet 5 square and 4 feet deep.

At Exeter: an Ironmonger's business.

TO CORRESPONDENTS.

"*New Road.*"—The district surveyor is bound to see that the walls are carried up soundly and properly.

"*E.H.*"—"How to observe,—Geology," will be found a useful first book.

"*Architectural Drawing Schools.*"—In reply to two or three inquiries, we have much satisfaction in mentioning Mr. Davy's establishment, Furnival's Inn.

"*A Builder.*"—A district surveyor may not act in that capacity in any building, alteration, &c., conducted under his own superintendence.

"*Builder.*"—We cannot give the names of slate quarries.

"*An Englishman.*"—We are commanded to return good for evil.

"*Fees for Raising Ladders.*"—A correspondent complains that he has to pay 2s. 6d. fee for leave to raise a ladder to colour a single front in Regent's-street, or Regent's-park, while larger tradesmen who have whole terraces to do, have only to pay one shilling per house.

"A Londoner" next week.

Received.—"P. T.," "Mr. W." "J. A. B.," "Observer," "Constant Subscriber," "G. T. J.," "W. D.," "Portland Stone," "Mr. Walmisley," "T. H. W."

ADVERTISEMENTS.

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Please apply to CHARLES GELL, Junior, No. 5, Quick-set-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

CLARENDON PANTECHNICON, North-row, North Audley-street, Grosvenor-square. The proprietor, Mr. JAMES PONSFORD, begs most respectfully to inform the nobility, gentry, and public, that he has those exceedingly convenient ware and store-rooms for depositing furniture and other valuable property, and that the greatest attention is given to receiving and delivering all articles, and to their safety while in the ware-rooms, and the moderate charge he makes for the convenience is considerably less than similar Establishments in London.

The Builder.

No. CXC.

SATURDAY, SEPTEMBER 26, 1846.

ONE more blow, "for St. George and merry England," if it be only to prevent, if possible, our foreign friends from being merry at the *expense* of England.

Public opinion against the proposed site for the colossal Wellington grows stronger every day. Since the question came clearly before the public, we have purposely taken the opinion of some hundreds of persons of all classes, chiefly when passing the spot, and assert unhesitatingly, that we have never met *one* person prepared to defend the intention of the committee, or disposed to believe that the result will be any thing but unsatisfactory. There is not one journal, so far as we know, that advocates, or even excuses it; the architect of the arch first trembles, and then denounces it; the last government opposed it, ("the opinion of every eminent architect, artist, or other competent authority, who had been consulted on the subject, being so decidedly against it"*); the present government offered another site, and would gladly defray all the expenses incurred to facilitate the alteration; and the artist, Mr. Wyatt, as we have good reason to believe, would prefer to have it placed somewhere nearer to the ground. And yet, despite this universal objection, the committee, or rather the two or three gentlemen who represent the committee, persist in their determination, and succeed by means inexplicable and in defiance of a promise, to the House of Commons, that the works should not go on until the opinion of the House had been taken) in obtaining permission to outrage the national taste. We grieve to find Sir Frederick Trench, so right in another case, so wrong in this.

The public have room to blame those on whom they are accustomed to rely for information and guidance in matters of taste, and to regret, that fear of responsibility, and unwillingness to interfere, prevented some whose opinion would have been listened to and ought to have been expressed, from speaking until, perhaps, it is too late.

In 1839, long before THE BUILDER was established, we addressed the following remark, and others, under the signature of "Stimulator," to the *Art-Union Journal*:—

"At the close of July, a meeting of the general committee appointed to arrange this memorial was held, and it was then mentioned as a matter settled—but to our exceedingly great surprise—that the statue was to be placed *on the arch at Hyde-park Corner*. Surely the committee cannot be in earnest, or cannot have given the subject sufficient consideration. We had thought that the monstrous effigy which was erected some months ago in this situation, to the infinite terror of young horses and neighbouring crows, had served fully to convince the committee of its unfitness. We know very well that this caricature (nailed together in the morning, and painted by Henning in the afternoon of the same day) was not to be taken as a representation of the proposed statue. Apollo forbid that it should be so! Still it was quite sufficient to prove, even to the capacity *which requires so palpable an argument*, that a triumphal arch complete in itself, and demanding admiration of itself, is not a proper pedestal for a commemorative figure. It is quite certain either that the statue must be so large and important as to render the arch secondary and insignificant, or that the statue will become a mere ornamental accessory, the special purpose of which will speedily be forgotten.

Our excellent contemporary, the *Literary Gazette*, quotes, in approval of the proposed situation, a conversation which took place between Mr. D. Burton, the architect, and Mr. Wyatt, the sculptor, long before the Wellington tribute was suggested; wherein Mr. Burton held that the addition of a figure, or group of figures, was essential to the beauty and finish of his erection. No doubt he thought so—no doubt he thinks so still; but we will venture to say he cannot possibly desire that this figure should be so dominant as to degrade the arch to a mere pedestal, which certainly will be the case if a statue of Wellington, sufficiently large to retain its individuality, be placed thereon."

Our remonstrance, however, awoke no sufficient response,—the evil was distant, and the public mind was occupied.

The model was removed, the sculptor went to work, and the question, so far as the site was concerned, went to sleep. In July, last year, when the arrangements for strengthening the arch were quietly under discussion, we protested in our own columns against the unwise determination,* and it was only then that our contemporaries, simply reiterating our arguments, really entered the arena, and unanimously objected to the proposal.

And where during all this time have been our Academy? where our Institute? where our responsible professors of fine-art in the metropolis?

Not at the eleventh hour, but as twelve is striking, lo! one of the latter has taken courage, and speaks. Speaks well too; says better, all that we have said, and more,—but still shews some fear of imputations by signing himself simply C. R. C.

How much good is postponed because men fear wrong motives may be imputed to them, or shrink from responsibility. This, however, is in a parenthesis. C. R. C., in a letter to *The Times* (published on Tuesday last), begs leave to add "one more voice to the outcry already so justly raised against the erection of the statue of the Duke of Wellington over the arch at Hyde-park Corner," saying:—"Indeed, as one of the responsible professors of fine art in the metropolis, I feel myself called upon to offer some arguments against this solecism in art, so seriously involving the honour of the country, remembering always that 'England expects every man to do his duty,' no less in every civil than in every military capacity."

We would that this duty had been felt long ago. Still we are thankful for the compliance with it even now, and although the insertion of the whole of the communication would trench too much into our space, we are led to reprint the greater part of it, as confirmatory of our own remarks from first to last, and to preserve in our pages the protest of at least *one* of "the responsible professors of fine art in the metropolis,"—the more so too, as it is that of the accomplished professor of architecture in the Royal Academy.

"The solecism," says Professor Cockerell, "consists in the proposition to place a statue of colossal dimensions as an ornament to a triumphal arch of disproportionate magnitude, so that the ornament and the principal are in danger of changing places, and the major may become the subordinate to the minor. And again, in proposing to place that ornament on an axis at right angles with that of the arch itself.

In a question of this nature we naturally turn to classical examples, and the various experiments made by the Romans in this kind of monument; of which the work of Bellori on the triumphal arches of Rome will afford full, explicit, and satisfactory illustrations; he restores the actual remains of them, in all their architectural details, and decorates them with their essential ornaments of quadrigæ, trophies, and equestrian statues, by the aid of contemporary medals—twelve examples of which, from the period of Augustus to that of Trajan, he gives us in his last plate.

In so doing he has been careful to correct the exaggeration in the relative scale of those ornaments, to the architecture of which the medalist, under the conditions of his art, was unavoidably guilty; for had the medalist refrained from this license in the minute dimensions of his work, the nature and meaning of those ornaments would have been scarcely discernible. We should, therefore, be lamentably misled were we, unaccompanied with this reflection, to draw from these medals an argument in favour of the relative proportion of the sculpture and architecture as proposed at Hyde-park Corner.

It is not, of course, proposed to sacrifice the architecture to the statue; on the contrary, it is presumed by the zealous propounders of this measure to enhance the value of both, by their fitness and correlation. All are ready to admit that the harmonious union of sculpture with architecture, constitutes the great secret of proportion and the glory of a monument; but all are not equally aware, that in adjusting the parts to the whole by the co-operation of these arts, we are to be guided by rules scarcely less delicate, and at the same time determinate, than those which regulate the proportions of the 'human form divine' itself.

Amongst the ancients, certain fixed laws and analogies were absolutely established on this subject, and may be plainly traced in their best works: one of the most obvious of which was, that the dignity of the architecture was never to be impaired by the sculpture, or overlaid by the nature or dimensions of the figure; to this end, the bulk of the latter was never to exceed the diameter of the column, nor was the sufficiency either of the supports, the entablature, or the arch to carry the encumbent weight, ever to be doubted. All soffites and underparts, usually concealed by nature, were carefully to be avoided; the *sotto in su*, often so destructive of contour and form, as seen in their natural positions (of the horse especially), were to be used with peculiar reserve and discretion. A multitude of minor considerations and rules of art, too long to cite in this place, regulated these operations at all times; and wo to those who respect them not, and who dispute the consentaneous convictions of experiments, repeated with so much uniformity, through so many successive ages and fashions of opinion."

The professor then goes on to shew that when the colossal *was* employed by the ancients, the magnitude was rendered unquestionable by position and arrangement; whereas in the present case although manifestly disproportioned to the arch, the size of the figure at such an elevation will be unappreciated, from the absence of fitting objects of comparison.

If the committee had condescended to seek the advice of professional men, he says, they would have been spared disgrace, and the public trouble.

The professor continues:—

"If any thing could have shaken their infatuation, the model put up experimentally in 1838 would have done so; but with determined blindness they shut their eyes to the conviction it brought on all discriminating beholders; the preposterous impression made by that model, 21 feet high, can never be forgotten by any one who sustained the shock of the spectacle. What then, Sir, will it be when the colossus itself will be found to be 30 feet high?"

Further, this model had no *bulk*, consisting simply of flat boards!

"But if the authority of the medals as respects the relative scale of the figures to the architecture is to be distrusted for the reason assigned, much more is that for the placing the statue at right angles with the axis of the arch; or, in other words, in contrasting the profile view of a statue with the front view of

* Lord Canning's remonstrance to Duke of Rutland.

* See Vol. III., p. 325, and pp. 241, 253, 361, &c., in present volume.

an arch. Amongst the twelve medals cited by Bellori, two dedicated to Drusus, and one to Claudius, represent equestrian statues in the position proposed, with trophies before and behind them, and surmounting the sides of the arch; for be it remembered, by the way, that these ornaments as applied to the square outline of the architecture are in the medals invariably threefold; an essential condition of the design as a whole, and a grave omission of the learned Thebans of the sub-committee.

These examples have been quoted by them as authority, but a little explanation will shew that they are inapplicable to the case. These three examples were probably mere screens, like that at Wilton, and not deep enough, therefore, to receive the statue placed in the usual and proper manner. Another still more probable reason is suggested by the nature of the medallic art itself, which permitted the same poetical license in this case as in the others already quoted. The artist, in order to express intelligibly the single equestrian statue, places it in profile; for, had it been foreshortened, and in the front view, it might have been mistaken for a dismounted man or a trophy. In the happier periods of art exhibited in the other medals under Augustus and Trajan, and when their counsellors, Vitruvius and Apollodorus, were respected by those wise patrons, even that license was not permitted (see the nine other medals), and the artist was constrained to the representation of the fact as best he could.

The horse and rider, presenting their front to the spectator who approaches laterally from Piccadilly, will appear in most strange contrariety with the front of the arch, which presents itself at right angles to this point of view, and towards the park. The aspect of the whole should have been unity, as the head and the body; but the proposed derangement will resemble the caprice of the sculptor who should permanently fix the head of his figure looking over one of the shoulders, so that while the body faced the spectator, the head looked another way, and *vice versâ*; a liberty quite inadmissible in the gravity of monumental art. As well might the architect adopt the anomalous order of architecture represented on these medals, as the unusual position of the equestrian figure surmounting the arches of Drusus and Claudius.*

The zeal of the committee can never be doubted, but it has been without knowledge; they have deeply felt the responsibility and the greatness of the occasion, but their common sense has been overwhelmed by it; a volume of reports amply attest the fact. On this great work of art every opinion has been heard, discussed, and given, but that of artists!"

The Duke himself, Mr. Cockerell considers, has never directly sanctioned the adoption of this locality, and when appealed to has said, "On this point I am a dead man."

"Whenever the noble Duke has taken an active part in similar monuments, as in the Duke of York's column and that of Nelson, he has been remarkable (as indeed in every other business of his life) for consulting professional authority; '*Cuique in sua arte credendum est*' has ever been his motto. How different has been the method of this sub-committee!—a tumid correspondence amongst the officials has been published without even a distant reference to such an essential preliminary; the distinguished artist himself (and it is much to be lamented) has not given his opinion, nor apparently has his opinion been asked or quoted; Mr. Burton alone, with a manly regard to his art and his own beautiful work, has, unasked, most solemnly and distinctly protested against it, with plain and unanswerable reasons for so doing, in his letter. Lord Monteagle, Lord Lincoln, and Lord Canning (officially), Sir Robert Peel, and other distinguished persons, have, as occasion has offered, opposed this sub-committee. The artists, the journals, the good sense of the country, have denounced it; and great and universal was the satisfaction, when in June last a motion in the house, and a promise from Lord Morpeth, seemed to have relieved us from this disgrace; when, hardly to our surprise, the committee, returning to the charge, have so far carried their point, that, as it is said, it is to be exhibited for three weeks *in situ*, as another experiment: the termination of those three weeks may be postponed *sine die*. The committee have shrewdly forseen that the novelty, the audacity of the spectacle will, at all events, be a nine days' wonder; and possibly attract the admiration and golden opinions of the mob."

We have no fear of this; what we do fear is, that the same influence, or supposed right possessed, by which the committee are enabled, in spite of the promise to the House of Commons, to hoist up the figure "on liking," (the most puerile act in the whole of these unwise proceedings), will enable them to keep it there, when up, without any 'golden opinions,' and in spite of all objectors. The expense of reconstructing the scaffold—for the greater part of it will of course be taken down to let the statue be seen,—and the great difficulty of lowering the group, will likewise further their views.

The professor concludes his letter with an assertion of his belief, that the people of this country who feel that, however great in other respects, they have no reputation to spare on the score of art, will not subject a work, of which they will ever be jealous, to the finger of scorn; and that they will yet shew in a more determined form than has been exhibited, their objection to the proceeding.

We sincerely hope this will be the case; but then it should be done immediately: not to-morrow, but to-day. The effect of the pedestal alone upon the arch may even now be seen, and must make Mr. Burton fear more strongly than before, that if the statue *be* placed there, a proposition will soon be made for removing altogether the façades of columns, as their "slender proportions will appear incongruous and out of proportion compared with the prodigious dimensions of the statue." Let a meeting of the subscribers be called forthwith, and we may yet escape a great and lasting reproach.

* One of several correspondents on the subject says, in respect of this particular objection,—"Why, the tout-ensemble will have two fronts! Has any thing in nature two fronts? As well might the crest on a helmet be put on sideways; as well might the duke be made to sit on one side of the horse, in the fashion of a brewer's drayman, as place him in the manner intended. If it cannot be adjusted properly, it has no business on the site chosen at all. If your hat wont fit my head the right way, I shall look a comical figure by wearing it sideways. The duke will look, not as if he had mounted an honourable eminence, and in that position presented his proud front to all comers, but rather, as if he had been elevated into an unmerited position of distinction, and so, like a modest man, was meditating a cap on one side or the other to escape from it."

ANNOTATIONS ON IRON.

Iron is the most useful of all metals; it enters into every branch of the arts of civilization, and there are few departments of science in which its presence is not necessary. When we contemplate such articles as the plough, the anchor, the lancet, and the watch spring, we are forcibly impressed with the wondrous resources it affords, and with its inestimable value. "Were the use of iron lost among us," says Locke, "we should in a few ages be unavoidably reduced to the wants and ignorance of the ancient savage Americans:" yet is this valuable metal, which is so essential to our wants, derived from very ungainly materials, and requires, more than any other, the exercise of human ingenuity. In Britain it contributes largely to the national prosperity, and may be said to constitute the basis of its staple manufactures. The methods of its manufacture, from ore into pig-iron, and from the latter into wrought, are so well known as not to require any description here,—the object of the following paragraphs being simply the collation of some leading data of practical utility, to which the growing use of this material for constructive purposes imparts increasing importance.

Pig-iron may be divided into six sorts or qualities; viz.:—Foundry iron, Nos. 1 and 2, dark gray iron, bright iron, mottled iron, and white iron. The first is so soft as to yield to the chisel, is very fluid when melted, and will fill the most delicate moulds; it is therefore used for small, ornamental, and superior work, where accuracy and nicety are wanted: this iron contains much carbon. The second is harder, closer in the grain, less fluid when melted, and suitable for a heavier description of work: it contains less carbon than the preceding. The third, containing still less of foreign matter, is suitable either for the foundry, or for the manufacture of malleable iron; for castings, it is calculated for heavy work, where great strength and durability are essential. Respecting the fourth, fifth, and sixth, it need only be remarked, that the more they depart from the properties of the foundry iron, the less they are capable of being employed for castings, and are, consequently, the more confined to the manufacture of wrought-iron. The last, containing the least carbon of all, is totally unfit for the foundry, being so thick when it comes from the blast-furnace, that it will scarcely run into the pig-moulds; when cold, it is so hard that the chisel will make no impression on it, and so brittle that the largest pigs may be broken with the blow of a sledge-hammer; it can neither be filed, bored, nor bent, and is very apt to break when suddenly heated or cooled. Those qualities, then, which approach the nearest to the grey, should be esteemed the best for constructive castings.

Hot-blast pig-iron is generally understood to be inferior in quality to cold-blast, which, indeed, seems sufficiently implied by its inferior price; the latter has been referred to,—1st, the known inferiority of hot-blast iron under *impact*, rendering it unfit for purposes in which the greatest weight of iron is used; 2ndly, the greater loss (amounting to 2 cwt. per ton) which takes place in re-melting it; 3rdly, the great irregularity in the contraction of castings when cooling, on which account many of different sizes are produced from the same pattern, causing great expense in their after-fitting, or, if that is not incurred, great defect in the machinery, &c. so made; 4thly, its unsoundness, which, when the casting requires to be turned, bored, or planed, &c., causes defects so considerable to show themselves, probably when nearly finished, that both the casting and the expense bestowed upon it are thrown away. This decided inferiority has led to a stipulation, now common with engineers, when specifying for bridges and other similarly important works—that no hot-blast iron shall be used therein, and that the ironmaster's invoice shall be forthcoming, if required.

For beams, and other bearing purposes, cast-iron, possessing a considerable degree of malleability, is to be recommended, since that property lessens the risk of sudden failure; and, as a general rule, that is to be esteemed the best for all purposes where strength is required, which sustains the greatest degree of flexure without taking a permanent set; and also, of course, which supports the greatest load. The most flexible iron is sufficiently stiff, and it is the worst and most brittle which has the greatest degree of stiffness.

Gray cast-iron, being soft and tough, is least liable to fracture by a blow or shock, is slightly malleable in its cold state, and when the external crust is removed, yields easily to the file. Its recent fracture is gray, with some metallic lustre, and granulated, the lustre appearing to be produced by minute particles of fresh-cut lead, distributed more or less thickly over the surface; if the iron is very tough, the dark gray colour is uniform, the texture fibrous, and the metallic lustre abundant; if less tough, while the colour is the same, the lustre is deficient, and the metal, though soft, is more crumbling, and will break with less force; in the weakest of the soft kinds, the colour is mottled with black-grey specks, and without lustre.

White cast-iron, being very brittle, should not be chosen for purposes wherein strength is necessary; but being very hard, it may be usefully employed where hardness is a desideratum, and brittleness is not a defect. When cast smooth, it makes excellent bearings for gudgeons or pivots to work in, being very durable, having very little friction. Its fracture indicates a crystalline structure, having, when recent, a white and radiated appearance, the lustre apparently proceeding from the facets of crystals disposed in rays; when the iron is grayish white and with much crystalline lustre, it belongs to the extreme degrees of hardness; when of a dull white, it is also very hard and brittle; when of a light colour, and possessing some little metallic lustre, it is the

same in a less degree; but when abounding in the latter particular and of a light gray colour, it is besides hard, in a considerable measure tenacious: such iron is always very stiff.

Thus by the two characteristics, colour and lustre, in specimens recently fractured, some judgment may be formed of the properties of cast-iron. In whole castings, the best test of their quality is to strike them on the edges with a hammer; if the blow produce some slight impression in the metal, indicating a degree of malleability, it is tough and good—that is, supposing it to be uniform; if, on the other hand, no sensible indentation takes place, but small fragments fly off, it is brittle and unsuitable. If in those planes which should have been perfectly true, the casting presents an unevenness of surface, it indicates an ununiform texture, produced by the admixture of metals of different qualities, which, having different degrees of shrinkage, produce an inequality of strength and tension in the compound that impair the casting and render it liable to sudden failure. For this reason, the utmost care should be observed to render the metal in each casting perfectly uniform throughout; for in the endeavour to produce an iron of a particular quality by mixing together different kinds, it is found difficult to blend them so thoroughly, as to render the compound metal perfectly homogeneous.

Any material defect in a casting, which is not apparent on inspection, may often be discovered by the sound which it emits when struck, unless it consist in internal air bubbles, which are not discoverable by this means; great care should be taken to prevent defects of this kind, and the more time that can be allowed for castings to cool, the better, the iron being tougher when cooled slowly than rapidly, and deriving much the same advantage from it as it would from the annealing process, the object of which is, by retarding the progress to the solid state, to afford the particles more facility for adjusting themselves, and thus to equalize, if not neutralize, the tension produced by the shrinkage in cooling. This is the more necessary when the parts of castings are of unequal thickness; for when the cooling in such cases is rapid and unequal, their solidity is liable to be impaired; and if the difference in their parts is considerable, they are likely to be fractured in the thin parts from the unequal shrinkage; for this reason, it is a common rule to make all the parts of a casting as nearly of the same thickness as possible, that the cooling may proceed everywhere at the same rate.

Appearing, as it does, that castings, in every respect satisfactory to all outward semblance, are yet liable to contain air-bubbles internally, and which cannot be detected by sounding, it follows imperatively, that beams which have to sustain great weights, should be proved under a trial-pressure before they are used.

Cast-iron resists fracture from crushing with nearly seven times the power which it does that from drawing asunder; therefore, supposing the neutral line between the part of a beam which is in a state of compression and that which is in a state of tension to be in the middle of its depth, the lower and upper flanges should be unequal in the proportion of nearly 7 to 1; or, these are the proportions of strength which should subsist between the parts below and above the neutral line, however disposed.

In the late experiments for determining the best sectional form for the tubular bridge across the Menai straits, this imporant fact was brought to light, that in wrought-iron the relative resistance to tension and compression is in the inverse order of that which holds with respect to cast-iron,—it being found necessary, in experimenting on rectangular tubing (the approved form of section) to make the upper side considerably thicker than the under one, in order to obtain an approximate coincidence in their breaking points: the exact relation which these powers bear to each other has not, we believe, been yet ascertained.

The strength of a beam is not in proportion to the quantity of material—power being obtained rather by the proper disposition of the component parts; and the strongest form is found to be attained by the relation that subsists among the parts of a section consisting of a vertical web, with a flange on its upper and lower edges.

A beam loaded beyond a certain limit continually *yields* to the load, but with an exceedingly slow progression, unless the load very nearly approaches the breaking weight; and though cast-iron may be loaded considerably beyond what has generally been deemed prudent, the beam may be advancing, by however slow degrees, to ultimate destruction.

A load, though uniformly distributed, does not press equally, but increases with the distance from the points of support; therefore, the magnitude of a beam should be increased in like manner. The form of equal strength for a load equally diffused is a semi-ellipse, with the curve at the top; for a load applied in the middle, two equal semi-parabolas placed base to base, with the curves also at the top; and for a load between the middle and one end, two semi-parabolas in like manner, but unequal, their bases meeting in the point of greatest strain. But as, mathematically, these forms occupy, in their lengths, only the extent between the points of support, an extension and spread at the ends is necessary, to afford proper bearings; such being the case, it is obvious that, in lieu of the ellipses—segments of circles, and in lieu of the parabolas—two straight lines meeting in an obtuse angle, are the best forms to be adopted in practice. When circumstances do not admit of a beam being increased in the depth, it should be increased in the breadth instead, according to the various cases above stated, both sides being made alike.

Care should be taken to avoid making any reduction of strength in the lower half of a beam; if bolt-holes in it happen to be unavoidable, there should not be one under the point immediately loaded, and they should be surrounded on each side with a rim fully compensating for the portion abstracted and the continuity of tie interrupted; in the upper half the circumstances are so different, that a series of cross cuts down nearly to the centre have been made in a timber beam and filled with plates of sheet metal for the purpose of stiffening it; perforations for the purpose of lightening a beam are inadmissible in the lower half, but in the upper may be effective of advantage. An extreme of depth in this material is to be avoided, for notwithstanding that much saving is effected by making a beam thin and deep, an excess in this respect renders it rigid, and though calculated to sustain an immense pressure, liable to fracture from a comparatively small impulsive force. Patterns should be slightly bevelled for the purpose of facilitating their removal from the sand without injuring the mould; an allowance should also be made for the contraction of the metal in cooling; the bevel may be about one-eighth of an inch in the foot, the allowance for contraction similar.

Our knowledge of the power of cast-iron columns to resist fracture by direct downward pressure is very limited; indeed so few and vague are our data for determining their proportions, that they seem to be limited to our actual experience; so long, however, as the load is not of an extraordinary nature, and we pay any observance to symmetry, there seems little risk of our reducing their thickness so as to endanger their stability—if we may judge by the story-posts used in the shop fronts of London, which, as Tredgold remarks, are sometimes made so small in respect to their height and the load upon them, that a very slight lateral stroke would break them. But the valuable experiments of Mr. Hodgkinson tend greatly to establish sound practical formulæ on the subject, and indeed have already made considerable progress in doing so; he has found—

That there is a certain proportion of height to diameter, beyond which it would be dangerous to go—the resistance rapidly lessening with the increase of height;

That the relative strength of three pillars, in every respect alike, excepting that the first has both ends flat, the second one end flat and one rounded, and the third both ends rounded, so that the force passes through its axis, is as the numbers 3, 2, and 1;

That a uniform pillar, with its ends firmly fixed, has the same power to resist breaking, as a pillar of the same diameter and half the length, with the ends rounded;

Also, that some additional strength is given to a pillar by enlarging its diameter in the middle;

Long columns give way first at the ends, showing those parts to be the weakest; the inference therefore is, that an increase of sectional area there would be attended with advantage.

PALACES ABROAD AND AT HOME.

Sir,—The editorial writers in the public papers are supposed to be well informed, as they ought to be, on the subject on which they profess to enlighten their readers. It was with no small surprize, however, that I read "a leader" in a Conservative weekly paper of high respectability, of Saturday, the 5th inst., commenting on the proposition which the public mind seems disposed to adopt, viz., the recommendation that a new palace should be built for the sovereign of England, instead of expending money upon Buckingham Palace. The writer in question seems to think that there are already palaces enough, but before enumerating those of the English sovereign, proceeds to mention the royal residences of the king of the French, viz., the "Tuilleries," "a country house at Neuilly," "and he now and then visits St. Cloud;" and "Versailles has a huge palace, but there the king never resides, it is the palace of the people;" thus limiting the number to four; but it would have been more candid in the writer to have added to the list the memorable palace of Fontainbleau, with its magnificent forest of 40,000 acres, and the royal châteaux at Pau, and Eu, making up the number to seven.

The writer then mentions the royal residences in England, viz., Windsor Castle, Hampton Court Palace, Kew Palace, Kensington Palace, the Pavilion at Brighton, Osborne House, and Claremont House, and adds, "Thus her Majesty has at her command no less than seven palaces, all within an easy distance of London, with the palace in Pimlico for her residence, and St. James's for her levées and drawing-rooms. Whether those are enough is more than we can venture to say, but that they are about three times (more?) belonging to any other crowned head in Europe."

The list of "seven palaces," will, however like Falstaff's "seven men in buckram suits," bear reduction, and clearly I have a right to apply to the English the same line of argument which the writer has used for the French royal palaces. But first, I quite agree with the writer in the opinion expressed of Windsor Castle, that it is "beyond all comparison the most stately residence in Europe;"—for Hampton Court I claim the argument used in speaking of Versailles, to say, "there the Queen never resides, it is a palace of the people" ("I thank thee for teaching me that word"), and the tens of thousands of persons who annually visit that noble place feel an almost prescriptive right to its enjoyment, to the exclusion of "king or kaiser" residing there. Next, Kew Palace has never been "resided in" by her Majesty, and it is too small for any but a branch of the royal family; and although the Gothic palace built at Kew by King George III., cost half a million of money, it was considered (and justly so) the best economy to pull down the fabric, as tasteless as it was expensive. Kensington Palace, since the time of George II., who died there, has not been used as the residence of a reigning monarch. The "Pavilion" at Brighton is doomed to destruction. Her Majesty will never again set foot within that costly gewgaw.* Osborne House is, I believe, her Majesty's private property, and of Claremont the writer in question says, "purchased with public property, it is at her Majesty's disposal, though for the time settled on the King of Belgium." The latter part of this sentence appears to contradict the other.

Thus the "seven palaces at her Majesty's command" dwindle down, so far as actual occupation by the head of this great nation, to a princely country residence, a comfortable seaside villa, and an inconvenient town mansion, not more in number than the allowance of almost every private gentleman of fortune; and instead of being more than belongs to "any other crowned head," it might easily be shown, as in the case of the French monarch, that it is less than falls to the share of European

* The riding-school and stables belonging to the Pavilion are really fine things in their way. If they could be spared, they would be ornaments to the town, and might be made useful.

sovereigns. I believe that I am perfectly correct in saying, that the brother of his Royal Highness Prince Albert, the reigning Duke of Saxe-Gotha, has ten, if not twelve, noble palaces in his duchy, many of which were visited by Queen Victoria, during her tour on the continent; whilst it would be easy to name some of our nobility who possess, each, six and eight princely mansions; and leaving Windsor Castle out of the question, no royal residence in this country can vie in splendour or extent with Blenheim, Chatsworth, Castle-Howard, or Dalkeith.

If a vote in Parliament authorizing the expenditure of money on Buckingham Palace had not taken place, it is probable that no discussion would have arisen, for the present at least, respecting the removal of the royal residence; for her Majesty, with her characteristic disregard of personal convenience, and that consideration always displayed towards her subjects, would be the last to express a wish for the change of residence, if it involved a great sacrifice on the part of her people.

But the question now is, whether her Majesty is to be worse lodged than many of her subjects, and to be obliged to continue, at the risk of health, in an acknowledged inconvenient building,

"Cabin'd, cribb'd, confin'd,"

when a word from a generous nation would give to their Queen an opportunity of possessing at least as much comfort as at the command of her nobles; and it should always be borne in mind, and it is an important fact, lost sight of by some writers and distorted by others, that by the recent arrangements respecting the management of the Crown lands, the English nation has been a gainer to the amount of several MILLIONS, in the generous surrender of all their hereditary possessions by the sovereigns of this country. Shall it then be said that England cannot afford, or that she will grudge, to build a palace worthy of herself, of her age, and of her Queen? But no great sacrifice is required; for by the scheme which has been submitted to the public, it will be seen that the funds necessary for the accomplishment of this purpose may be looked upon as provided, by not being expended on objects beyond the reach of cure. Having occupied your space thus far, I propose to resume the subject hereafter, and remain, &c.

GEORGE RUSSELL FRENCH.

Sept. 18, 1846.

AWARDS OF OFFICIAL REFEREES.

PROJECTING EAVES.

MESSRS. KING of Islington, having formed the eaves and cornice of a certain dwelling-house in Canonbury-park, of wood, the district surveyor, Mr. Edwards, lodged the ordinary information. The house is one of a series of detached houses, each 15 feet from the wall which separates the gardens.

Mr. Perkins, on the part of the builders, stated "that he considered that the said building was to be deemed to be an insulated building within the meaning of the Act, by reason of its being at the distance of 25 feet from the public road, and 30 feet from the building nearest thereto, notwithstanding that such first mentioned building is at a distance of 15 feet only from ground not in the same possession or occupation therewith; and stated also, that he was under the impression that, inasmuch as by the leases of the premises in question, and the adjoining premises granted or to be granted by the ground landlord to the owners thereof, it is covenanted that a clear space of at the least 30 feet shall always be maintained between house and house, that the said building was to be deemed to be an insulated building."

The referees determined "that inasmuch as the building in question is distant from ground in another occupation 15 feet only, and not 30 feet as by the said Act required, it is not to be deemed an insulated building within the meaning of the said Act; and that inasmuch as the eaves cornice in question has not been built of the same materials as are by the said Act directed to be used for building the external walls to which such cornice belongs, or of such other proper and sufficient materials as the official referees have approved and permitted, the said eaves cornice is contrary to the said Act; but considering the comparatively insulated character of the building, we do hereby certify in pursuance of the said Act, and of the application of Mr. William Perkins for the approval of the materials of the said eaves, that so long as such building shall remain so distant 30 feet from any other building, we approve and permit the said eaves cornice referred to in the said application."

*** The enactment as regards projecting eaves of detached houses has caused much trouble and expense to builders, and for the most part, without the slightest advantage to the public. Wooden shop fronts may be fixed to adjoining houses, provided they are separated by a few inches of incombustible material, yet the eaves of the roof of a house standing alone, and only a few inches less than thirty feet *in any one part*, from ground not in the same occupation, must be made fire-proof all round. To comply with this requirement, slates have been fixed up with screws or nails to the feet of the rafters, in some cases in a very insecure manner. When the nails are corroded and give way, we shall probably hear of accidents.

RUINOUS BUILDINGS.

The district surveyor, in pursuance of an application to the official referees, surveyed the premises No. 103, St. John-street, Clerkenwell, and certified that they were dangerous to passengers, and ought to be pulled down or repaired forthwith.

The lessee and occupier of the building having obtained her surveyor's opinion, to the effect that it was not so far out of repair or ruinous as to be in danger of falling, and that the safety of passengers was not endangered thereby, appealed to the referees.

The referees determined "that the building in question, that is to say, the house, No. 103, St. John-street, Clerkenwell, is ruinous and dangerous, within the meaning of the Metropolitan Buildings Act, and ought to be forthwith hoarded in and shored up, and that in order to make the building secure, it is requisite to take out the external walls on the two fronts to Aylesbury-street and St. John-street, throughout the first or basement story, and to rebuild the same with bricks, or with stone in cement, and to build, in like manner, proper walls throughout the second or ground-floor story, or to put proper and sufficient story-posts to support the walls above, or otherwise in default of such work being done, to pull down the said building."

In another case, on an appeal against the certificate of the surveyor of the western district of the city of London, in respect of the front wall of two houses, 25 and 26, Field-lane, Holborn, the referees determined that it was not ruinous, and that the costs should be paid by the surveyor.

SCIENCE IN SOUTHAMPTON.

THE ARTESIAN WELL.

THE successful completion of the Artesian well is a matter of considerable moment to Southampton. No opportunity therefore, to obtain information from scientific men during the recent meeting of the British Association, has been lost. We referred in our last number to some of the statements made.

A joint deputation of the geological and mechanical sections visited the works at the request of the corporation to form an opinion as to the probable result of resuming the boring at the bottom of the shaft. They examined the strata and the engineer, and promised to make a special report upon the subject.

Soon after the deputation had left, Dr. Buckland, who in July, 1844, had reported on the well, arrived, and after examining into the matter, made, according to the *Hampshire Advertiser* (which by the way, contains a full report of all the proceedings), the following remarks:—"The water for the supply of the well at Grenelle comes from perhaps eighty miles off, but there was no fault or dislocation between the source and the delivery. That was not the case as between Southampton and the Isle of Wight, where a dislocation existed; the same might be said as regarded Winchester, where there was a break between St. Giles's and St. Catherine's Hill. They must, therefore, in order to form a judgment of the water they might expect here, and as to what height it would rise, go to Petersfield, where he believed there was no fracture (though he was aware of the fault said to exist at Portsdown), but if it should turn out that there was, then to Wilton (near Salisbury), and make the examination there. It may be that there was plenty of water under the very spot on which they were standing, which was only finding its way out at those places (Otterbourne and Petersfield, as explained in the pamphlet before alluded to). He was sorry, however, to mention that Mr. Gatehouse, at Chichester, had bored 1,050 feet down, of which about fifty were in the green-sand (into which they wanted to penetrate at Southampton), having but about 97 feet of plastic clay above the chalk, while ours was 480. Mr. Gatehouse, in his note to him (Dr. Buckland) says that having got this depth in the green sand, he at first got 78 gallons an hour; but it was now but 26 gallons an hour, and had a most intolerable odour (sulphuretted hydrogen). Now, how far that quantity per hour, with the odour of rotten eggs, would satisfy the people of Southampton, he would leave to their judgment—(laughter). He, however, had not gone to the gault, and therefore he (Dr. Buckland) would go on here at Southampton for the chance of getting water—he would go on, and if possible get to the bottom of the lower green sand. The tool or machine of M. Fauvelle promised to execute the work of boring so cheaply, that it would be most advisable to proceed with it."

The Mayor handed a letter to the doctor from Mr. R. Beart, of Godmanchester, which claimed for that party the invention of a boring tool similar in operation to that of M. Fauvelle. He had bored with it, in 1843, a well 65 feet deep and one in diameter, through a solid bed of clay, containing many large stones, some of which passed up the pipes of from four to five inches long, and two to three inches thick: the diameter of the pipe within being but 3½ inches, and 70 feet long; they were worked by four men, and descended from three to four feet per hour. He had taken out a patent for it.

Dr. Buckland said, if M. Fauvelle's instrument was the invention of an Englishman, of course he would reap the benefit of it. But with respect to this invention of M. Fauvelle, when he first saw it, it excited his astonishment, and even indignation, that it had not been found out before. He much regretted that they had not run out galleries, as he had suggested in his report on the well.

Mr. Docwra said he had acted upon that plan at Cheshunt, for the New River Company, and had obtained, at a depth of from 109 to 145 feet, with two galleries of 30 feet long, from 400 to 500 gallons per minute. He had proposed to go 80 feet in the chalk here, and strike galleries, and they would have had plenty of water for the whole town.

CHINESE BORING FOR ARTESIAN WELLS.

In connection with this subject, Mr. Vignolles read a paper at one of the meetings on Chinese boring, as practised on the continent, and as applicable to the boring of artesian wells and of the ventilation of mines. The ordinary method of boring is to screw together rods of one inch or more in diameter, adding the lengths (which are of six or eight feet) as the bore-hole is deepened. On the bottom of these rods the various cutting tools are screwed; and it is the tedious operation of lifting, lowering, screwing, and unscrewing these rods, and the liability of the cutting tools to get jambed, and the twisting, bending, and breaking of the rods, which constitute nine-tenths of the labour, expense, and delay of the old mode. A method of boring is employed on various parts of the continent, and particularly at the Saarbruck coal-mines, which is called the percussion or Chinese method. This process has been long practised in China, where they have thus bored to the depth of 1,000 feet and more. Instead of the tedious and expensive mode of boring with rods, one heavy bar of cast-iron, from six to ten feet in length, and of proportionate diameter—four to six inches—is furnished at the lower end with a cutting tool, combined with a suction-pipe, and is suspended from one end of a rope, passing over a large pulley fixed over the bore-hole. The other end of the rope is wound round a windlass, and the whole is worked like winding up and lowering down a bucket in an ordinary well: a contrivance is attached to let the weighted

tool fall down from any required height. As the rope is raised up and down over the wheel, torsion gives to this heavy tool a circular motion quite sufficient to change the place of the chissel at each descent. Bore-holes of from eighteen inches to two feet in diameter to a very great depth (several hundred yards), for the purpose of ventilation at the Saarbruck mines, have been sunk with facility and economy. Mr. Vignolles then explained the advantage of combining this Chinese method of boring with the improved system of Fauvelle.*

MENAI AND CONWAY BRIDGES.

Mr. Fairbairn and Mr. Hodgkinson both read papers on the proposed tubular bridge across the Menai straits, after which considerable discussion took place.

The bridge at Menai, which is to be called the Britannia-bridge, will be supported on four piers, and the distance between the central piers will be 450 feet. The weight of the metal is estimated at 1,200 tons, and it will be constructed of wrought-iron. Mr. Eyton suggested that it would be better to strengthen the tube by inverted iron arches, to protect it from the action of the wind. Dr. Robinson said that, though the bridge might be quite strong enough to bear a dead weight, he thought the engineers ought to ascertain what was likely to be the resilient force on the sudden rushing of the engine on to the bridge. He apprehended also that the vibrations might be cumulative, and increase as the train advanced, until they produced a serious effect. At the same time he trusted to the skill and caution of the engineers, that they would make the tube sufficiently strong, and with respect to the calculated action of the wind at 50lbs. to the square foot, he thought they had exceeded all possible effects of storms by one-half; for a wind acting with the power of 50lbs. to the square foot, must be moving with the velocity of 110 miles in an hour. During the severest storm that he had known the velocity of the wind was not more than fifty miles an hour. Mr. Fairbairn, in reply to these and to other remarks, said that not one-sixth of the estimated breaking weight could be placed on the bridge. The plates on the outside at the top would be nine-sixteenths of an inch, and those inside would be half an inch thick. The bridge from bank to bank, would consist of one rectangular tube, rivetted together and resting on the supports. To avoid the effect of vibration it was intended to lay the rails on vulcanised India rubber, about two inches thick. The tube would be elevated to its position in compartments, to be afterwards rivetted together when fitted. The first compartment nearest the pier would be raised on pontoons at high tide, and fitted into a rest at the bottom of a groove in the pier, up which it would be elevated by hydraulic pressure. The only risk to be feared in fixing the bridge was a high wind during the raising the first compartment, for when that was fixed the remainder would not be attended with risk. With respect to the strength of the bridge to bear a lateral pressure, he said that had not yet been tried, but it would be efficiently tested on the model bridge, and the suggestions of Dr. Robinson respecting sudden impact, and the effect of continued vibration, should be attended to.

ON GAS METERS.

A PAPER on this subject by Mr. Sharp, of Winchester, read before the British Association, may be found useful by many of our readers; we therefore give it entire:—

The use of coal-gas, for illumination, involves so much capital in its production and distribution, that the method of supplying it to the public is of vast importance.

The most equitable mode of doing so appears to be by measure; for, however high the price may be by contract, gas companies, owing to the extravagant and unfair burning, are not compensated; and the consequence is, that in those towns where gas is supplied partly by contract and partly by measure, those who burn by the latter method are charged by a higher price than they otherwise would be, in order to meet the loss thus sustained.

Some idea may be formed of the inefficiency of contracts, when it is stated that the orifices of burners are frequently so enlarged, that from 50 to 100 per cent. more gas is consumed than contracted for; thus the honest consumer, who burns his gas by measure is made to pay for the waste of the contract burner.

The position I take then is, that the only terms on which gas should be supplied is by measure.

It is therefore of importance, both to the manufacturer and consumer, that the quantity burnt should be accurately measured; and from the universal application of gas to domestic purposes, the subject is one of extreme interest.

The object of this paper is to inquire into the construction of some of the meters now in use, and it is not my intention to make invidious distinctions. The first to be noticed is the wet meter, so called on account of water being employed in its action. This consists of a cylinder case, within which revolves a shorter cylinder or drum, divided into four equal compartments. The gas as it enters some one of them forces that division to rise, and consequently the whole cylinder to turn round. A pivot or cog wheel is attached to the inner cylinder, which will turn with it, and count its revolutions. In one of these as much gas must pass through as will fill the space of its four compartments over the water line. The capacity of these being known, the quantity of gas will be known also; and it becomes easy to attach a piece of clock work to the machine so adjusted, as to point out on a dial the number of cubic feet that have passed through. About two-thirds of the cylinder or drum revolves in water, and the gas enters the space above the water by an elbow tube, which enters at the axis, and terminates immediately above the surface of the water. As the gas enters and exerts a pressure against the partition, it causes the cylinder to revolve.

This brief explanation of the construction of the original meter, I consider sufficient for the present purposes. The principal objection to this meter consists in the want of a proper adjustment of the surface of the water, an undue quantity of which reduces the capacity of the measuring compartments.

In the meters made by Botton, Edge, Milne, and some others, this is obviated by having an open tube, or waste water-pipe, leading from the proper surface of the water downwards into a close cistern, or waste water-box. There are other objections which create some inconvenience, two of which I will notice: first, the congelation of the water, which stops the supply of gas to the burners; secondly, its evaporation at high temperatures, which alters the water line, and then the meter registers against the company.

These are the principal defects of the original meter, to remedy which a number of attempts have been made by ingenious inventors to produce a meter to work without water. I shall not particularise each meter, but speak of them generally, and inquire how far the difficulties are met by the adoption of the dry meter.

The material of which the measuring chamber of the dry meter is formed, consists of leather or oil silk, which is liable to several objections. The gas is admitted alternately by valves into compartments on either side of the partition; the pressure of the gas occasions the partition to move forward, and as it distends it forces the gas out of that compartment, and the gas so expressed is in quantity to the sweep of the partition. As the diaphragm swells out it pushes before it a metal rod or lever, connected by a shaft with valves, by means of a combination of levers and cranks, with a worm or screw; a circular motion is given, which is transmitted to the registering wheels. It is a very elegant and ingenious method of measuring gas.

There are now several dry meters in use; their construction is very similar.

The objections to this meter as it is at present constructed are very great, and in my opinion fatal to its use. The complication of cranks and valves is a great obstacle; the latter are formed by flat surfaces of metal, and whether sliding or rotatory are very liable to derangement; for if a particle of dust scarcely perceptible to the eye be lodged beneath the valves and valve seat, they become unsound and the registration of the meter is incorrect. Nothing can be more destructive to the materials of the dry meter than the composition which is condensed on the valves and diaphragm, as it is impregnated with ammonia, the action of which upon its delicate machinery must shortly render it very imperfect. The charge brought against the wet meter, of its being subject to variable registration from the difference of the water line, is, as I have shewn, obviated by the inventions of Botton, Edge, Milne, and others; and with regard to the freezing of the wet meter, I consider the objection applicable to the dry meter, as there will generally be sufficient moisture on the valves in cold situations to form a small portion of ice.

It is known that gas cocks and valves freeze under similar circumstances, and it may readily be conceived that those of the dry meter will be liable to the same derangement. No one can be more anxious than myself that an efficient dry meter may be discovered; it will be one of the greatest boons ever conferred on proprietors of gas-works, as well as on the consumers of gas; and although great ingenuity has been exercised to bring it to perfection, it cannot be concealed, that these meters are, as the water meter once was, in their infancy. To what perfection they may hereafter attain no one can foretel, but at present there is nothing to justify their preference to the wet meter.

We do not expect to find it a perfect mathematical measure, calculated to the niceties of chemical manipulation, but we have a just measure. Meters are now made which will measure the gas passed through them with as much accuracy as ordinary balances will weigh and measure the articles we receive for our household use.

The public would have confidence in the gas meter if they understood more about its construction, and persons connected with gas works would find it much to their advantage if they were to instruct those of their customers who were willing to understand the principles upon which it measured the gas.

I would recommend a department connected with every large gas establishment for the purpose of testing all meters, and the consumer should be invited to witness the operation, which would allay suspicion.

In my opinion it is due to persons using gas that means should be taken to convince them of the honesty of the measure by which they are supplied.

* See page 453, *ante*.

LONDON TASTE.

MAY I beg to call your attention, Mr. BUILDER, to the present appearance and state of the tripod lamp in Waterloo-place; for some years it has been disfigured in a strange manner by two rusty iron pipes, running up its stem into a cylindrical box of certainly not much taste in its ornaments. The lamp which surmounts this strange shaft is singularly obscured by the inattention, I presume, either of the gas-light man or of the Bude-light hero. The railings as well as the "whole set out," is shamefully neglected, and is crying out for another coat of paint. It would be a charity to get one of the red jacketted sweepers to use his besom in freeing the inclosure of *stones*, *dirt*, &c. Will you, Mr. BUILDER, use your influence in restoring this unfortunate luminary to its original shining appearance and condition?

I also wish you would ask the parochial authorities of St. James's Church, Piccadilly, to endeavour, either by pointing, or cleaning, or compoing, or by any other means *you* and they think best, to put a better and less gloomy look on the exterior of their splendid building. I am sure that Sir Christopher Wren never wished so much dulness to be seen in any structure, and least of all in a church. The parish now have a capital opportunity of embellishing the outside, as they have all the scaffolding poles, men, and materials, &c., inside the church, and therefore at hand. Hoping this will cause attention in the proper channels, I am, Mr. BUILDER, your constant reader,

Sept. 14th, 1846, A LONDONER.

NEW EPISCOPAL COLLEGE.—The foundation-stone of the Trinity College for episcopalians, near Perth, was laid on Tuesday week.

ARCHITECTURE OF SICILY.—DOORWAY FROM FAVARA.



ARCHITECTURE IN SICILY.

The works of the Normans in Sicily being still comparatively unknown in England, we have availed ourselves of Mr. Granville's recent visit to that country to place some examples of it before our readers. Above we give a representation of a beautiful Norman doorway from Favara, and shall in an early ensuing number add others, with some descriptive remarks.

Painting Old Ironwork.—In reply to the inquiry on this head in a recent number, a correspondent recommends the querist to have the railings well cleaned and then to give them two coats of lamp-black and boiled oil, after which he may paint them any colour he pleases.

HOUSE DRAINAGE.

IMPROVED TRAP.

Sir,—In order to effect an improvement of great utility, I would beg to suggest a few remarks as to the imperative necessity of awakening the public mind to a subject of the greatest importance,—house drainage.

Animal and vegetable substances, filth and excrement in a state of fermentation and decomposition, evolve gaseous products of a foul and offensive nature, which gases, if inhaled, are highly injurious to health and life. The atmosphere of sewers and drains, therefore, is always charged with the foulest of impurities. If the drain of a house be untrapped, a free circulation of air is by its means kept up between the house and the sewer. Now, if the sewer drew a current of air from the house, then little, or perhaps no unpleasantness would arise, as the sewer would be likely, in some degree, to ventilate the house (which, by the by, would be a novel mode of ventilation), but in almost all cases it is found that the house draws a current of air from the sewer. Hence the cause of those disgusting, filthy, and offensive smells, with which the atmosphere of many houses is infected.

In order to prevent, and free a house from this evil, direct atmospheric communication between it and the sewer must be wholly cut off; this is best effected by what is termed "trapping the drain." All cesspool arrangements impede the progress of the sewage in its passage to the sewer, and cause it to dissolve and decompose within them; and thus the atmosphere of the house becomes contaminated, and is in consequence extremely annoying and injurious to the health of the inhabitants. Cesspools, therefore, or any other arrangements which prevent the sewage from being immediately carried into the sewer, are highly detrimental and objectionable; in fact, they are, as regards utility, wholly unnecessary, and their formation should be discontinued

forthwith. The old-fashioned brick drain traps, with a dip-stone placed across them, are nothing better than cesspools on a small scale, for they very often become filled with soil, and choke up the drain.

I understand that the court of sewers for Westminster have recently adopted a very simple and efficient drain-pipe trap, which will keep itself clean, and cannot very easily get out of order. It is represented by the annexed wood-cut. They are to be six inches diameter, made of brown stone-ware glazed.

Small-sized pipe drains, from three to six inches bore, according to the size and character of the house, are amply large enough to carry away the drainage therefrom. I trust that the official referees will be induced shortly to recommend a modification of the Metropolitan Buildings Act, sect. 11, Schedule H., so that glazed pipes of the above sizes and upwards may be allowed to be used in the construction of house-drains.*

A body of water running through a drain of small capacity will not only keep it well washed out and clean, but the water, by filling the pipes at every discharge, forces with it into the sewer all the foul gases that are generated in the drain; and by the introduction of a trap next the sewer, similar to the one here shewn, there can be no retrogression or passage of foul air from the sewer into the house, and the impetus of the water in descending into the trap will force its way along it, and prevent it from choking up, besides being of easy approach from the sewer. This trap can also be placed very advantageously in other situations along the line of drain where traps may be requisite, to prevent the escape of effluvia and smells from the various outlets.

While the importance of good house drainage is seen and felt by every one, there appears to be great ignorance and neglect displayed in the arrangement and construction of it. I trust that, for the sake of public decency, comfort, and health, these few remarks may not be disregarded by architects and builders generally, but that they may be induced to give this subject their serious attention, and have the drainage of houses formed so that it may act efficiently in conveying away the filth, instead of retaining it within the house.

What really is more hurtful, obnoxious, and disgusting, than for masses of filth to be constantly lying in drains and cesspools, engendering poisonous gasses under one's nose, vitiating the atmosphere, and thus silently but destructively preying upon our constitutions? The present system of draining houses requires, in my humble opinion, an entire revision, and to effect which is extremely simple.

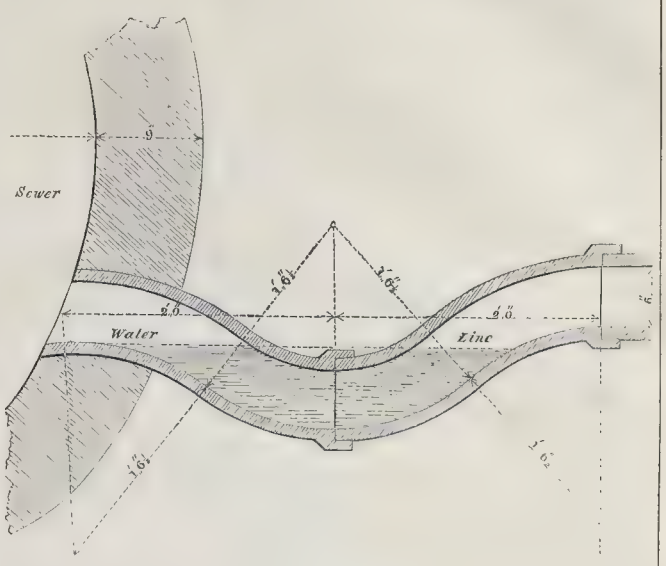
COMMUNE BONUM.

London, Sept. 12th, 1846.

*** The improved trap here illustrated was first proposed in our own pages, at the commencement of the year. (See p. 130.) It has been carried out as above by the Commissioners' surveyor, Mr. Phillips.

* The desirableness for this modification has been already pointed out by us; see p. 109, &c. *ante*. A similar modification in respect of flues should also be made immediately.—ED.

IMPROVED TRAP FOR HOUSE DRAINS.



A NOTE IN BATH.

THERE are few English cities so beautifully situated as Bath, or which display so much good taste. Seen from a distance, the effect of its varied levels and its architecturally arranged terraces and crescents is singularly striking. We often steal an hour when whizzing along the Great Western line in pursuit of our calling, to pause here, wander through its suburbs, and admire its loveliness. We are not of that cast who think the whole duty of man is work, and look upon the useful and the beautiful as two distinct things. If as a people we thought more of the latter we should be happier and better.

The *Spectator*, in a recent article on our great pretensions to improvement in London and our puny practice, in reply to a remark, that to endeavour to get rid of smoke is thought eccentric, as after all it is *only* a matter of beauty, says most truly, "*only* beauty! No wonder the English are a discontented, drunken, and melancholy people."

If we think over this sentence, it will be seen to have much meaning. Beauty and usefulness are closely connected, even if they be not synonymous. And right usefully are those employed who seek to produce forms of beauty, and open the enjoyment of them to the masses.

Bath owes much to its situation, the possession of a handsome, though not very durable, building material, and the architect, John Wood. "Where Wood began," says the Rev. William Mitford,* "or where he ended, I know not: it suffices for me that, avoiding a street, he built the circus and the crescent. He was a man who, with a disposition to bold design, had the moderation and judgment to respect authority and shun extravagance. His style was the Roman. The idea of his circus has been derived from the Roman amphitheatre: it is the Roman amphitheatre ingeniously and judiciously adapted to his purpose by inversion; the exterior of the Roman, making the interior of the circle at Bath." Objections we will not now talk about. Bath is greatly his debtor. He also built Buckland for Sir John Throckmorton, and died in 1754.

If you wish a beautiful prospect you may go to Lansdown-terrace; if some clever modern engineering, the railway station will afford it to you; while the Abbey Church will exhibit to you a last effort of medieval art.†

The curious sculptures for which the west front is remarkable, are, we regret to say, fast disappearing. In a very few years more the ladders and angels will be *entirely* obliterated, indeed they are nearly so now, and a flat surface will alone remain. The new church on Widcombe Hill, St Mathew's, building under the direction of Mr. Manners, who restored the Abbey Church some years ago, is nearly ready for roofing in. The external walls throughout are completed, and the main columns and arches which form the aisles are in progress; these columns, by the way, are very slight. The weather-cock was fixed on the spire a fortnight ago, and the workmen are now cleaning off the tower as they come down. The church has a short transept, and is of the decorated period.

NEW PRISON IN THE CITY.—Plans for building a new prison for the city have been before the Committee of Common Council. The first question to be decided is, whether it shall be erected within the city bounds or not.

* "Principles of Design in Architecture."—1809.
† It was not finished at the time of the Reformation.

ART AND INDUSTRY IN CHINA.

THE collection now exhibiting at the office of the Secretary of Commerce and Industry, at Paris, presents several specimens of that strange *combination* of art—Chinese painstaking and patience, with the modern system of art and perspective. The leader of this new school is Mr. Lamp-Quoi, of Canton, whose portrait of Mr. Rénard (one of the commercial commissioners) could conveniently be placed in any of our exhibitions—in fact, comes up to the best French miniatures. The above artist, however, is subject to much annoyance from his countrymen, and Mr. Rénard has acquired many of his pictures, which had been *returned* to the artist by his dissatisfied Chinese customers. Amongst these, the portrait of a lady of surprising beauty, is especially noticed as an object of real art.—The next painter of the modern school is Mr. *You-Quoi* the elder, and the collection exhibits a series of *oil* pictures of a true and correct perspective. Mr. You-quoi has not studied under an European master, but acquired his knowledge from the inspection of our engravings and lithographs. Two immense *canvasses* by him—a view of the river Tshan-Kiang, and a panorama of Canton, are very fine specimens of perspective, but the colours and the figures are not so commendable.

The next artist to be mentioned is Mr. *Ting-Quoi*, who has executed a collection for Mr. Rénard, which has not its equal in Europe. They are sketches of a number of Chinese trades and manufactories, the sight of which is either forbidden to Europeans, or useless for want of the necessary interpreters, &c. Here every trade and manufactorial branch are sketched, not only in their general features, but *every operation* and *process* occupies a separate sheet of paper. This is a very original and pregnant idea. Strange to say, all these machineries and *tool-work* are executed with a great freedom, by only the means of *a brush;* and the artist, encumbered by his long nails, grasps them with his full fist, as they do a dagger in the play. Thus he draws circles, ovals, parallel lines, &c., with an exactitude and nicety quite astonishing, shaming all our compasses, squares, and rules.

Amongst the interesting specimens brought back by Mr. R., Chinese *paper hangings* must be also adverted to. There no tapestry is used at all; they make for that purpose extensive

views, or other scenery, painted on strong paper, and supported at each end by a roller of bamboo. Thus they are hung up on the walls like our maps. Not being, like in our climes, subject to smoke and other *impairments*, they last very long, and are therefore executed with much art and care. First-rate artists are engaged in these works, which, with the *Albums*, constitute now their chief occupation.

Amongst those now exhibited at Paris, is one representing the goddess *Kannyin* on a lotus flower; the figure is drawn in large *contour* and proportions, being, as it seems, the work of some Chinese Rubens.

The hitherto position of Chinese painters is a rather curious one, and much dissimilar to that of European artists. They work by *the day*, and are paid *by the day*. Mr. Lamp-Quoi alone has dared to break through these rules, and to place himself on the footing of a gentleman. But Mr. L. lives in Canton, where his employers are, to a great extent, Europeans. The poor daubers in the provinces can never follow his example. They get up at daybreak, walk to the *picture manufactory* (!), and work up to the fall of night. The better only, get a couple of hours' leave to go home and smoke their pipe. On the whole, as painting is considered a *manufactorial* occupation, the price of pictures is exceedingly moderate. According to the opinion of Chinese statesmen and literati, however, painting, as well as literature, are on their wane now; and both these *trades* flourished best under the dynasty of *Ming*, a contemporary of Louis XIV. of France. They paint and draw on a superior sort of paper, far surpassing the best Bristol vellum, often, also, on a sort of vegetable pith paper, made from the pith of the *Œschynomene paludosa*, whose making is very curious, but does not come within the province of this journal. Pictures made on this paper look exceedingly mellow and smooth—*carnation*, especially, obtains a great degree of force and *relief*. As the Paris collection contains such rich and well-chosen specimens of Chinese art and industry, the exertions of French *Chinologues*, like Mr. Jullien, &c., will have ample materials for further and, no doubt, interesting researches. J. L.

ARCHITECTS' TROUBLES.

COMPETITIONS.

An eminent provincial architect, writing to us on general subjects connected with the profession, makes the following remarks:—

"I am fond of the architectural part of my profession, and, as a matter of simple choice, would prefer devoting my attention to it; but the harass, the annoyance, the spoiling of your designs, the officious intermeddling with your best ideas, the running fight you are obliged constantly to maintain, are such, that were it not for attachment to it, I would eschew it altogether.

My surveying business is conducted with far less trouble, and far more profit. In surveys, consultations, opinions, valuations, measurements, estimates, one's word is law; the clients do not feel competent to dispute your dictum, and if they do, as has been observed on another occasion, you have a thicket of mathematics to retire into, into which they are quite incompetent to follow. Not so with architectural designs. Every ignorant fellow thinks he is quite as competent to put in an opinion as yourself, and will spoil your best designs for the sake of introducing some absurdity of his own. Moreover, he has a very inadequate notion of their cost to you.

One thing I have fully resolved on, and that is to give up contributing to advertised competitions. Professor Hosking has placed the matter in the right point of view, and in future I will be no party to support the system of wholesale plunder which has been carried on so long. Not very long since I obtained a commission for a very large building by competition, but it was conducted in this way:—Several architects were applied to privately, and the plans were to be paid for whether adopted or not. (At least such was the arrangement with me.) The building is now about to be commenced. It is for commercial purposes, fire-proof throughout, and will cost about 20,000*l.*, exclusive of land."

RAILWAY JOTTINGS.

The families of persons killed by accident on railways, through neglect or default of companies or other persons, are now, by the Act 9 & 10 Vict. c. 93, which came into operation on the 26th ult., entitled to sue such companies or persons for compensation, within twelve months of the death of the party killed. The action must be brought in the name of the executor or administrator of the dead, for the benefit of the wife, husband, parent, or child. This is called "Compensation for death by accident,"—a slight misnomer, since no one killed by accident can be ever thus compensated; though it may be some little consolation, certainly, to know, that others interested will. The benefit of the Act does not extend to Scotland.——In a series of able articles, a Cornhill correspondent of the *Times*, under the nom de guerre of "Cato," is engaged in exposing the abuses still prevalent and legalized in our railway system. In a recent article the writer presents statistical details, from which the benefits derivable to companies themselves, no less than to the public at large, from a considerable reduction of the rate of traffic, are placed in a striking light. He points attention to the fact, that while the Birmingham, three years after its opening, had only increased the traffic of the ordinary roads by 1½ times what it was, the Belgian, with its lower fares, such as those in Scotland, at once increased the previous traffic sixteen fold. And as to the profit derivable to companies themselves from such a traffic, with lower fares, he represents the fact, that on the Glasgow, Paisley, Kilmarnock, and Ayr line, on which the fares of first class passengers are only 1¼d., second class, 1¼d., and third class, ¾d. per mile, the revenue for 1845 was 90,545*l.*, and the expenses only 36,288*l.* leaving the company themselves a balance of 45,257*l.*, or 60 per cent., free annual profit! "The truth of the matter is," says Cato, "the English companies charge most extravagantly, without having one good ground of justification. They have a monopoly, and that they think is quite enough." They wish in fact to let what they erroneously imagine to be *well*, for themselves, *alone*.——Mr. Bury, the engineer-in-chief of the locomotive department of the Birmingham line, is fitting up some improved water-cranes, with "Underhay's" patent cam valve; thereby simplifying the former mode of supplying the tenders with water.——The post-office authorities having recently asked the directors of the newly amalgamated "London and North Western" whether they could run a mail train between London and Liverpool in five hours, or at an average speed of forty-two miles an hour, including all stoppages, a special train of six carriages was run on Friday week from London to Manchester, fourteen miles short of the distance to Liverpool, within five hours, although a stoppage of nearly thirty minutes occurred during the transit. The desire of the post-office authorities, therefore, can be readily complied with.——The Doncastrians are congratulating themselves on the probable realization of their hopes of planting the "Great Northern" centre at Doncaster, although their Retford neighbours are vieing with them by "petitioning" for the appropriation of the benefit to themselves. The Doncaster station, at all events, is to be a grand affair, if Mr. Cubitt's plan is carried out. "It is intended," says the *Doncaster Gazette*, "that the principal entrance to the station shall be placed on the site of the present Gaol. The buildings will be first rate. Some idea may be formed of their extent and character when it is stated that an area of about thirty-five acres will be required for the works, and the purposes connected with this magnificent undertaking," which will constitute the "grand junction of a number of lines." It is proposed to re-erect the Gaol behind the proposed Town Hall. —— The Iron Ruler has had "the heads of several of the first mercantile firms" of the respectable community of Hull at his feet, with a memorial, (sic scribitur), beseeching him to grant them also a grand railway station or terminus, which was lately laid before his Majesty, who, in "a courteous reply to this memorial" stated "that the subject of a new railway terminus at Hull should be taken into serious consideration."—— Land along the Edinburgh and Glasgow line has risen in value from less than 5*s.* to more than 30*s.*, and even 40*s.* an acre, annual rent. ——The foundation stone of the great viaduct which is to cross the river Ayr, in a deep wooded ravine at Ballochmyle, on the line of the Glasgow, Paisley, Kilmarnock and Ayr line of railway, was laid on Saturday last. It will be three-quarters of a mile in length from bank to bank, and will cost 100,000*l.*——A bridge on the Bruges and Thorout continental railway suddenly gave way on Saturday week, whilst workmen were employed in rasing it, at any rate, to its foundation, which was originally bad. One man was killed, and several were extricated from the ruins very much injured.

The electric telegraph between Brussels, Malines, and Antwerp was opened *to the public* for individual communications on the 9th instant. The charges are fixed at 50 c. from one to twenty words, 10 c. for the reply, and 50 c. for communicating it to the residence of the inquirer.——By the way, the scale of charge for telegraphic messages on the South Eastern Railway has been also published:—Minimum charge, 5*s.* for a message of twenty words; charge to Tonbridge, 5*s.*; to Maidstone, 7*s.* 6*d.*; to Folkestone and Canterbury, 10*s.* 6*d.*; to Dover, 11*s.*; to Ramsgate 12*s.* 6*d.*——Mr. Morse, of America, has communicated to the Academy of Sciences at Paris, the following list of electro-telegraphic lines already established in the United States:—

	Miles.
Albany to Buffalo	350
New York to Boston	220
Ditto to Albany	150
Ditto to Washington	230
Washington to Baltimore	40
Baltimore to Philadelphia	97
Philadelphia to New York	88
New York to Newhaven	84
Newhaven to Hartford	30
Hartford to Springfield	20
Springfield to Boston	98
Albany to Rochester	252
Total	1,659

Mr. Morse states, that the electric telegraph is now the chief mode of transmitting all the news of the Government, and the important correspondence of merchants, and of the public generally. Its influence has, he says, been already felt by the press. The journals of the large towns, which were taken in the country on account of their giving the most recent news, have lost a great number of subscribers, whilst there has been a very large increase in the circulation of the journals of the small towns near the extreme points of the telegraphs. The extent of the lines of electric telegraph in France is very small, compared with the account given by Mr. Morse, and very slow progress has been made by the Government committee on telegraphs, at the head of which is M. Arago: this committee is to report on the various systems of telegraphic communication, particularly those of Mr. Morse and Mr. Bain, of Edinburgh, which have been submitted to it.

ARCHITECTURAL SCHOOLS OF DESIGN.

Mr. Editor,—I take the liberty of addressing myself to you on a subject which I consider is one of the greatest importance to all students who are desirous of distinguishing themselves in their profession. The want of an institution to which the architectural student might resort, established exclusively for the study of architecture, must be felt by almost all of us. True, it may be argued there are schools of design already established, but I would inquire,—Do they teach architecture as an art? is it not considered in a secondary light, if not passed over altogether? for instance, the Government School of Design,—do they teach architecture there? I think not; they *profess* to have a master for architectural students, but what is the architecture they teach? Copying ornamental drawings, and perhaps a little of perspective; in fact, *that* they are very sparing with. I myself belonged to that school (the morning school) for six or seven months, and what did I learn? to copy ornamental drawings and the figure, which are all very well in their way, but not every thing to the architectural student, and as a proof of the ma ner in which architecture is slighted, I requested of the director permission to attend the evening

school for the study of perspective, to which request he inquired what I was studying for? and on my informing him, he replied,—"We do not profess to teach architecture, because it interferes with the right of private individuals."

Now, Sir, it occurred to me, could not a school be established at which the student might attend after office hours, in which architecture might be exclusively taught? And what is to prevent such being the case if a number of us club together, and put our shoulders to the wheel and form it? The advantages such a scheme would offer to the architectural student must be obvious to all; it would not only be the means of mutually improving ourselves, but it would unite together as a band of friends all the future members of the profession; and if under the superintendence of an eminent member of the profession, who would be engaged to direct us in our studies, would prove of the greatest advantage to all. By some it may be argued—we might be able to study by ourselves without going to the expense of belonging to a society like the one proposed; but I would inquire—do the majority of those who are studying for the architectural profession possess facilities for drawing? Does every architectural student possess a good architectural library, drawings, &c.? I think not; but by union we might possess a spacious school, a good library, casts, drawings, and, in fact, every thing necessary for study at very small expense to each. I would, therefore, earnestly request the established members of the profession to give us their valuable aid, and to assist us in our scheme; for if they countenance it, our success is certain. Perhaps it may be considered, that by establishing a society like that now proposed, we intimate that we do not consider we have sufficient facilities afforded us for improving ourselves in the office. But such is not the case; our object is to obtain as much knowledge as possible, so that we may be better able to perform its duties, and to fit ourselves to undertake the responsible duties of the profession in after years.

Humbly apologizing for trespassing so much upon the columns of your valuable journal, I remain, Mr. Editor, yours most respectfully,

An Architectural Student.

PROVINCIAL NEWS.

Her Majesty's builder, Mr. Jenner, has contracted with the Woods and Forests for the enlargement of one of the towers of Windsor Castle, that, namely, on the south-west side of the Round Tower, hitherto appropriated for the offices of the resident clerk of the works. An entire story is to be added, and new rooms and offices formed in the basement. Mr. Turnbull, the newly appointed clerk of the works at Windsor, is to occupy the tower as a residence.——Hampton-court Palace is visited every Sunday by 6,000 persons, chiefly, of course, from the metropolis.——The little town of Folkstone is at present in a bustle from the progress of various works of some importance to its reviving prospects. The extension of the south pier is going on rapidly. The divers are still at work. The piling for deepening the mouth of the harbour is in steady progress. A number of good houses are being built, and there is a good deal of general traffic. It is intended, also, to extend the west pier and the tram road in connection with it, by throwing a strong bridge for the trains to pass across to a station near the Pavilion Hotel; the passage of vessels being, of course, provided for by an intervening swing in the bridge.——At Portland, engineers are actively engaged in preparations for the projected breakwater, and arrangements for the most convenient mode of communication with the island for the transmission of materials. The break-water, it appears, will be directed eastward, from a point a little to the northward of the Old Castle.——The works at Devonport are to be pushed on with the utmost rapidity, so that it is expected one of the basins will be opened for the admission of steamers in about 3½ years from the present time. There will be two immense basins; the north basin 650 feet by 625 feet; and the south basin 625 feet by 560 feet; each holding a depth of 27 feet of water, and admitting 18 first-class vessels to be fitted out, or 25 of all classes. There will be three large docks; the north dock, 300 feet long by 94 feet wide, for first-rates; another 406 feet long by 82 feet wide, for steamers of the largest class; and the south dock 300 feet long by 82 feet wide. The entrance lock will permit steamers to be docked at ebb tide in 18 feet of water, spring tide, and may be used as a dock when required. The factory is to contain all sorts of machinery for the repair of steam-engines, and will be 800 feet long by 320 feet broad, including boiler, rigging, and store-houses. Vessels will here be passed from the first department to the last in succession, o as to be ready for sea when ready to quit the basin.——The expiry of the time allowed for the lodgment of tenders for supplying the city of Bristol with gas for a term of years, has ushered in a further reduction by both of the present companies in their price of gas to 6s. per 1,000 cubic feet, with a discount on large quantities.——The high cross in the market place at Glastonbury has been completed. ——Amongst the improvements contemplated at Dorchester, is that of a public cemetery (joint-parochial we presume, as recommended by our correspondent, Mr. Parry).——The new church of St. Andrew, Bordesley, is to be consecrated on the 30th instant.——The Manchester Parks Committee have been agreeably surprised to find that there is no such deficiency (of 500*l.*) in their funds as they supposed. The following appears to be the statement of their general expenditure:—

Purchase of three parks and buildings thereon	£25,000
Messrs. Pimm and Richardson, the contractors	3,400
Mr. Warburton, wood-fencing	1,000
Trees and shrubs	800
	£30,200

The tenders for refreshment rooms, already lodged, were not so numerous as was expected. They were to be examined on Monday. The committee meant to recommend the council to authorize the expenditure of 1,200*l.* in providing garden tools and additional apparatus, and also proper conveniences, and other accommodations for visitors.——A new Roman Catholic Church is about to be erected near the Maudlands railway station, at Preston; 1,000*l.* have been already subscribed.——The Health of Towns Committee, at Hull, have resolved to recommend to the council an addition of six public baths to the two now in progress; two of them to be immediately erected in the most densely populated parts of the town.——On Thursday week a portion of the Edinburgh Western Cemetery was formally consecrated by Dr. Terrot, the bishop of the diocese.——The new moiety of Greyfriars Church, at Edinburgh, called the New Greyfriars, which, in common with the older portion, suffered extensive damage by fire about a year and a half ago, has been repaired and re-opened.——A gas-work chimney 320 feet high, has been erected at Edinburgh. It rests on a pedestal, and is so built, as to form an ornamental object.

TO PREVENT STAINS FROM SMOKY BRICKS.

Sir,—I beg leave to inform "W. N." of a simple and cheap method of preventing any stain from smoked bricks (be they ever so bad), passing through plastering. The first particular proof of the efficacy of my method was in the year 1808, at a tanner's in this town, who had a very large old-fashioned chimney, part of which he wanted to convert into a closet, and the other part to be occupied by a then modern Bath stove. The part of the interior of the chimney, intended for the closet, I arched over, but a great difficulty was to be overcome in plastering it.

As nothing but the refuse bark or tan used in his trade, had been burnt on the hearth for many years, the interior of the chimney was encrusted over, not with soot, but with a hard pitchy substance, about three-fourths of an inch or more in thickness. This substance I chiselled off to the face of the brickwork; the bricks were also stained nearly through. I first plastered them over with a thick rough coat of well-haired cinder ash mortar, which I left to be thoroughly dry before I laid on a second, but rather finer coat of the same materials, which I floated off, and left for a third coat of fine white stuff, which was laid on when the second coat was nearly dry; afterwards I whitewashed it, and not a single stain appeared through the plastering, nor for several years did I ever see one in it, and believe to this day there never was one. The next job of a similar nature, a year or two after, was at a bake-office chimney, where I adopted a similar method, and with the same success. I went this very day, after reading the article in The Builder, and inspected the closet. It has been repeatedly whitewashed, but not a single stain appears, though thirty-three or thirty-four years have elapsed. I have invariably adopted the same method, and with the same success in many other cases. The purer the cinder ashes, and the more of them used with the lime and hair, the better.

I am, Sir, &c.,
A. J. Green,
Bricklayer.

Sudbury, Suffolk, Sept., 19, 1846.

*** Another correspondent on the same subject ("J. C.") says he has effectually overcome the evil complained of "by cutting out the plaster about one inch longer and wider than the smoky brick, putting in a piece of slate the same size close to the brick, and plastering it over. This should be done after the first coat of plaster is laid on, as every smoky brick is then to be seen." Several others say, that if the first coat of plastering be made like the ordinary cow-dung pargetting, no stain will appear. It has given us gratification to receive more than a dozen replies to the inquiry.

WESTMINSTER COURT OF SEWERS.

At a court held on Friday, the 14th instant, Capt. Bague in the chair, the clerk reported that the sum of 16,184*l.* 12s. 4d. remained in the hands of the bankers. Petitions were then granted for building 3,014 feet of sewer, for laying 242 drains, and for flapping 71 drains. 107 new gully drains were ordered to be put in.

On the motion of Mr. Cumberlege, seconded by Mr. Le Breton, Mr. Phillips was appointed chief surveyor to this commission from the 6th September instant.

It was moved by Mr. Cumberlege, and seconded by Mr. John White, "That an enlargement of Buckingham Palace being contemplated, the surveyor report upon the King's Scholar's Pond Sewer as it affects the palace, and *vice versâ*; and also generally, with a view to consider whether any better line than the present may be adopted." Carried by 6 to 2. Mr. Rennie's report thereon of the 27th May, 1806, was to be reprinted and circulated to the commissioners.

On Friday, the 18th inst., Mr. F. Chalmers in the chair, a letter was read complaining of the state of the sewerage in Stephen-street, Lisson-grove. The court ordered that the several improvements of the sewerage of the neighbourhood, proposed in the surveyor's report, be approved, and carried out as early as possible.

Tenders for the court-house were opened as follows:—

Foot	£228	5	0
Basset	214	19	10
Warne	214	9	0
Joy	212	5	6

Joy's tender was accepted.

A general specification of works for building sewers, prepared and submitted by the surveyor, was considered and adopted, and tenders for several works were ordered to be advertised for, to be opened at two o'clock on Friday, 2nd October.

Several reports from the surveyor were then read; among which was one for improving the drainage of St. Anne's-court, and Edward-street, Soho, and one for covering in an open sewer at the back of Cromwell-lane, Old Brompton.—Ordered, that the proposed works be done.

Upon the motion of Mr. Cumberlege, seconded by Mr. Gunter, the court resolved, nem. con., "that the salary of the chief surveyor be fixed at 400*l.* per annum."

Thos. Rowe, clerk of works, reported that a sewer recently built, near Notting-hill, had in many parts been executed in a slovenly and unworkmanlike manner.—Ordered, that the defective parts be forthwith taken down and rebuilt. Adjourned to Friday, 2nd October.

New Books.

Kelly's Practical Builders' Price Book; or, Safe Guide to the Valuation of all kinds of Artificers' Work. Kelly, Paternoster-row. 1846.

This is a very useful work, and may be safely purchased as well by all students, whether in surveyors or architects' offices, as by builders. The preface says justly:—

"The price of any article upon which the skill of the artisan is employed in the production, must depend upon two elements of calculation—the price of the material, and the wages of the workmen. The latter is not much changed in the lapse of a few years, but the former is constantly varying; and hence it is, that to secure a perpetual accuracy in the valuation of builders' work, it is necessary that every list of prices should be formed upon the value of the material employed. This being done, nothing is easier than to regulate the price according to the rise or fall in the market; and thus making, in fact, a scale of prices almost perpetual. In the present, as in former editions, timber, deals, and other materials are taken at their present value; and the calculation of portions of builders' works constructed from them are shewn in detail, to assist the surveyor or builder in making such alterations from time to time as may be necessary."

An important feature in the book is a descriptive account of the modes of measuring artificers' work, which seems very clear and correct. We would remark, in respect of the prices given, that they appear, in most cases, to be full, and (as in all other price books) suppose the work done in the *best* manner. This should always be kept in mind in valuing work. Bad work is better paid for than good, though the prices given for it be fifteen per cent. less than good work would be entitled to. Want of consideration for this by surveyors, in making out accounts, has done much harm.

Correspondence.

NORTH WALSHAM CHURCH.

Sir,—In the interesting account of North Walsham Church, which appeared in a recent number of The Builder, it has been omitted to mention, that two perfect "brasses of chalices," with short inscriptions, remain in the nave and chancel. Instances of a simple chalice, as a sepulchral memorial, were very frequent formerly, as the numerous "matrices," which abound in our churches, still prove. The brasses themselves are, however, now very rarely to be met with; and North Walsham is the only church with which I am acquainted that has *two* of these memorials perfect. One occurs in Shorne Church, Kent, and one also in Cirencester Church.

The fine old chest, which is placed in the south aisle of the chancel (its original position), is certainly deserving of notice. It is in excellent preservation, and of enormous strength. It is firmly fixed between four strong posts, which are stubbed into oak sleepers let into the floor. It is formed of oak, four inches thick, and entirely plated by straps of iron crossed and recrossed.

The locks which defend it (nine in number) are truly admirable specimens of the locksmith's skill—the key-holes being quaintly concealed by a variety of devices (moving by means of secret springs), such as dragons' heads, serpents, &c.; besides all these precautions, three ponderous bars of iron pass through the already-mentioned posts, and completely fix the whole to the wall. It requires a very strong man even to lift the cover. To remove the chest is quite out of the question. Probably the treasures of the church were formerly kept here; now, what little remains in the shape of sacramental plate is kept at the rectory (Is this right?). The moth and the spider are the sole tenants of this fine old piece of antiquity.—I am, Sir, &c.,

17th Sept. 1846. A Subscriber.

THE SPRING IN KNIGHTSBRIDGE.

A few years ago the inhabitants of the east-end of Knightsbridge, as also the weary travelling pedestrians, were indulged with a supply of most excellent water, conveyed into a tank, on the road side, from the park, near the gates, opposite the Chinese exhibition. For the last four years, the supply of this most desirable spring has been cut off, by which the public has materially suffered, particularly as there is no pump within three-quarters of a mile of it. Perhaps Viscount Morpeth, who has so much consideration for the public good, may be pleased to give directions for the restoration of so desirable a boon. Observer.

Knightsbridge.

THE PICCADILLY PAVIOURS.

Sir,—I addressed you some time since respecting the immense inconvenience sustained by the neighbourhood and public, from the diversion of the road, through the tortuous narrow streets of May Fair, in consequence of the repairing of Piccadilly. I feared the erection of a well protected hovel, and a little house, indicated residence, and so it has proved, for there they are still, and there seems no disposition to quit; and there too are the eternal two men and a boy still dressing the paving stones, and the sprinkle of men pick, pick, picking at the macadamized road.

Now, Sir, all these men are at work at one side of the road: pray will you give the surveyor a hint, that if a similar number of men were employed in the same slow process on the opposite side of the street, the work might be done in just one-half the time; and it is the more important that it should be so, since, if you will take the trouble to walk up Down-street, Hertford-street, Chapel-street, and the devious course to arrive in Piccadilly, you will perceive that the pavements, which were never meant for such heavy and great traffic, are all giving way and being displaced; which must, if it continue much longer, be repaved, and cost the parish from 1,500*l.* to 2,000*l.* at the least, and this all from the sloth of work, a month having been already expended in making about a hundred yards of road, and that not yet completed.—I am, Sir, &c.,

A Rate-payer of St. George's, and an Inhabitant of May Fair.

17th Sept. 1846.

*** Since the above was in type, part of the road has been opened for traffic; our correspondent's first reproaches, reprinted by the daily press, having somewhat expedited matters.

USE OF ZINC IN INDIA.

Sir,—May I trespass upon your kindness to obtain for me some information upon one or two points detailed below. I have been applied to by a friend in India, to ascertain how far zinc or metal of any kind, is applicable to the roofing of buildings in that country, where the thermometer sometimes varies 100 degrees in the course of a few hours. Is zinc liable to such a degree of expansion as to render it likely that the plates would burst asunder? The tropical rains are very heavy, and for a public building, especially of a largish size, it is necessary to guard against leakage in the roof. Zinc is lighter than iron, I believe. How is it fastened?—copper or iron nails would produce a galvanic action, corroding the zinc. This metal is cheaper, moreover, than iron. Under the circumstances I have mentioned, would you recommend the use of zinc in roofs constructed with a very low pitch, with the principal woodwork of the roofs of wood; uprights of bolt iron, and covered with boarding underneath the metal? What are the comparative merits of zinc, iron, and galvanised iron in respect to roofing in tropical climates?

The building to be covered is 65 feet long, 45 feet wide, measured within the walls, with a Grecian portico. The pediment of a building in this style is necessarily low, and the roof must be managed accordingly.—I am, Sir, &c.,

L. L. L.

The Nelson Monument, Trafalgar-square.—This unlucky specimen of the 19th century taste and intelligence has shewn signs of returning animation during the last fortnight; some few blocks of granite, for which the contractor had been kept waiting much against his will, having been at last obtained. When the steps, and lions, and all, are to be really finished, we will not pretend to say; we hail the "movement," however, as "while there's life there's hope."

St. Mathias Church, Spitalfields.—It appears that the Rev. Joseph Brown, the incumbent of the new Protestant church in Brick-lane, Spitalfields, the foundation-stone of which was laid on Wednesday week, has himself originated the congregation for it, which at first comprised only three Communicants, but at length has filled to overflowing the chapel hitherto used.

London Mechanics' Institution.—Considerable improvements have been effected here under the direction of Mr. Davy; a new reading-room 38 feet long has been formed, and additional communications with the lecture theatre effected.

NOTICES OF CONTRACTS.

(We are compelled, by the interference of the Stamp Office, to omit the names of the parties to whom tenders, &c. are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.)

For the completion of the works of the Borough Gaol at Birmingham, and the supply of the necessary materials and labour for that purpose. Tenders received for the completion of the whole of the works, or for any portion thereof.

For the Stratford workshops for the Eastern Counties Railway—extension of time.

For supplying and laying cast-iron water-pipes, cocks, and other castings for the service of the waterworks at Plymouth.

For lighting the parish of St. Mary Rotherhithe with essential oil of tar for one year, from 13th October, at per lantern, the contractor finding, fitting, and repairing the lanterns.

For the supply of paving, flint, winstone, and Bombay granite, cartage, &c., for the year ending 29th September, 1847, for the district of St. George-the-Martyr.

For the building of sewers in Gun-square, &c., in the City.

For a supply of elm boards, 1 inch, 2 inch, and full ½ inch thick, for the Birmingham workhouse.

For building lock-up cells and turnkey's residence, at Wooden Box, parish of Hartshorn, Derbyshire.

For the supply of 10,000 to 12,000 feet of two-and-a-half Yorkshire flag of best quality, for the parish of St. Mary Magdalene, Bermondsey.

For the execution of the whole of the works on that portion of the Glasgow, Dumfries, and Carlisle Railway, extending from Gretna to Dumfries,—a length of about 24 miles, to be divided into several contracts.

For the execution of the whole of the works on that portion of the Glasgow, Dumfries, and Carlisle Railway, extending from near Carron-hill to near Dalpeddar, in the neighbourhood of Thornhill,—a length of about 5 miles, in one contract, embracing the Dramlanrig tunnel, and the viaducts over the Carron and Entakine waters.

For the supply of 3,000 tons of the best black rock Bristol stone, to be delivered at Cheltenham, at per ton.

For the construction of a reservoir and filter beds near Hill-cliff, at the Warrington Water-works, including all earthwork, masonry, storing, diversions of roads and water-courses, &c., and the embankment of the reservoir, containing about 34,000 cubic yards of earthwork.

For lighting the public lamps in the district of Turnham-green, for three years, from 25th October next; the contractor to find, provide, and keep in repair, all columns, brackets, or wall-irons, with service-pipes, tubes, scroll-heads, stop-cocks and burners, lanterns, and glazing and repairing lanterns, and all other fittings complete, at per light per annum.

For building a bridge near Blaby.

For the execution of the works on the Nidd contract on the Leeds and Thirsk railway.

For the whole of the works to be done in erecting the new church at Flint.

For certain works in the building of a dwelling-house connected with the grammar-school at Durham.

For putting down two pits, about 100 fathoms each, near Bo'ness, Scotland.

For the several works required to be done in the formation of the lower reservoir at Skellingthorpe for the Lincoln Water-works.

For the execution of the whole works of a railway junction with the Arbroath and Forfar line, at Arbroath—extending a length of nearly a mile, with earthwork and bridges of considerable extent.

For 1,000 tons of cast-iron railway chairs, for the Edinburgh and Northern Railway.

For 30,000 railway sleepers of foreign timber, for the Edinburgh and Northern Railway.

For building the breakwater or eastern pier at Fraserburgh harbour (Scotland).

For the execution of the earthwork, masonry, fencing, &c., on the Whitehaven and Furness Junction Railway, from Whitehaven to near St. Bees,—a length of about 4½ miles.

For the execution of the earthwork and fencing of Lamill cutting, near St. Bees, on the Whitehaven and Furness Junction Railway,—containing 130,000 cubic yards, or thereabouts.

For the execution of the earthwork and fencing of Netherton Cutting, on the Whitehaven and Furness Junction Railway, containing 144,000 cubic yards or thereabouts.

For building 400 feet of sewer in Denmark-street, St. Giles's.

For building 350 feet of sewer in Thorney-street, Bloomsbury.

For building 640 feet of sewer in St. James's-street, St. James's.

For building 530 feet of sewer in Green-lane, Paddington, and under Paddington Canal, near Kensal New Town.

For building 205 feet of sewer in John-street, Berkeley-square.

For repairs and other works to the sewer in Hill-street, Berkeley-square.

For making and laying the Newry and Enniskillen Railway, from the field, No. 1, in Lisnisk, to the field, No. 3, in Drumennis, all in the county of Armagh, a length of about 8 miles, with all excavations, embankments, bridges, culverts, gates, fences, roads, &c., complete, and for keeping the whole in repair for one year; the contractor finding all materials except permanent rails, bolts, screws, chairs, trenails, and sleepers.

For making a sufficient quantity of turn-tables, wheels, axles, axle guards, springs, scroll irons, &c., for railway carriages and waggons for the Dublin and Belfast Junction, and Navan Branch Railway Company.

For the letting on lease of old-established workshops, &c., for a plumber, painter, and glazier, in town.

For the letting of an oil and colour shop, in town.

For a superintendent of works for puddling, making railway iron, forging, &c., at Philadelphia, America; salary, 1,000 to 1,200 dollars per annum.

For a constant supply of good operative painters and glaziers at Birmingham, when wanted.

For 300 to 400 able men, at Doncaster, accustomed to tool work.

For a gas manager for a town in Ireland: a liberal salary.

For the letting of a freestone quarry near Craigleith, Edinburgh.

For the letting of slate quarries in Perthshire.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At Dean Forest, Gloucestershire: 25 lots of oak timber and cord wood.

At Blackwall: a stock of timber and iron.

At Saffron-Walden, Essex: 1,000 feet of ash plank, 1,000 feet of beech plank, &c.

At Ipswich: a large quantity of oak, elm, and fir slabs, &c.

At Mells: 60 lots of oak, ash, beech, and fir timber trees, &c.

At Glemsford, Suffolk: a carpenter's stock-in-trade.

At Birmingham: a number of logs of mahogany and of planks of rosewood, also 1,000 feet of walnut planking.

At Greenwich: a quantity of framing, sashes, doors, skylights, panelling, oak and fir timber, iron doors, three fire-engines with hose, &c.

At Pinner, Middlesex: the materials of three cottages and farm buildings, 200 felled oak, ash, and elm trees, and other useful timber, &c.

At Earith Suspension Bridge: a quantity of building materials, timber, &c.

At Luton: a brick field of 8 acres, &c.

At Leicester: an iron and brass foundry, machinery, and business.

At Devonport: a quantity of old government stores, comprising cast iron, ballast, &c.

At Leeds: a large stock of mahogany and rosewood veneers and planks.

At Sutton Cheney: 49 oak trees, felled in 1845, and 45 felled in 1846, in lots; also six lots of ash poles, &c.

At Derby: a stock of seasoned woods.

At Lambeth: the first portion of an extensive stock of timber, planks, iron, &c.

At Hampton: a new straight deal shop-front unglazed, 9½ feet long, and 7½ feet high, with facia and shutters complete.

At Liverpool: an excellent and complete mortar-mill, on the newest and best principle.

At Lincoln's-Inn-Fields: an old established ironmonger's business.

At Nottingham: a two horse-power steam-engine and boiler.

At a town near London: an ironmongery business.

At Ayton, near Eyemouth: a quantity of larch, spruce, and Scots fir, for railway fences, &c.

At Vincent-street, Old-street-road: the plant, implements, and lease of an iron-foundry.

At 60, Stones-end, Borough-road, Southwark: a stock of architectural ornaments, &c.

BY PRIVATE TENDER.

At Lathrisk, near Falkland, Fifeshire: a large quantity of larch, Scots fir, beech, ash, oak, &c.

At Bloomsbury: a country business in the window-glass, lead, and colour trades.

At Newington Causeway: steam saw-mills.

At 8, Dover-road, Borough: two 6-horse high-pressure steam-engines.

TO CORRESPONDENTS.

"*J. C.*"—All the modifications of the Buildings Act will be found in THE BUILDER, but we have not time to point out the pages.

"*Amicus.*"—The statement re "Jephson Gardens" should be authenticated.

"*Bow Pen*" will find articles on the conversion of areas in previous numbers of present volume.

"*T. W.*"—Apply at No. 4, Trafalgar-square, Charing Cross.

"*C. D.*"—The class of architecture will meet for the first time, Tuesday, 20th October. Write to the Professor, Bolton-gardens, Russell-square.

"*Public Necessaries.*"—We do not consider churchyards the most proper site.

"*H. A.*" shall hear from us.

The question put by a Correspondent, as to the name of the builder of the church at Mount St. Mary's, near Barlborough, Derbyshire, still remains unanswered.

Next week.—"Exchange of lands," "F. Tyrrell," and "C. G."

Received.—"Nemo," "T. Clowser," "S. B. S.," "Poor Subscriber," "A Practical Designer."

*** Correspondents are requested to address all Communications to the EDITOR, 2, York-street, Covent-garden.

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ADVERTISEMENTS.

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MESSRS. WOOD AND COMPANY, Grainers and Writers to the Trade only, by contract, measure, or otherwise.
62, Waterloo Bridge-road. All letters post paid.
N.B. Workmen sent to any part of the kingdom.
*** An Apprentice wanted.

WILLIAMS'S PATENT SLATE RIDGES and HIPS.—The above article is recommended as the best and the most suitable covering for Ridges and Hips of slated roofs ever invented, possessing a solid Roll of various sizes, more elegant and durable than lead, and 30 per cent. cheaper.—Sold by MESSRS. J. and J. SHARP, Slate Merchants, Tooley-street, and Mr. RICHARD COOPER, Slate Merchant, Belvedere-road, Lambeth, London.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c., of 100 sorts and sizes.—The Public is respectfully informed, that Mr. PEAKE has removed his Depot from Whitefriars to No. 4 WHARF, MACCLESFIELD-STREET South, City Basin, London, where a large Stock is on Sale of genuine Terro-Metallic Goods. No Agent. Roofing in Grecian and Italian styles, other devices also, or plain; ridges and hips, with plain or capped joints, roll tops, or vertical ornaments; paving, in 6 in. 7½ in. and 9 in. blue and red squares, in 6 in. blue and red hexagons, and in 8 in. blue octagons, with 3 in. drab squares. Drains, many sizes, with butt or socket joints; conduits, which will not injure pure water; tubular and other flues, of proper material; channels, large clinker bricks, and outdoor paving; sundry wall-coping, fire bricks and tiles, garden-edging, chimney tops, &c. The Tileries, Tunstall, Staffordshire, are near the centre of England, whence boats are sent to any inland place, or to the Mersey, for the coasts, the colonies, and elsewhere. A Wharf at Whitefriars to be let for a term.

THE PATENT UNIVERSAL GAS-BURNER. This valuable invention, superior to other burners in purity and brilliancy of light, and economy of consumption, has been tested and approved by the Institution of Civil Engineers, and various scientific persons; and is used nightly at the Polytechnic Institution. Also at the Manufacturers, HUXLEY, HERIOT, and Co., Castle-street, Long-acre,

TO ARCHITECTS, BUILDERS, &c.

GAS LAMPS, GAS BRACKETS, GAS PILLARS, BURNERS, &c. &c. In calling the attention of architects, builders, &c., to their assortment of Gas Furniture in general, C. DEBAUFER and SON respectfully announce they continue to fit up premises of every description on the most approved and newest system of gas fitting. An experience of forty years justifies us in making the above assertion.—P.S. Country orders attended to with dispatch.—10 and 11, Creed-lane, St. Paul's.

GAS.—From 40 to 60 PER CENT. SAVED.

CONTRACTS taken for Lighting Towns, Villages, Mansions, Mills, Factories, Railway Stations, Signal Lights, Dockyards, Lighthouses, Churches, Colleges, Hospitals, Theatres, Public Institutions, Prisons, Barracks, Asylums, Schools, Unions Poor-houses, Public Gardens, &c., with pure and brilliant GAS by FRANCIS' PATENT GAS LIGHT APPARATUS, either by rental or purchase.—Applications at the office and factory, 112, High Holborn, and Eagle-street, Red Lion Square, London, where the gas can be seen manufactured on the principle of this invention, from Ten till Four daily. Prospectuses and every information may be obtained.

FREEHOLD LAND.—TO BUILDING SOCIETIES, BUILDERS, AND OTHERS.

TO BE LET or SOLD, about SIX ACRES of FREEHOLD LAND, well adapted for the erection of small respectable dwellings, and situate within 100 yards of the Clapham-road, and a 6d. ride of the city. It will be sold in plots varying from 65 to 110 feet in depth, at from 50s. to 60s. per foot frontage, or be let for 99 years at from 2s. 6d. to 3s. per foot rental. Bricks will be advanced on security of the property, or sunk at a ground rent if required.—Apply to Mr. WILLIAM THOMAS WOODS, Bedford New-road, Clapham-rise.

LANDLORDS' and TENANTS' BUILDING and INVESTMENT SOCIETY, Established August, 1846, Pursuant to Act of Parliament, 6 & 7 William IV., c. 32. Shares, 120*l*. Monthly Subscription, 10s. per Share. Entrance Fee, 2s. 6d. per Share. No Redemption Fee.

Trustees:—William Naylor Morrison, Esq., Streatham Hill.
John King, Esq., College Hill, City, and Muswell Hill, Middlesex.
John Doulton, Esq., 28, High-street, Lambeth.
Chairman:—C. H. Lovell, Esq., M.D., 91, Blackfriars-road.
Solicitor:—Hull Terrell, Esq., 30, Basinghall-street.
Bankers:—London and Westminster Bank, Southwark Branch.
Manager:—Mr. William Lawley, 6, Red Lion-street, Borough.
Secretary:—Mr. James Sears, 17, Trafalgar-street, Walworth.

For List of Directors see Prospectus, which may be obtained on application to the Manager or Secretary, or will be sent by post, on receipt of a Postage Stamp for reply.

The Society consists of individuals who each take one or more Shares, paying a monthly subscription of 10s. per Share. The value of each Share is 120*l*., which it is calculated will be realized in twelve years. Members desirous of purchasing property, by allowing a suitable discount upon the ultimate value of their shares, have money advanced, upon mortgaging the property to the Society as security for the repayment of the monthly subscriptions till the termination of the Society, when the property becomes their own. The Rent received from the property the Member appropriates towards the Subscriptions. Members not requiring advances, upon the expiration of the Society receive 120*l*. for each Share.

Members withdrawing after the first year will receive 4 per cent. interest upon subscriptions paid after the 1st year in addition to the net Subscription money.

The first Monthly Subscription will be payable at the Southwark Literary Institution, Borough Road, on Friday, October 2nd, from half-past 6 till half-past 8 o'clock, and on Monday Evening, October 5th, at the Marylebone Literary Institution, 17, Edwards-street, Portman-square, from half-past 6 till half-past 8 o'clock.

Persons desirous of obtaining Shares at the present low entrance fee of 2s. 6d., should make immediate application to the Manager or Secretary, and remit by post, order or otherwise, the entrance fee and first monthly subscription on each Share.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery

Best Patent Cut Clasp.

3d.	4d.	6d.	8d.	10d.	20d.
5d.	6d.	7d.	11d.	1s. 4d.	1s. 10d. per 1000.

Best Sheet Floor Brads 15s. per cwt.
Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6½d., 7d., 8d. per inch.
Self-acting Kitchen Ranges with Oven and Back Boiler, Wrought Bars and Bright Fittings.
3 ft., 3*l*. 3s. 3 ft. 6 in., 3*l*. 12s. 6d. 4 ft., 4*l*.
Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3*l*. 6s.	3*l*. 13s.	3*l*. 10s.	4*l*.	4*l*. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5*l*.	5*l*. 15s.	6*l*. 5s.	6*l*. 10s.	7*l*.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 3½d., and 4d. do.
Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.
Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

HOT WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories, and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises. BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

HOLBORN AND FINSBURY SEWERS, MIDDLESEX.

THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persons about to Purchase or Rent Houses or Property, or take Land for Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Persons to apply for at the above Office.

By the Court,
STABLE and LUSH, Clerks.

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDDLESEX, No. 1, Greek-street, Soho-square.

TO BUILDERS and Others interested in buildings or in ground for building upon, within the district under the jurisdiction of this Court, drained by watercourses falling into the river Thames, between the city of London and the parish of Fulham.

The Commissioners hereby give notice, that by an Act of the 47th Geo. III. (chap. 7, local) it is required that, previously to the making of any new sewer in any street, lane, or public way, or in any part intended to become a street, lane, or public way, or to carry or drain off water from any house, building, yard, or ground, into any sewer under their management, or within their jurisdiction, a notice in writing shall be given to them, or to their clerk at their office, and that such new sewer or sewers shall be constructed and made in such manner and form as shall be directed by the said Commissioners, and not otherwise.

And, in order to prevent the serious evils and inconveniences that must arise from ground proposed to be built upon being excavated at too great a depth, the Commissioners have directed that, upon application being made at this office previously to the excavation of such ground, information shall be given as to the lowest depth at which the same can be drained.

And the Commissioners do also give notice that, whenever the lower floors or pavements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any sewers, or drains into sewers, to be made for the service of such buildings.

It is recommended to all persons about to purchase or take houses, or other premises, to ascertain whether such premises have separate and distinct drains into common sewers.

All petitions must be delivered at this office at least three clear days before they are presented to the commissioners; and all such petitions will be called on in the order of their application, and the name of any party not present when called on to support the application will be struck out, and the proceedings must in consequence be commenced de novo.

All communications made with any sewer without leave of the Commissioners will be cut off, and the parties making the same will subject themselves to a fine.

The provisions of the Metropolitan Buildings Act (7 and 8 Victoria, c. 84) do not supersede the authority of the Commissioners of Sewers in the above respects, but their powers are expressly reserved, and their regulations made subservient to the purposes of the Act. The execution of such works, under the superintendence of the district surveyor alone, cannot therefore warrant the making of any sewers or drains within this commission, nor relieve the parties making them from the penalties above mentioned.

By order of the Court,
LEWIS C. HERTSLET, Clerk.

CHEAP PAN FOR WATER CLOSETS, With Trap, in one Piece.

DOULTON and WATTS, Lambeth Pottery, London, Manufacturers of the above in superior glazed STONE WARE, price 7s. 6d. each. They are of the most durable ware, and are recommended in preference to iron on account of their cleanliness and cheapness. If preferred, they can be had in two parts, the pan at 4s. 6d., and the Trap at 3s. N.B. Manufacturers of RAIN-WATER PIPING for houses.

CHEAP ROMAN CEMENT is sold in Casks that will not contain five bushels, even by some manufacturers of a very respectable name. Consumers should see that the standard size cask is 29 inches long by 17½ across the head, outside measure. Any workman with a rule in his pocket can ascertain this.

PATENT METALLIC SAND CEMENT, requiring no colour or paint, and free from cracks and blisters, mixed ready for use at 8s. per cask; 2s. 6d. allowed for each cask returned in good order. 3½ bushels common sand to be added to each cask of Metallic Cement, which will float 14 square yards of stucco.—Apply at the Metallic Cement Wharf, King's-road, Camden New Town.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.

Manufactured by J. B. WHITE and SONS, of Millbank-street, Westminster; and sold at their warehouses:—Earl-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Milbank-street, Westminster,

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.

2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.

3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

ATKINSON'S CEMENT.

Rotherhithe Cement Works, Church-street, Rotherhithe.

WILLIAM WOOD, Jun., Manufacturer of Bath, Portland, and Roman Cements, Blue and White Lias Lime, &c. &c., begs to inform Architects, Builders, and others, that he is appointed AGENT for the sale of ATKINSON'S CEMENT, and has just received a shipment direct from the Works, which is now ready for sale, in any quantity, at the price of 2s. 3d. per bushel.—WILLIAM WOOD, Jun., also begs to call the attention of the public to his Bath Cement, which he thinks will merit approbation. It is of a very light colour, and will take up more sand than any cement now in use; requires no paint, and is well adapted for ornamental castings of every description, however elaborate; 2s. per bushel, delivered free within three miles of the works.

ARBROATH and CAITHNESS FLAG PAVING STONES.—Stone Merchants, Contractors, Masons, and Builders, can be supplied with the above stones in natural, planed, and polished surfaces, in cargoes direct from the Quarries in Scotland, at first cost prices, delivered free from ship's side in River Thames, or free on board at ports of shipment in Scotland. Orders received by, and further information, with samples, may be obtained of Mr. ALEX. REID, 70, Lower Thames-street, London.

N.B. Cargoes shipped direct to any port.

CAEN STONE.

TUCKWELL'S Norway Sufferance Wharf, Greenwich.—Architects and Stone Merchants are informed, that this stone may be procured at the above Wharf in any quantity, in blocks up to 12 tons. The stone, which is exclusively the product of the Allemagne Quarries, and of the very finest quality, is consigned solely to W. TUCKWELL, who is prepared to execute orders to any extent, having a Large Stock always on the Wharf.—Orders received by, and further information with samples may be obtained of Mr. R. A. WITHALL, Surveyor, 80, Cheapside, and of Mr. W. TUCKWELL, at the Wharf.

N.B. Cargoes shipped direct to any Port.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

SAMUEL CUNDY begs to inform Architects and others that every description of Stone, Marble, and Granite work is executed at the cheapest possible rate.

MARBLE WORK for Halls, Dairies, Tables, Columns, Vases, at most reasonable prices.

A large collection of Designs for Memorials, Crosses, Mural and other Monuments.

BOX CHIMNEY PIECES from Twelve Shillings upwards.

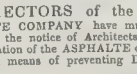
Depôt for Caen and other Stones.

N.B. Mason's Work in all its branches prepared at the works, ready for fixing to drawings and dimensions sent, and fixed if required, including York paving, squared jambs, mantles, sills, slate shelves, &c. &c.

BARRETT, STONE MERCHANT, 24, Wharf, Harrow Road, Paddington, respectfully informs Builders, Stone Masons, and others, that he has opened a Depôt at the Great Western Terminus for the sale of Wall's Quarry Stone. Having been established at the above place for the last twelve months, and the sale of the stone increasing so much, the Great Western Company has had the kindness to favour me with a Depôt at their Terminus. The Wall's Quarry Stone is equal to Portland for Staircases, Hall Floors, Porticoes, Balconies, Chimney-pieces, Coping, Window Sills, &c. The same stone being used in Gloucestershire for all the above purposes. The stone is sawn to all sizes while in the Quarry to save expense of waste and sawing in London, on which account can be rendered much cheaper, and is free from all flints, shells, and holes.—List of prices and samples sent to any part of London, carriage free, by directing all letters to No. 24, Wharf, Paddington.

P.S. Nailsworth and Paniswick Stone in Block.

PAVING, 2s. 9d. PER SQUARE YARD. Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27s. 6d. per ton.



COMMISSIONERS OF FINE ARTS' REPORT ON THE MEANS OF PREVENTING DAMP IN WALLS.

THE DIRECTORS of the SEYSSEL ASPHALTE COMPANY have much pleasure in recommending to the notice of Architects, Builders, and others, the application of the ASPHALTE of SEYSSEL as the only effectual means of preventing DAMP rising in WALLS.

J. FARRELL, Secretary.

Seyssel Asphalte Company's Works,
"Claridge's Patent."
Stangate Depôt, London.

The following account of its application is extracted from "The Appendix to the Commissioners of Fine Arts' Report," page 18:—

"In 1839 I superintended the construction of a house of three stories on the Lac d'Enghien. The foundation of the house is constantly in water, about 19½ inches below the level of the ground floor. The entire horizontal surface of the external and internal walls was covered, at the level of the internal ground-floor, with a layer of SEYSSEL ASPHALTE, less than half an inch thick, over which coarse sand was spread.

"Since the above date no trace of damp has shewn itself round the walls of the lower story, which are for the most part painted in oil of a gray stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so painted, yet the pavement of the floor, resting on the soil itself, is only about 2½ inches above the external surface of the soil, and only 19½, at the utmost, above that of the sheet of water.

"The layer of Asphalte having been broken and removed, for the purpose of inserting the sills of two doors, spots indicating the presence of damp have been since remarked at the base of the door-posts."

PREPARED FLOORING BOARDS.

AT REDUCED PRICES.

ALWAYS ON SALE, a LARGE ASSORTMENT of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ½ inch to 1¼ inch thick. Rough Boarding for Flats.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Smith-street, Westminster.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, at Old-Barge-Wharf, Upper Ground-street, Blackfriars, and at Hy. Castle's, Ship-yard, Millbank-street, Westminster, a large, very general, and well-seasoned stock of all kinds of Prepared Floor and Match Boarding, planed to a parallel breadth and thickness, fit for immediate use; also a great variety of machine-prepared mouldings, very accurately finished.

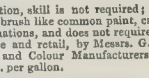
A. R., in calling the attention of builderr and consumers, confidently presumes on being able to supply them on such terms as will ensure and merit their favours, &c.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Pantiles.

T. ADAMS (from Byron and Co.), late S. Dare, Mahogany, Timber, and Deal Yard, New-road, Bermondsey, near Bricklayers' Arms, has always in stock mahogany, cedar, wainscot, elm, beech, oak, &c. Pantile oak and fir laths, scaffold poles, putlogs, &c. Wheelwright's goods, veneers, cut deals and scantling of every dimension. Also a large assortment of SEASONED FLOORING, MATCH BOARDING FIT FOR immediate use, and MOULDINGS prepared by machinery, all at reduced prices.

MUIR'S PATENT



PLANING MACHINERY.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 16s. per gallon.

STEPHENS'S PROCESS for DYEING or STAINING WOOD, as a substitute for Paint. The natural grain of wood is imitated by art, but the most successful imitation has a sameness of appearance when compared with the continual variety which different woods present in their natural grain. To give an ornamental colour to the wood without obscuring the grain, is the object of this process, which surpasses paint in appearance, while at the same time it is so economical that the whole interior of a house, which would take a month or six weeks to paint in the usual manner, may be finished in one week by the process above named, and be more pleasing when finished. The dyes or stains are prepared and sold by HENRY STEPHENS, 54, Stamford-street, Blackfriars-road, London, in bottles of 6d. and 1s. each, and at 10s. per gallon. The oak colour may be obtained in powder at 8s. per pound, which dissolves in water to form the liquid, and one pound will make one gallon of stain.

N.B. The Trade supplied.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 168, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.



TO ENGINEERS AND BOILER MAKERS.

LAP-WELDED IRON TUBES FOR STEAM BOILERS.

THE BIRMINGHAM PATENT IRON TUBE COMPANY, 42, Cambridge-street, Birmingham, and Smethwick, Staffordshire, manufacture Tubes under an exclusive License from Mr. Richard Prosser, the Patentee. These Tubes are now very extensively used in the Boilers of Marine and Locomotive Steam Engines in England and on the continent, are stronger, lighter, cheaper, and more durable than brass or copper Tubes, and warranted not to open in the Weld. They may be fixed in the Boilers without Ferules, and can be taken out and refixed without additional trouble or expense.—Address, 42, Cambridge-street, Crescent, Birmingham; London Warehouse, 68, Upper Thames-street.

The Builder.

No. CXCI.

SATURDAY, OCTOBER 3, 1846.

THE employment of coloured decorations increases, promises indeed to be general, and should lead our young artisans and others to become draughtsmen and designers, and so availing themselves of the demand, improve their condition. In the private exercise of our profession we have, at this time, decorations going on in three or four places; and it is a constant source of annoyance to us, almost pain, to find that English workmen cannot be obtained for this purpose —at least so say the masters, who, moreover, profess themselves anxious to obtain English assistants, and vexed at being obliged to send to Germany or France, for what they ought to be able to find in London without difficulty. At the little works to which we have referred, and at any similar undertaking now going on in England, a visitor would fancy himself in a foreign *atelier*,—moustaches, rolling hair, and jaunty smoking caps, distinguishing the occupants.*

Let it not be supposed, however, that we are so illiberal and so short-sighted, as to object to the employment of any but our own countrymen, or to desire that foreigners should keep at home. Quite the reverse. An examination of the industrial and artistical progress of England shews, too plainly, how much advantage has resulted to this country from pursuing a contrary course, to allow us to fall into this error, even if our opinions were less liberal than they are. What we did (on another occasion) object to, was the repeated employment of a foreigner as director, by corporations and authorities on the ground of superiority, to the prejudice of Englishmen equally or more competent; and what we do now grieve at is, that our operatives should still remain so wofully behind-hand in matters of art as they are, to their own great loss and the discredit of the country.

Art, which ought to be the affair of all, has not received proper attention in England, still less encouragement. Much has been done within these last five years, and our prospects are brightening, but very much remains to be done, and demands strong efforts on the part of Government and those who properly appreciate the importance of the question.

One great aim should be to make the study of drawing general; it can be acquired as writing is, by the meanest capacity,—that is, mere drawing,—and we would have it taught in every "national school," and every other educational institution throughout the kingdom, as one of the indispensable rudiments.

That it should be neglected as it is, even by the superior classes, is quite extraordinary,—it is positively the neglect of a faculty.

By not acquiring a knowledge of drawing, we give up a means of conveying impressions, and explaining intentions, in addition to reading and writing, and of universal application. Instead of regarding a knowledge of it as an accomplishment, the want of it ought to be considered a disgrace; and we hope the time is not far distant when this will be the case.

A love of art should be encouraged amongst our operatives by every possible means. In France, art is cheaper, and goes lower than it does here; and therein lies the secret of the superiority of their workmen in departments requiring the exercise of it. Our galleries, collections of works of art, museums, and ancient buildings, should be opened freely to all; and by the contemplation of works of beauty, the general standard of taste would be raised, and a power of discrimination gained.

It is much to be desired, too, that government should issue, at a cheap rate, some good works on ornamental and decorative art; the want of such at moderate cost is greatly felt. Such a step would seem to fall within the province of the educational committee of Privy Council: it could not fail to be productive of much good, and would be considered a boon by a large number of persons.

There is no want of talent for art in this country, but there is astounding ignorance: what we need is, the removal of the latter, and the means of efficiently developing power. The establishment of schools of design was a great step, and cannot fail to produce good results; less or more so, of course, according to the manner in which the institutions are conducted. But what we wish to do is, to make *every* school a drawing-school, and to accustom every one, gentle and simple, to the use of the black lead pencil.

At present, the established decorators say, little assistance is to be obtained from the central School of Design. Still we have had occasion to mention favourably the names of some who have proceeded from that establishment, and much as alteration seems wanting there, are willing to be patient and give time.

In the Queen's Pavilion, the Opera House, Buckingham Palace staircase, &c., some of the pupils were employed, and acquitted themselves well. Another very considerable work of this class will be commenced at the end of the year. As much as four or five thousand pounds will be spent, we believe, in decorating Covent-garden theatre, and it is to be hoped that opportunities will be afforded for the employ of English artists, and that these in their turn will find English artistical operatives to carry out their designs.

There has been much to prevent the progress of ornamental art: the duty on glass, only recently removed; the duty on bricks, still continued, discouraging the attempt to produce ornamental forms; the employment of *cast-work*;—the dis-esteem in which decorative artists have been unjustly and unwisely held; have all aided in depressing it. A demand for it, however, is now arising, and it will be our own faults if we have to go abroad for the supply.

The elaborate engravings in our present number illustrate an example of ornamental carved work in France, of the Renaissance period.

BLACKBURN EXCHANGE COMPETITION.—The following is the order in which Mr. Cockerell placed the ten designs selected as the best. The substance of the arbitrator's report we have already given:—No. 1, Messrs. Breakspear and Dixon, Manchester (50*l.*); 2. Messrs. Bankes and Clarkson, London (20*l.*); 3. Mr. Wilson, Bath (10*l.*); 4. Messrs. Mee and Webb; 5. Mr. Young; 6. Mr. Blair; 7. Messrs. Starkey and Duffey; 8. Mr. Stephen Salter; 9. Mr. Fish Taylor; 10. Mr. W. Orford.

* Among the decorations most recently visited by us, are those of a hall, staircase, and suite of rooms for Mr. Fergusson, in Langham-place, by Messrs. Collman and Davis. These are all carried out in flat colours, approaching mosaic work, and, though of course less expensive than where copies of natural objects and shadows are introduced, are very satisfactory. Mr. E. T. Parris has some extensive works in progress. Mr. Aglio is engaged upon a drawing-room at Earl's-court, to which we shall refer when finished.

ANNOTATIONS ON IRON.*

LIGHTNING CONDUCTORS.

THE disposition of iron externally, at least in high and exposed situations, should be judiciously considered, in reference to its attraction for lightning; frequent instances have occurred of explosions taking place in the summits of spires, from the finial and upper courses being bound together by an iron bolt, and there being no superior conductor to avert their destruction. Where there is no conductor, but a series of conducting bodies, with intervals of masonry between, much mischief may be expected from explosions at the interruptions. Iron rods have been much used for lightning conductors, and are still so employed; but they are fast giving place to copper tubing, which has a great superiority, for two reasons: firstly, copper has five times the conducting power of iron, and secondly, tubing presents nearly double the surface of a solid rod for the passage of the fluid—perforations being made at the summit, and at intervals downwards, to admit of its descent inside as well as out. Copper is also better than iron from its less destructibility by rust or fusion: wire ropes have long been used in some parts of Germany in preference to rods—no doubt from the greater quantity of surface they afford. When holdfasts of iron are employed, they should be of cast-iron, as being the most durable, and be painted, and wrapped in old silk dipped in melted tallow, which, being non-conductors, serve the purpose of insulating the rod; or the neck of a bottle introduced would more effectually serve the same purpose. But although iron holdfasts are generally used, their liability to expand and be operated upon by the changes of the weather, are disadvantages which lead to a preference being given to several other substances. A block of glass, or of Valentia slate, with a projecting eye, and let into the masonry with cement, being both of them non-conductors, are respectively recommended. Eyes of oak driven into the joints are also used. The manner in which the wires of the electric telegraph are insulated in their points of support, as lately executed about York, is worthy of note, as bearing on this subject.† Small castings of the same material as stone spirit bottles, barrel-shaped, open through from end to end, and with a small semi-circular channeling round the middle outside, are placed horizontally against the side of the posts, and there secured with metal staples, girding them by means of the channeling aforesaid. In these hollow barrel-like castings the conductor rests, loose, and perfectly insular. Provision should be made to allow of the expansion and contraction of the conductor, which, where tubing is used, is advantageously accomplished by soldering or otherwise securing a piece of smaller tube an inch down in the lower length, and letting it stand, say five inches, in the upper, so that the latter can rise or fall on it, according to the influence of the weather; this should be done over the holdfasts, in which the conductor should rest, by means of a band or ring of larger tubing soldered round it outside.

It is stated that a lightning conductor protects an area around it whose radius is double the height from the ground to the point; it is also agreed, that not only do conductors protect from lightning the buildings on which they are fixed, but by silently and imperceptibly drawing off the electricity from the clouds, they mitigate the violence of thunder-storms, and thus extend the benefit of their influence to the neighbourhood. The conductor should be attached to the highest part of a building, and project a few feet above it; it should be carried down in as straight a line as possible, without any interruption to its continuity, and terminate in a furcated form below the foundation, in a deep trough or depression in one of the drains, where it will at all seasons be in contact with water; or in a deep pit in the subsoil, and surrounded with the graphite from gas retorts, which, besides being indestructible, is an active conductor, and therefore well calculated to facilitate the dispersion of the fluid into the earth. Where there are several similar pinnacles on a tower, a conductor on

* See p. 459, *ante*.

† These wires are zinked iron, about one-sixth of an inch thick—the zinking being about one-fiftieth of an inch: the conducting power of zinc being to that of iron as 5 to 3, it thus serves the double purpose of protecting the iron against decay, and affording a more perfect vehicle to the electric current.

one, and a globular glass repeller on each of the others, will suffice. Where possible, the conductor should be kept far away from other metallic bodies, otherwise lateral discharges are likely to take place, since electric fluid, besides seeking a direct, avails itself also of a wide path. Where the vicinage of other conducting bodies is unavoidable, the possible passage of the fluid should be converted into a certainty by a metallic communication, and the other conducting train made complete; in any case it is advisable to convert, by strips of metal, the metallic bodies and surfaces about a building—such as copper or lead coverings, lead or iron rain-water pipes, &c., into continuous conductors, terminating in the ground. The top of the conductor may consist of a solid piece, say 2 feet long, tapering towards the ends from a thickness of 1¼ inch in the middle, its upper end gilt or tipped and pointed with platinum, to preserve it from corrosion, the lower screwed into the mouth of the tubing. The conducting power of iron in relation to other metals is as follows:—lead, 1; tin, 2; iron, 2·4; zinc, 4; and copper, 12. Some further remarks on this subject will be found in THE BUILDER, vol. ii., p. 550.

PROGRESS OF THE BATHS AND WASH-HOUSES IN WHITECHAPEL.

OUR recent notices of the baths and wash-houses at St. Pancras have reminded our readers of the existence of another scheme, commenced some time since under rather favourable auspices. The improvement of the condition of the working classes, fellow labourers with *ourselves*, is an object to which this journal is not less devoted, than to the advocacy of good methods of construction, and convenience in their dwellings. We should unite these objects were it not impossible to separate them. Consequently, when the first step was taken, just two years since, towards the establishment of the desirable institutions referred to, we were amongst those who looked anxiously for the good results, which were expected speedily to follow. We have taken some trouble to ascertain the position in which the project at present is, and though we are disposed to give some credit to the committee for an anxiety to make the model building in Goulstone-square perfect, we are not quite satisfied as to the reason of a delay, which is strangely at variance with the alacrity at first shewn. We can never recommend in any case, that a building be commenced without proper advice, a well-considered plan, and great attention to convenience and stability,—any thing short of these would be opposed to the principles which this journal has constantly striven to inculcate,—but consistently with these requisites, there was certainly ample reason why the benefit of this project should be reaped as speedily as possible. The sympathies of the wealthy had been enlisted by veritable pictures of the lamentable state of misery, in which an immense number of persons existed, which was occasioned in some way or other, either by want of water, or the defective but expensive arrangement of their dwellings. It was found, that a great portion of this misery could be reduced by providing facilities for cleanliness elsewhere, and the discovery should have been turned to account at once.

The reports of the Health of Towns Commission, the speeches at the public meeting, and the documents themselves, issued by the committee, are painfully convincing of the truth of the assertions and the easiness of the remedy. The sympathy of the rich is liable to fail, unless some benefit be seen to result, and the expectations of the labouring classes, which the project had raised, should not have been disappointed. We know that the greatest anxiety prevails amongst the latter; but the effective co-operation of the former, we fear, has been endangered. The evils were so great, that their continuance for two years up to this time, and pending the completion of the model building, however desirable that may be, should not have been allowed in charitable England. If the project of baths and washhouses is to have the good effect which it ought to produce, the promoters should not rest till there are establishments at everybody's door. All London, in which the evils of their absence are known to be peculiarly prevalent, cannot go to Whitechapel twelve months hence, or to St. Pancras now. Surely it would not have been impossible to fit up a few baths and washing-tubs in various quarters of the town, during the tardy completion of the model establishment. Such limited accommodation, we believe there is, or was in one instance, and the best results proceeded from it. The project of the committee has already been reduced from four model buildings, each of several stories in height, to one building of one story.

We are anxious to give the committee credit for what they have already done. The building in Goulstone-square is well built, and is fire-proof. We have no doubt that the novelty of the object occasioned many difficulties, which would not occur again, and so far everything seems to have been most carefully considered. But the building is only now being roofed in, and no definite time is looked forward to for the completion. Indeed the work was only commenced after the beginning of the present year, since which time there has been unexpected difficulty in the foundations, and delay in the supply of the castings during the hot weather, which stopped the works at several foundries.

The building occupies a square piece of ground, and is divided by walls into three parts. Half the area, at the back, is to be devoted to the washing department; the other half is divided into two equal parts, and will be for baths. The whole building is vaulted beneath, and this portion, which will be used principally for store rooms, will have to be lighted with gas. Beneath the baths on the north side is a large reservoir, which will be supplied with water from the New River Company's pipes. The rain-water, which is conveyed from the gutters by means of the hollow columns which support the roof, is not made use of for any purpose. The sides, the vaulting, and the bottom of the reservoir, and the piers which happen to stand within it, are coated with the Seyssel asphalte, and the outer walls are tied together by iron rods, strongly nutted and screwed on the outside. The bottom of the reservoir has been formed of inverted arches, and has been contrived so that it can be readily cleaned when necessary—a drain being also provided for it for that purpose. The main drain is carried into that of the brewery adjoining. Had not leave been granted for this, that part of the work would have been of a very expensive nature, as there is no main sewer for some distance. In the basement beneath the washhouse, are two large boilers for the supply of hot water, and there is a steam-engine, by which the ventilating apparatus will be worked, and water pumped into a tank, in the centre of the building, at a sufficient elevation for the supply of the different departments. In the centre of the building is a circular chimney, which is enclosed by a wall, forming a square on the plan, on which rests the tank above-mentioned. The space between the circle and the square, forms the only means of communication between the different departments. The wall dividing the wash-house from the baths, is wholly in cement, as also are those parts of the external wall, which support the ends of the girders. The building, which we have said is of one story, has an iron roof, framed in divisions of about nine feet span each, which spring from hollow gutters, about fourteen inches by ten inches, which also act as girders. These last, in the wash-house, are each supported by two columns, the length of the centre distance being about thirty-three feet, and at each end about twenty-three feet. The longer girder is trussed with an iron rod at each side. The upper part of each roof will be boarded and slated; the lower part will be glazed. There are also windows in the walls, the frames being in both cases of iron. The area of the wash-house is about eighty feet by fifty feet. It will be divided by slate partitions into compartments, perfectly independent of each other. The floor will be of slate, on arches. The entrance is entirely distinct from that to the baths.—The baths will be about 150 in number. They occupy the first half of the building.

The ventilation will be effected, partly by openings in the roof, and will be partly mechanical. So far as the arrangements can at present be understood, the fresh air will be admitted by a shaft at one angle of the building, from which it will be drawn by a machine, and the foul air will be removed by the central shaft. The offices and check-taker's room are not yet developed; but they will not occupy a very large portion of the present area. The superintendent's house has not been commenced; it is to be built on a piece of ground on the north side. The principal elevation is of red brick, with white bricks as dressings to the windows; there is a stone cornice, and the whole is of very plain character. The state of the works, though not much advanced, is satisfactory as to construction. Indeed, no expense and care seem to have been spared, to render every thing as good as it can be made. The building is well worth a visit, and might give some useful hints to many of our younger readers, who may not often have the opportunity of seeing so much construction in iron-work. The architect is Mr. P. P. Baly, who superintended the construction of the Hungerford suspension-bridge, under Mr. Brunel. Mr. Piper is the contractor.

On the whole, we are induced to think that this building, if continued in the manner in which it has been commenced, will be satisfactory. But, although the novel nature of the purpose doubtless required an unusual degree of attention, we cannot see a satisfactory reason why, after an interval of two years, we should have to apprize our readers, that the benefits contemplated are still far from being attained. We cannot believe that the committee are unacquainted with the extent of the evils, which they have undertaken to remedy; but at the present rate of proceeding, the building promises to be as long in hand as the Nelson monument. We entreat the committee not to suppose there are greater difficulties than there really are; and we are sure that, could they look forward to the opening of the building with the same anxiety which is felt by many industrious families in the neighbourhood, a little more energy would be remarkable in the progress of the works, and that quite consistently with other requirements, as much desired by ourselves as by the committee. We trust that the speedy formation of many other establishments of the same kind, in every part of the metropolis and the kingdom, will not be lost sight of any longer.

MODIFICATION OF THE BUILDINGS ACT.

PARTY TIMBER PARTITIONS.

THE following directions for a modification of the Act have just been issued by the Commissioners of Works and Buildings:—

"Whereas the official referees have by their report in writing, bearing date the twenty-seventh day of May, one thousand eight hundred and forty-six, certified to us that it is their opinion, that the rule in section 33 of the said Act, with regard to the party timber partitions of existing buildings, and any wall under or over the same, situated within the limits of the said Act, namely, 'That if one of the buildings be rebuilt, or if one of the fronts of any such building be taken down to the height of one story, or for a space equal to one-fourth of such front, from the level of the second floor upwards, then it shall be the duty of the building owner, and he is hereby required, to pull down such timber partitions, and the walls under or over the same; and, in lieu thereof, to build a proper party-wall,' will, if taken in the fullest sense, defeat some of the objects of the said Act; and that by the adoption of the modification of the said rule hereinafter directed, the objects of the said Act will be attained, either better or as effectually. And whereas the official referees have also stated in such report the grounds of such their opinion, and on the investigation thereof it appears to us, the said commissioners, that such opinion is well founded. Now we, the undersigned two of the Commissioners of Works and Buildings, pursuant to and in exercise of the power in that behalf given to us by the said recited Act, do direct, that the modification so recommended may be made by inserting after the section above quoted, the following words, videlicet, 'Nevertheless, if on special application in that behalf it be made to appear to the official referees, that for the purpose of public improvements by or under the sanction of parochial or other public authorities, it is expedient to permit the partial rebuilding of an irregular structure, without requiring the pulling down of all the portions thereof which are

irregular, or to the extent herein-before required, it shall be lawful for the official referees, by their certificate, to authorise the taking down and rebuilding of one of the fronts of a building, without pulling down such timber partition, and the walls under or over the same, and building a proper party-wall in lieu thereof,' which modification being made in such rule, will, in our opinion, give effect to the purposes of the said Act: as witness our hands this first day of September, one thousand eight hundred and forty six.—(Signed)

MORPETH,
CHARLES GORE."

*** The injurious effect of the clause now modified, in respect of preventing public improvements, widening streets, &c., was pointed out in THE BUILDER soon after the passing of the Act.

THE STYLE OF THE PROPOSED NEW PALACE.

SIR,—*Blackwood's Magazine* of this month contains an excellent article, entitled, "How to Build a House and Live in it," in which the caustic pleasantries of the writer are mixed up with sound and sterling truths, worthy of all architects to bear in mind. Thus, when it is said, "a bad architect is always seeking after ornament to conceal his mistakes of construction," the remark should deter really able men from falling into the same error, lest they be classed with inferior professors, and to some of even our very greatest architects part of the reproach will still too justly apply; for, as the writer observes, "in public buildings the rage for covering blank spaces, and for getting rid of sharp edges or corners still continues;" and the danger to be feared is that profuse decoration and extensive panelling executed in stone, and sanctioned by the authority of a great name, will be copied in the quantity, but wanting the quality, in compo, or some other wretched substitute for reality. It is gratifying to me to see the sturdy cudgel of Christopher North attacking a system against which my feeble lance was hurled three years ago (letters of PHILO-TUDOR, June, 1843, in THE BUILDER), and the abominations of the *compo*-site style are still on the increase. "Maga" says, "This has been one of the curses of all architectural and ornamental art in modern times, that every thing has been imitative, fictitious, sham, make-believe; brick is stuccoed to look like stone, and fir is painted to look like oak." The following remark has great justice in it:—"Ornament, to be effective, need not be abundant,"—and the truth of the maxim, though not borne out by the general practice of men in the present day, is sufficiently tested by the works of Wren, Inigo Jones, and Chambers; indeed, the entire enriched work on the outside of St. Paul's Cathedral (over and above the actual architecture of the fabric) would hardly suffice for the front of a modern tradesman's house. One more quotation from *Blackwood*, "good stonework without, and good oak-work within, will make a house that a prince may live in," leads me to resume my remarks upon a new palace for her Majesty.

Few occasions have arisen in which so fine an opportunity has occurred of erecting a building which should do honour to our age and country, I would not so greatly care in what style the palace should be built provided that the design is produced in thorough harmony with the selected style, yet at the same time with a proper regard to the purposes for which the building is intended. Thus, if the Grecian style should be adopted, nothing would be more absurd than a fac-simile of the Parthenon, without the accessories of the Acropolis, the glorious mountains and sunny skies of Greece; if a Roman design is preferred, let us not be reminded of heathen gods and goddesses in the pediment of a Christian palace. If, on the other hand, a Gothic style of building should be chosen, let the fate of Fonthill and of other structures, whose costliness has only increased the contempt with which they are regarded, be a warning to shun the imitation of abbeys and ecclesiastical features utterly unsuitable to the purposes of a domestic building, in which fitness should be the first object.

A situation more delightful than Kensington Gardens for a palace cannot be found near London; the rare combination of wood and water, the magnificent foliage, the beautiful verdure, the commanding and isolated position, the extensive views around, make up a scene of truly English character, and whatever claims may be put forward in favour of classic styles of architecture, I still hold to the belief that some one of our own periods, not too far back, but either late Plantagenet or Tudor, will be best suited to the locality; but whatever the period chosen, the domestic and not the ecclesiastical features of the time should be introduced. Thus, how well would a Tudor building harmonize with the scenery, the "lustye bye pynacles" and towering chimneys, the expanded bay windows, and the rich oriels, "the turrets and the towers," composing a perfect picture set in the suitable framework of the "rooky wood."

Fine as the situation is, it will be utterly spoiled if the palace is made to resemble a fortress—a Windsor Castle in miniature—for machicolated towers, portcullises (except as badges), loop-holed embrasures, frowning battlements, and the stern accompaniments of a feudal castle, would be out of place in a spot where her Majesty would be surrounded by loving subjects, whose loyal and stout hearts would be her best defence. Again, disappointment will be a sure result, if, instead of an unfettered and manly adaptation of mediæval architecture, not servilely taking this "house" or that "place" for a model, we are to have a Grecianized Gothic edifice, having but few true features preserved, but in their place rejoicing in profuse panelling (which is like turning a house inside out), wearying the aching sight by its constant and monotonous repetition, sacrificing effect to richness, leaving no repose, no breadth—the voids and the solids being alike crowded with tracery, thus rendering the windows of secondary importance; and most likely such a design would be remarkable for the absence of that noblest of all Gothic features, the GABLE; the best, because the natural termination of a roof, yet so strangely lost sight of by some of our first architects; and the omission is never redeemed by the new and unlicensed introductions, of which neither the usefulness nor beauty is manifest.

It is to be hoped, however, that we shall have a palace designed in a truly English character, fitted for its truly English scene, and worthy of England and England's Queen, and one in which we may see, as delightful old Chaucer writes, who understood these matters well from his position,*

> "The chambris and parlers of a sorte,
> Whith bay wyndowes, goodlye as may be thoughte,
> As for baunsyng or otherwise disport."

and the gorgeous embellishments of heraldry and stained glass adding their charm to the

> "Whyte wyndowes ywrought
> Ywrytten full thikke,
> Shynen with shapen sheldes:"—
> *Piers Plowman.*

and all those delightful details and pleasing associations, which are found in the stately structures of the Tudor times, whose owners well knew to combine the useful with the beautiful:—

> "Building royally
> Their mansions curiously,
> With turretes and with toures,
> With halls and with bowres
> Stretching to the starres:
> With glass windowes and barres:
> Hanging about their walls
> Clothes of golde and palles,
> Arras of rich arraye,
> Fresh as flowres in Maye.—*Skelton.*

A structure, in short, such as those great builders, Cardinal Wolsey or Sir Reginald Bray, would have bequeathed to us, had they been commissioned to erect a palace on this site.

With the awful failures of the palaces at Kew, Brighton, and Pimlico, before our eyes, as works of art, it is to be hoped that an occasion of building a new palace will call forth the best energies of the architect to whom it may be confided, to whose keeping the character of his profession and the honour of his country as to the rank it holds in art, will be largely committed, and that he may, unshackled by committees of taste, be allowed to carry out what he knows to be true and beautiful, remembering that if he only endeavours to follow the fleeting taste of a day, however he may succeed in exciting the admiration of "some quantity of barren spectators," he will assuredly "make the judicious grieve;" and the profound remark of the Great Master applies to the architect as well as to the player, "the censure of which one must, in your allowance, o'erweigh a whole theatre of others."

I cannot better close this letter and my correspondence on the subject, than by a quotation which seems to apply with great propriety to the matter discussed; it is from Mr. Gwilt's admirable "Encyclopædia of Architecture." "It is almost unnecessary to observe, that the site on which a palace is to be built, must be open and free in every respect, that a large expanse of gardens should be attached to it for the use of the public as well as of the sovereign, in which respect the palaces of the Tuileries and Versailles are unparalleled. All should have a royal bearing, parsimony being inadmissible in works of this nature."

GEORGE RUSSELL FRENCH.
Sussex-gardens, Hyde-park, 26 Sept. 1846.

* He was clerk of the King's works at the Palace of Westminster, and at the royal manors of Kennington, Shene, Byfleet, Clapton, the Mews at Charing, and St. George's, Windsor.

ANOTHER VIEW OF THE SAME QUESTION.

SIR,—In THE BUILDER of the 29th of August last, you ask the following questions: "Is Buckingham Palace a worthy or even an endurable habitation for a Queen of England? and, Can it be made so?"

To the first of these questions I reply, that Buckingham Palace *is not* a worthy residence for the sovereign of this country: ever since its erection it has been a complete disgrace to the nation in an architectural point of view; for whether it be taken externally in the abstract, with its most unpicturesque outline, or internally, with its inconvenient arrangements and the puerility of its details, the same feeling of pity and contempt arises in the mind of the spectator on beholding this consummate abortion of the building art, which remains an inexhaustible source of ridicule to all well informed foreigners who visit our metropolis.

To your second question—"Can it be made a suitable residence?"—I distinctly and most emphatically reply no; I defy the most skilful architect ever to make it a structure worthy the required occasion, it being perfectly and totally past all redemption; and whatever sums might be spent upon it in the way of additions and "patch-work," would inevitably be a waste of the public funds, and be completely abortive.

A sarcastic writer in the *Examiner* has the following notice on this subject: "And after all, in writing about a well-constructed royal edifice, on a proper site, we have been but imagining *an impossibility*; for although there are sites enough for such a structure, *there is no architect*, and if the money for the purpose were voted, and the best ground for it chosen, the result would only be *some abomination, like an oil-cloth manufactory on a great scale!*"

Now, Mr. Editor, I think you will admit, that if the remarks of this hypercritical writer are correct, the science of architecture is at a miserably low ebb, when, in this enlightened age, it is gravely asserted, in a public journal of high standing in London, that there is no architect in our country possessing the powers of erecting a building beyond the appearance of an oil-cloth manufactory on a large scale. With all due deference, however, to the keen discrimination of the writer above adverted to, I differ with him in this sweeping condemnation of the architects of the present period; for, although we are compelled, however reluctantly, to admit that it is extremely difficult to point out an *Inigo Jones*, a *Wren*, or a *Vanbrugh*, yet it would not be difficult to prove that there are several architects who possess in an eminent degree those essential attributes of superior genius, sufficient to the designing and constructing a palace of suitable magnificence for the sovereign of this great nation, which would do honour to the age in which we live, should the opportunity be granted, and the necessary means afforded.

No doubt the most important part of the transaction is the selection of an architect for such an important undertaking, which should

be done *fairly and openly by honourable competition*, and not awarded to a single architect without opposition; for this corrupt system has been most lamentably illustrated in the instances perpetrated at the Pavilion at Brighton, and Buckingham Palace, which are utterly beneath all contempt; we, therefore, call upon the Commissioners of Woods and Forests, and others high in authority, to weigh well this important point, bearing in mind that the architectural honour of our nation is at stake in their decision;—let their choice of a plan, we urge, be determined agreeable to the arrangement adopted in the selection of the designs for the new Houses of Parliament, now tending to such a glorious and magnificent result.

Nor let it be supposed for a moment that I consider the architect of that structure *is superior* to all his compeers of the present day; there are others who possess equal powers, but which await only calling into action on a grand scale; therefore let the matter be settled by honourable competition, and the award given to one of those great artists whose design shall *be the best*, and not by an *individual selection beforehand*, which we venture to predict would end in universal dissatisfaction, leading to the erection of a structure unworthy of the purpose to which it is to be applied.

Another most important consideration as regards this subject, is the proper style in which the erection should be designed. A selection might be made from three; viz.—1st. The *decorated Greek of Leo von Klenze*;* 2nd, *The Palladian*; and 3rd, *The Tudor*;—rejecting the corruptions and puerilities of the Elizabethan, as totally unfit for works of a large and commanding nature.

No doubt, the Gothic enthusiasts of the day will exclaim against the style we have denominated *decorated Greek*, but let us humbly crave their pardon, and request them to throw aside their prejudices, and remember, that for purity of conception, breadth of parts, and refined elegance, this style is still pre-eminent; and in this respect superior to all others, stands out in the most conspicuous light, as is so gloriously illustrated in the magnificent structures of Klenze, erected at Munich under the genial influence of that great patron of art, the present king of Bavaria.

The same observations will equally apply to the Palladian manner, with all its luxuriant combinations, which always succeeds when entrusted to a great and comprehensive mind, that can seize its beauties only, and reject its imperfections,—and only fails under the influence of mediocrity, as was so lamentably illustrated by Nash in the structure which has called for the present remarks. We gaze on the works of Brunelleschi, of Buonarotti, of Wren, and of Vanbrugh, and confess that Palladian architecture has beauties and capabilities of no ordinary character, and moreover is *just as much adapted to our climate as the Gothic manner*, notwithstanding recent ravings.

Regarding the Tudor style, as applied to structures on a large scale, let it be borne in mind that it requires a peculiar mode of treatment to be rendered effective, and much judgment in the arrangement of its masses, so as to present an agreeable perspective, which its numerous vertical lines tend in no small degree to interrupt. In conclusion, Sir, you will, I trust, join the almost universal voice in the endeavour to prevent so consummate an abomination being committed as the proposed addition and patchwork at Buckingham Palace, and allow me again humbly to call upon those high in authority in the Government of the land, to have some regard for the architectural honour of the nation, and not to lend themselves to the perpetration of *a job* that will most inevitably continue us as the laughing stock of our continental neighbours; but endeavour to erect a royal palace on a site healthy and salubrious, and of magnificent and appropriate architecture, that will not only call forth the praise of the connoisseur, but also the undivided applause of the multitude.

I am, yours, &c.,

FRANK TYRRELL.

Newcastle-upon-Tyne, Sept. 1846.

* Leo von Klenze has erected some splendid public structures at Munich, in the designing of which he attempted what no other architect had the hardihood to do, viz., to decorate the pure Greek architecture, the germs of which are to be found on the Athenian acropolis. And in this daring attempt he has been transcendently successful. Such is the power of an original and well-directed mind, with the advantages of high and liberal patronage.

When Mr. Inwood designed St. Pancras Church, he copied as closely as possible the original Greek forms with scrupulous accuracy, and produced a work of great purity; on the contrary, Klenze soared into a wide field, embracing the regions of his own original conceptions and combinations, embellishing meagre forms, and even introducing the arch, which by the narrow-minded cavillers of the present age may be considered a perfect heresy, but in the hands of this great master becomes a positive and absolute beauty, to the peculiar style of which he may be said to have been the inventor.

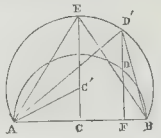
ON THE PROPOSED EXCHANGE OF GROUNDS.*

YOUR correspondent, "Uran Stuart," states, that the measures which he had given "arose out of the actual circumstances of a survey." How far they might *arise out* of a survey is one question: but I presume that your correspondent is too good a surveyor to adopt such a mode of taking notes. In fact, he has only framed those conditions from his survey, and his problem amounts to no more than an exercise in investigating areas subject to certain geometrical conditions. It is much to be desired, that when problems are so formed, their proposers would abandon the absurd attempt to render them interesting, by representing them as "arising out of actual practice"—a custom which is becoming much too general in our day.

Mathematically, these problems present but little difficulty. They have been over and over solved by pure geometry: but I send you the algebraic investigations from them leading, generally, to a more simple determination of the required value than is furnished by the constructive methods. The investigations are given in the general form, and then the given numbers inserted in the final formula.

(No. 1.)

Let AD'B be the triangle, and AB the base $=2a$ (=400); let the semicircle on AB cut the perpendicular D'F in D. Put AD'B$=\beta$ =61•), and FD'$=m$FD (=2 FD).



Then CC' $= a$ cot. AC'C $= a$ cot AEB$=$ $a \cot \beta$; and the equations of the circles ADB, AD'B are respectively

$$x^2+y^2=a^2 \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$
$$x'^2+(y'-a\cot\beta)^2=a^2\,\mathrm{co-sec}^2\beta, \ldots (2)$$

Now in the problem, we have

$$x'=x \text{ and } y'=my;$$

whence, substituting these in (1, 2) and subtracting, we obtain

$$y=\frac{2ma\cot\beta}{m^2-1};$$

and area=AC. FD'=AC. mFD

$$=\frac{2m^2a^2\cot\beta}{m^2-1} \ldots\ldots\ldots\ldots\ldots\ldots (3)$$

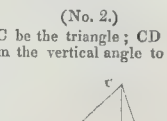
or in reference to the given numbers

$$\text{area}=\frac{2.\,2^2\,200^2.\,\cot 61^\circ}{3}.$$

$$=59126{\cdot}304 \text{ yards.}$$

(No. 2.)

Let ABC be the triangle; CD the perpendicular from the vertical angle to the base$=b$



(=360); M the middle of the base, and hence MD$=a$ $(=\frac{246}{2}=123)$; and let AC $-$ CB$=d$ (=120), and AM$=u$.

Then AC$=\sqrt{(u+a)^2+b^2}$,

and BC$=\sqrt{(u-a)^2+b^2}$.

* See page 442, *ante*.

But, by the question, we have

$$\text{AC}-\text{BC}=d$$
$$=\sqrt{(u+a)^2+b^2}-\sqrt{(u-a)^2+b^2}.$$

Resolving this question by the usual methods, we get

$$u=\frac{d}{2}\sqrt{\frac{4b^2-d^2}{4a^2-d^2}}$$

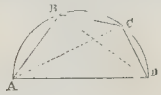
$$\text{and area}=bu=\frac{bd}{2}\sqrt{\frac{4b^2-d^2}{4a^2-d^2}}$$

Substituting the given number in this, we find

$$\text{area}=68427{\cdot}007 \text{ yards.}$$

Let AB, BC, CD be the three given sides of the inscribed quadrilateral, taken (as, probably, the proposer meant them to be) contiguously, the fourth side being the diameter AD. Join AC, BD, and denote the several lines as follows:—

AB $= a$,	AC $= v$,
BC $= b$,	BD $= y$,
CD $= c$;	AD $= z$.



Then by right angled triangles and *Euc. vi. D.*, we have

$$x^2=z^2-c^2,$$
$$y^2=z^2-a^2,$$
$$xy=bz+ac.$$

Substitute the first and second in the square of the third equation; then after slight reduction there is found the cubic equation,

$$z^3-(a^2+b^2+c^2)\,z=2\,abc.$$

Any one of the roots would give a value of z, that would render AD a diameter; but in the case supposed above, it will be the greatest root that must be used.

Insert the given values of a, b, c, then

$$z^3-97341z=10512600.$$

The greatest root of this is readily found by the usual methods (*Horner's* method is far the best) to be

$$z=356{\cdot}195226.$$

Now, by the common rule for the area of the inscribed quadrilateral, if we put

$$a+b+c+z=2s,$$

we have the area represented by

$$\sqrt{(s-a)\,(s-b)\,(s-c)\,(s-z)};$$

or inserting the given numbers, and taking the approximate value 356·2 of z for simplifying the mere work, we have

$$\text{area}=\sqrt{222{\cdot}6\,.\,303{\cdot}6\,.\,273{\cdot}6\,.\,87{\cdot}4};$$

which is easily computed by logs., and found to give

$$\text{area}=40201 \text{ yards.}$$

The sum of the three plots is 167754 yards very nearly. The side of the equivalent square plot is 409¼ yards nearly; and the gentleman has "caught a tartar" who adroitly offers something less than two-thirds of the quantity in exchange.

Sept. 17, 1846. PERPENDICULAR.

NEW WORKSHOPS, EASTERN COUNTIES RAILWAY.

BUILDERS' TENDERS.

THE following is a list of the tenders delivered on the 30th ult. for building workshops, &c., at the Eastern Counties Railway Station, Stratford. Mr. H. Hunt, architect:—

Croker	£82,300
Reddin and Coldersham	74,000
Crook	68,651
Grimsdell	67,991
Jackson	66,917
Baker and Son	66,785
Knight	64,800
Burton	62,981
Winsland and Holland	62,899
Kelk	62,800
Curtis	62,444
Piper	58,710

The lowest tender was accepted.

The difference between the highest and the lowest in this case is the more extraordinary, inasmuch as the quantities were supplied to all the builders. How is it to be explained.

FOREIGN ARCHITECTURAL AND COLLATERAL INTELLIGENCE.

Country-Embellishing.—"*Landes-Verschönerung.*"—On this word (idea), yet to be *introduced* into the English idiom—a German periodical puts forth the following graphic description:—"Country-embellishing may, after all, be considered as the very exponent of every other radius of national or governmental activity—as all of them must, by necessity, in fine, centre in, and abut to, something tangible, real, *material*. And where can such appear in any adequate magnitude—save in those, either extensive in themselves, or becoming so by their aggregate works, which, like huge buildings or other structures, strike and enchant the eyes of the beholder—or like roads, and canals, and dikes, extend in the shape of bands over the expanse of the land; both shewing, in contradistinction to the land of the savage, that *here* activity, mind, minds-life, are existing, and diffusing their salutary and benign influence. Thus, there is no great name in history, either monarch or statesman, whose mind did not, as well by *necessity*, manifest itself in such out-works of the mind, as we *may* call them; in each of which, however, pulsate great purposes, great views, great benevolence for the mass of the nation. Thus were Solomon, Semiramis, Numa, Pericles, Augustus, Charlemagne, Peter the Great, Napoleon. Shew me a great *constructor*, and behold a great man! (*Isis of Oken.*)

Vienna, Austria.—The Industrial Society of that city (*Gewerbsverei*), have, of late, carried out a plan, which deserves commendation and *imitation*. We allude to an exhibition, and prize-rewarding for *industrial drawings*—agricultural and horticultural implements and machines, furniture and other house utensils and decorations, patterns and designs of fictile and textile art; china, stoneware, pottery, and all sorts of tissues; in fine, choice and rare tools and implements of every trade and industry. [Our exhibition of national industry seems long in coming.]

Impure Gas.—The Cities of "Futurity."—Several of the French periodicals have of late alluded to the insalubrity which manifests itself in the narrow streets of Paris, Rue St. Honoré, Rue de la Harpe, &c., on account of the exhalation of the gas, which penetrates the dwellings, especially on the ground-floor and first story. If the occupants of such rooms are a day out of town, and the door and windows shut, the smell on entering them is terrible and nearly suffocating—which, as a matter of course, *must* be also the case every night, although to a smaller degree. It is obvious, that if only pure (or nearly so) hydrogen gas were to be burnt, this could hardly be the case; and it is the admixture of sulphuretted or carburetted hydrogen gas which, not being consumed, causes this distress, because such it is to all intents and purposes. Aside the necessity of pure gas—the necessity also of widening our present gas streets is alluded to, which, eventually, will lead to the American right-angle *block* system of town construction.

Prague, Austria.—Dr. Obst, lord of the manor of Ober-Leitensberg, has induced his peasantry (they have mostly perpetual leases) to a very fine and useful undertaking. They have made a compact amongst themselves, to rebuild the whole village after a new and well-concerted plan; the rebuilding of the houses to be done within certain periods of time—the lot to decide priority. But still more important is, that the peasantry have bound themselves, *all of them*, to assist (in labour of men and cattle, &c.) in the building of these single cottages, which are to be all one story high. The lord of the manor furnishes them with the necessary timber, free of expense. This, then, will be a model-village indeed. Dr. Obst has also established a small library of books and periodicals for his peasantry, play and athletic grounds for the youth, &c.

The supposed Fresco Painting by Raffaelle at Pisa.—Mr. Gargani Garganetti, of Florence, has just published a little work, by which he proves to evidence, that that mural painting, discovered last year in the convent of St. Onofrio, at Pisa, representing the Last Supper, is the work of Neri de Bicci, made in 1461, and consequently many years before Raffaelle was born. It precedes even the Perugino school, and Bicci may be considered the last of the great Giotto galaxy. Vasari does not mention him but passingly. Mr. G. has discovered in the Strozian library the order of the monastic authorities for this picture, dated 20th March, 1461, and the artist's receipt for his *wages*, dated 4th Aug. 1462; both which documents are printed in the above little work.

J. L.

PROVINCIAL NEWS.

The boring at the Artesian well, Southampton Common, is to be proceeded with, it is said, on the recommendation of those members of the British Association who took an interest in the subject. Little further expense will be added to the 20,000*l.* already expended, and little further time will accomplish the end in view, so far, at least, as regards the proper depth of boring; as the new and expeditious method of operation spoken of in last week's Builder, is to be henceforth adopted.——The great expense, and the no less great inferiority of the gas with which Southampton is supplied, has led to a determination that new and extensive gas works shall be erected for the supply of a superior article at something like the price fixed in the North of England, namely 4*s.* per 1,000 cubic feet, instead of 10*s.* to 12*s.* as at present for the supply of so inferior an article.——The traffic between Portsmouth and Gosport was interrupted on Sunday week by the snapping of one of the chains of the floating-bridge while it was in the centre of the passage.——The erection of the new market house at Dorchester is to be speedily commenced. Premises adjoining the Town Hall have been taken down, and it is intended to carry out the original proposition of rebuilding the Guildhall, with a spacious room attached for a Corn Exchange and public exhibitions. In addition, also, to the public cemetery alluded to in our last impression, and other sanatory improvements, a water company on the plan of the gas company is suggested.——The contemplated restorations in St. James's church, Bristol, lately noticed by us in The Builder, have so pleased a respectable dissenter, that he has volunteered to supply the glass at his own expense. The name of so liberal and patriotic a dissenter ought to be recorded.——The plan of Mr. Wilson, the Architect of Bath, for the proposed Wesleyan College there, has been approved of, and a site selected near the Lansdown-road above St. Stephen's church.——Land for the site and 100*l.*, in aid of the erection of the national schools at Stratton, Cornwall, have been given by Lord Cateret.——The Worcester nailers are endeavouring to obtain an advance of 10 per cent. on their wages.——The new church of St. Andrew, Bordesley, which was to be consecrated on Wednesday last, consists of a chancel 38 feet, a nave, 86 feet, a north aisle, and a tower of three stages with a spire at its west end. The style is middle pointed. Of the sittings, about 1,000 in number, more than one-half are free.——Oundle church is to be restored at a cost of 3,000*l.*, of which 1,782*l.* have been already subscribed.——Benefield Church, near Oundle has recently been extensively altered, at least, if not restored.——St. Paul's Church, Bedford, too, appears, from the sad account of it given by a correspondent of the *Northampton Mercury*, to have passed of late into just such "sacrilegious hands" as those whose ignorant and barbarous doings of an older date are now being everywhere else *undone* by judicious restorers of our old and venerable churches. "We know not to whose hands the care of this church is entrusted," says our present authority, "but if to those who called in the aid of Mr. Blore to render their school-building honourable to their town, and the memory of its benefactor, we trust they will again invoke his, or similar aid, to restore this noble church to its ancient magnificence."——The Cambridge commissioners of paving, &c., have at last agreed to disburse the trifle necessary to repair the bridge at St. John's College, the dilapidated state of which, as we lately remarked, was so disgraceful to the authorities both of college and of city.——At a recent meeting of the paving commissioners, Mr. Walter, the architect, produced his plan, and that of Mr. Morris, the architect, for the proposed arcade at Blackbear-yard, from which it appears that the plan adopted was the best available in so close and confined a locality, and was so adopted precisely because the passage in that plan was an open one, conducive as far as possible to the public health. The locality being one radically ineligible for such a purpose, however, a committee was appointed to confer with the trustees of Storey's charity on the subject.——A somewhat "curious and interesting" scene occurred the other day, in presence of the mayor and other commissioners, on the reading of a report on the state of certain paving contracted for by a Mr. Brady, whom the commissioners appeared to be desirous to get rid of, "as it was quite clear he could not perform it;" while Mr. Brady, for his part, appeared to be equally desirous to get rid of the commissioners, "because they had not paid him till the fifteenth day, instead of fourteen days after he had first taken the contract."——"The Norman Tower, at Bury St. Edmund's," says a contemporary, "has now undergone the *experimentum crucis*. The great eastern arch is removed, and the centre of that front is supported by shores until the arch can be replaced. It will give some idea of the magnitude of this undertaking if we state the preparations made for the security of the structure. A bed of concrete and brickwork, a yard and a half thick, was first laid down, upon which four upright timbers, 27 feet long and 14 inches square, were raised, to catch the ends of two 'needles,' or horizontal timbers, 11 feet in length and 2 feet thick, bound together with iron and let into the sides of the centre pier between the first-floor windows. On Tuesday, last, the jambs and pillars to support the new arch being completed, the hideous breach was effected, and the shattered state of the ashlar and core fully bore out the statements as to the peril in which this part of the edifice had stood until the precaution was taken of inserting the temporary centre. A chasm is now presented, about 15 feet wide, and the same height from the spring of the arch, in which the massive structure, 80 feet high and nearly 6 feet in thickness, has no other perpendicular support than the shores above mentioned; but the sound union effected in all the fissured parts above, and the immense power of the iron ties by which the tower is bound together at four stages, probably rendered the buttresses at the angles sufficient to hold up the centre without the additional precautions which have been prudently taken. The insertion of the new arch will be commenced immediately, and proceeded with as expeditiously as consists with the solidity of the work. The process excites much interest, even amongst the commonest observers, and the surprise is very great at the restoration having been thus carried on from the top downwards, nothing of the masonry remaining to be done above, but the addition of the coping to the parapet between the turrets."

PREVENTION OF EPIDEMIC AND CONTAGIOUS DISEASES.

Lord Morpeth's Act to this effect is about to be put into prompt operation in the parish of Tottenham. A meeting of the inhabitants has been held, and a committee is appointed to take into consideration, the provisions of the Act of Parliament "for the Removal of Nuisances, and the Prevention of Contagious and Epidemic Diseases," and to receive the suggestions of the parochial authorities as to the best mode of carrying the same into effect, for the benefit of the parish at large.

They will meet at stated periods to receive information "of the filthy and unwholesome condition of any dwelling-house or other building, or of the accumulation of any offensive or noxious matter, refuse, dung, or offal, or of the existence of any foul or offensive drain, privy, or cesspool" in the parish, in order that the committee may view the same, and take measures "for cleansing, whitewashing, or purifying of any such dwelling-house or other building, or for the removal or abatement of such nuisances" as shall be certified to be such by competent authority, as in such Act is mentioned.

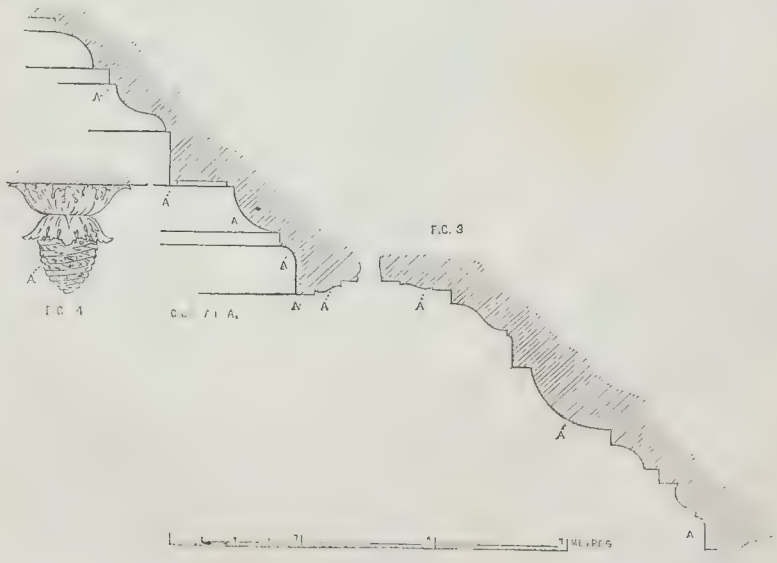
It is to be hoped that other parishes will immediately follow the example thus set in Tottenham.

Re-paving Cheapside.—On Saturday last, orders were issued from the office of the Commissioners of Sewers for the re-paving of Cheapside with stone instead of wood.

CEILING.—PALAIS DE JUSTICE, AT ROUEN.

FIG. 1





CEILING.—PALAIS DE JUSTICE, AT ROUEN.



CEILING OF THE SALLE DES ASSISES,
IN THE PALAIS DE JUSTICE, AT ROUEN.

For the sketches from which the drawings engraved for our pages were made, we are indebted to Mr. A. Poynter, who kindly lent them for the purpose, and favoured us with the following particulars:—

"The Salle des Assises in the Palais de Justice, at Rouen, is in

Length..	25·85	metres: about	84 ft.	6¼ in.	English.
Breadth..	13·35	,, ,,	43 ft.	8 in.	,,
Height ..	6·60	,, ,,	21 ft.	7 in.	,,

The ceiling of this hall, carved in wood and gilt, contains thirty principal panels of a stellar form.

Each stile dividing the compartment of the star is mortised at *a*, fig. 1. From these points originally started very long pendants, richly ornamented and gilt, but they were removed about forty years since, and not the slightest remains could be found of them, although diligent search was made, as long ago as the time when the late Mr. Pugin was preparing his work on the architectural antiquities of Normandy.

In the present condition of this elaborate ceiling, the effect of the projection of the large panels from the general face is disagreeable, and produces an air of great heaviness. It must, however, be borne in mind with reference to this peculiarity of composition, that the protruding moulding formed the springing of the pendants. But the low proportion of the room must always have been a defect, even more apparent when the parts were unmutilated, and approached nearer to the eye."

The late Mr. Pugin, in his volume referred to, mentions that the room now used as the Salle des Assises, was the one in which the parliament, or the three estates, constituting the Duchy of Normandy, viz., the deputies of the church, the nobility, and the good towns, held their meetings. He describes the ceiling as being of oak, nearly as black as ebony, covered with a profusion of carving and gilt ornaments.

With regard to the long pendants, said to have been attached to the great panels, and which have been removed probably fifty years; and to the bad effect of them pointed out by Mr. Poynter, it may be suggested that a small open scroll ornament might have been attached to each style of the panel, and that they never had long pendants; examples of the former can be pointed out in ceilings of about the same date in this country, and the effect is extremely rich.

This ceiling is ascribed to the commencement of the 16th century.

Fig. 1.—Plan of a compartment of the ceiling.
Fig. 2.—Portions of the two panels at large.
Fig. 3.—Section of mouldings of the two panels to a larger scale.
Fig. 4.—Pendant ornament in centre of small panels.

BELGIAN ART AND BELGIAN GOVERNMENT.

It was only last year that H. M. King Leopold, introduced *art* even in his speech from the throne, in the following words:—"The exhibition of fine arts has preserved the Belgian school in that degree of consideration, which has been assigned to it by the admiration of the nation, and the justice of our neighbours." Thus art had been made (perhaps for the first time) a national affair, one worthy to be accounted for to the representatives of the realm. In the same way the annual exhibition of fine arts is styled,—"Exposition *nationale* des beaux arts," and the offices of the Secretary of State for the Home Department, at Brussels, contain, in the first story, the Section of national industry, in the third that of public instruction—between both appears the inscription, *Beaux arts*. Thus the Belgian Government protect art as a valuable *commongood* of the nation; public buildings are numerous and splendid, and adorned with sculpture and paintings. The king encourages the *national* element in every way, and a great number of art academies and schools of design are scattered over the land. With him vie the corporations of cities, and the clerical authorities. The former contribute large sums, from their communial revenues, towards the establishment of art schools, and purchase artworks for their town-halls; the clergy strive hard to obliterate those ravages and spoliations, which the madness of the first Reformation had committed. Very numerous are, moreover, private collections, and have become a nearly necessary appurtenance of every competent family residence. Each large city has yearly exhibitions, and other societies of encouragement, which exhibit every six months; but the chief is the yearly *national exhibition*, which is held alternately in Brussels, Ghent, and Antwerp.

The State's encouragements for artists are numerous, as the granting of the order of Leopold, and the many gold and silver medals awarded at each exhibition. The concourses at the two larger academies award *travelling pensions* to deserving pupils. Belgium has now *forty-three* schools and academies for painting, design, and architecture!—the number of students being between 6 and 7,000—an astonishing proportion for a population of only four millions. This ought to suffice to disprove the belief, that *industrial tendencies* will encroach on the higher mind of the people, or destroy the sense for the *beautiful*. It is now for the third time in modern history, that Belgium has shone forth as a pattern and beacon of art. Thus, in 1430, Johann von Eyck stood at the head of European art; in 1630, Rubens; and it was again in 1830, that a seasonable political revolution brought on another regeneration of Belgian art.

COMPO *versus* STONE.
ST. JAMES'S CHURCH, BRISTOL.

Sir,—You will be pleased to hear that your notice of the restoration of St. James's Church has excited attention in the local papers, also in the committee.

I trust you will allow me to say a few words, as the architect responsible for the safety of the building and for the amount of expenditure to be laid out. The columns are, I believe, safe if untouched; but they are built of rubble, and cased with freestone. The rubble is decayed, and the freestone is much hacked, and any attempt to piece the columns will occasion necessity for their entire reconstruction. They are five or six inches out of perpendicular, one or two ways, as also the

arches above, and the clerestory walls are in few places less than eighteen inches out of a vertical line, and not six feet in the same direction. The foundations appear to have failed originally; but the walls have been further pressed outwards by the arched (perpendicular) roof.

The whole of the walls of nave, west end, and aisles are rotten when opened, and they stand by their mass only, or with the assistance of old houses built up against them; under such circumstances, I advise the committee not to touch column, arch, or wall, unless they are prepared to rebuild the church *de novo*.

The restoration of the surface of the columns and capitals is, I believe, the only mode of dealing with them under existing circumstances. The stucco is very thin, and not intended to give apparent uprightness to the columns, because the winding of the arches would appear much more unsightly than at present; and if the columns and arches were rebuilt perpendicularly, the walls would scarcely stand upon them.

The amount proposed to be expended in rebuilding an east wall, putting up a new roof to the aisle, new flooring and seating the whole of the church, and the removal of north and south galleries, is not to exceed 1,000*l*.—the area of the floor being more than 5,000 feet. Restoration of the church, or, more properly speaking, rebuilding, is manifestly out of the question with such a purse.

The west end is really a valuable specimen of Norman work, and it was doubtless a fine church of its style in its original state; but the curtailment of half its length, and the addition of a large late perpendicular south aisle, leave an interior to be treated as a picturesque subject, rather than a model for imitation. Much of the picturesque effect is produced by the wood roof, with the principals winding a yard or so eastward or westward, which would not be considered handywork if executed by a tradesman now. I have been led to make this observation, and I trust you will excuse its being a little by the way, because I have heard so many well-meaning persons bestow extravagant approbation upon old forms and workmanship, which they would as cordially condemn under an impression that the same were modern.

The restoration of forms existing in the columns, capitals, &c., appears to be all that is necessary as a matter of art or archæology. In case of rebuilding the church, I presume the architect who attempted to blend the forms of differing styles, and incongruities in the same style now seen, would be most unmercifully condemned; whether justly or unjustly, let the most ardent restorer of the existing church determine. The question now is, whether the columns, capitals, and arches, are to be made good to the eye (for it will be almost impossible to distinguish between the stone and the stucco), at a moderate cost, or whether for the purpose of restoring them substantially, the church shall be taken down. It is likely that the church may stand a hundred years with moderate care, and for that period, a plaster restoration seems to answer the purpose as well as stone. Any attempt at opening the exterior of the church to view, will bring it down, so that if parties are found willing to undertake the whole restoration in a proper way, rebuilding is the only course open, and in default of present means, it appears better to leave expensive restoration for the time when entire reconstruction will be unavoidable.—I am, Sir, &c., Saml. C. Fripp.

Bristol, Sept. 26, 1846.

INSTRUCTION TO STUDENTS AT ROYAL INSTITUTE OF ARCHITECTS.

Sir,—Would it lessen the dignity of the Royal Institute of British Architects, to promote the study of their art in the manner indicated by your correspondent of last week, as to a school of design?—I venture to think not; so address you in continuation of those remarks, the result of which would doubtless, benefit the students of that art, and, consequently, be not unwelcome to its admirers.

The Institute has a good library, which is open only three evenings in the week, when the average number of visitors is between *one and two;* the large lecture room is used only two nights per month. They have also a small museum. Is there not then a quantity of available room wasted, and could not a professor be appointed here, with greater facility than where all these expensive requisites have to be procured?

The small number of students (about fourteen) pleads for an improvement of some kind in their department.—I am, Sir, &c.,

Juvenis.

RAILWAY JOTTINGS.

The tenders for erecting stations at Needham-market and Thurston, on the line of the Ipswich and Bury Railway, were on Tuesday week examined, and adjudged by the directors. For the erection of the Needham-market station there were three tenders: Mr. Baldiston for 3,560*l*.; Mr. Ribbans, 3,400*l*.; Mr. Revett, 3,150*l*. For Thurston: Mr. Trevethan, 3,810*l*.; and Mr. Reed, 3,753*l*. In each case the lowest tender was accepted. The stations have been commenced, and it is expected the platforms will be covered by the end of October, at which time, it is thought, the line will be ready for opening. The tunnel under Stoke Hill was completed on Saturday week, when the contractors invited about 100 of the directors and their friends to "a handsome dinner in the tunnel." The difficulty at Stowmarket "appears to be quite overcome by the use of a quantity of hurdles, faggots, &c.; and there is little doubt of the whole of that part being finished in a fortnight." The arch over the road at the Northgate, Bury, is completed. "The centering of the arch," says the *Bury Post*, "constructed, as it is, to offer no impediment to the traffic on the road below during the whole period of the erection of the bridge, has been admired by architects and builders of eminence as superior to any thing they have ever seen."——There are upwards of 3,000 labourers, it appears, engaged at work between Peterborough and Ely.——On the Berks and Hants branch of the Great Western, the arch recently erected by the contractor over the Oxford-road, near Reading, fell, on Friday, last week, with a heavy crash, into a heap of ruins. The woodwork centre, upon which the bridge was built, was cased about some days before, and though followed by a slight sinking, no apprehension of a fall was entertained, and accordingly on Thursday the entire frame-work was removed, and no indication of instability could be observed until the crash occurred. Extreme haste in construction and mixture of cement are alleged to have been the causes of the mishap.——The tunnel from Edge Hill to the North Docks, at Liverpool, has been contracted for by Mr. McCormick, as the successful competitor, at 40*l*. per yard, or about 90,000*l*. in all. There is to be a goods station in Hodson-street at the back of Byrom-street, which will be the only opening.——On Wednesday week, the Ashton, Stalybridge, and Liverpool Junction line, was privately opened through to Stalybridge, on which occasion Major Pasley, accompanied by Messrs. Brun, Lees, Watts, and Jenkins, engineers, attended to inspect the line. The first part of the contract, at the Manchester end, has been executed by Messrs. Hemmingway and Pearson, and the remainder part by Messrs. Harding and Cropper, who have had about five out of the six miles and a half of the work. The latter gentlemen commenced on their contract about the 8th of April, 1845, and have, therefore, notwithstanding many difficulties, completed the work in something under 18 months. There are 20 bridges upon it, from Manchester to Stalybridge, exclusive of the ten-arch viaduct, which crosses the river Medlock. A great portion of the line runs across the Ashton moss, and the other part is through heavy cuttings of marl and loam. The Ashton station is a large commodious stone building. The roof across the railway is 60 feet span and 150 feet long. Several large warehouses are in course of being built at Ashton, and in those erected there are already no less than 3,000 bags of cotton belonging to the millowners in the town. The terminus at Stalybridge adjoins that of the Ashton branch of the Sheffield railway, being merely divided by a wall. The line will be opened to the public on 5th October. ——From two official documents lately published in France and Belgium, it appears that notwithstanding the gifts of land and other advantages conferred by the government of these countries on the companies which obtain the "concession," the expenses of constructing their lines are not, on the whole, less than those at which railways are now constructed in this country. Though, some years ago, the average cost of constructing English railways was about 30,000*l*. per mile, the average estimates of those lines which obtained their bills last session will not exceed 18,000*l*. per mile, which is as near as may be the average cost of construction in the case of continental railways generally. The French and Belgian lines are mainly worked under the direction and control of the governments of these countries, which may account for the fact—though, in many instances, the lines are only single, and the trains not half so numerous as in England. The average expense of working them is 48½ per cent. on the total receipts; while in this country, the average cost of working does not exceed 33 per cent. It is a curious fact, in the case of continental lines, that the shortest railways pay the best. It is the reverse in England. Out of every 1,000,000*l*. of capital invested in French and Belgian lines, it is calculated that shares to the extent of 600,000*l*. are held by Englishmen.——The villagers of a little town near Montreuil have refused to allow the works of the railway near that town to proceed, as it will run through their public cemetery.

With reference to the scales of charges for telegraphic messages on the South Eastern line presented in our last impression, a correspondent of the *Mining Journal* with truth, observes, that "the directors, with that grasping and mercenary feeling which has characterised their proceedings of late, more especially in a large increase in their fares, have set prices upon these telegraphic messages which will entirely prevent its use; and thus by their covetousness, defeat their own purposes and interests." Who, he asks, would pay such prices for a few words conveyance, when he can not only send a sheet of foolscap fully written by post for a penny, but actually convey himself along the line itself to a *vis-à-vis* communication with his correspondents, and return as he went, all for the amount charged for the mere transmission of a message of a few words. The charges on the continental line of railway, noted also in our last week's paper, certainly present a marked contrast to these;—a message of 20 words for 50 cents., or about 5d., instead of 5*s*., the minimum charge in both cases! The rapacity which thus overreaches even one's own self-interest, is by no means so glaring on others of our own British lines; as for instance, on the South-Western, where messages are sent the entire length of the line, 88 miles for 3*s*. if 26 words, and 1*s*. 6d. for every additional 20 words, up to 100, when the charge for every 20 words is further restricted to 1*s*. On the Eastern Counties even, the charges are still lower in proportion, as appears from the following particulars, presented on the authority of a correspondent of the *Chelmsford Chronicle*:—From London to Broxbourne, 19 miles, and all intermediate stations, 2*s*.; to Cambridge, 57 miles, and all the stations between Broxbourne and Cambridge, 3*s*. 6d.; to Brandon, 88 miles, and all stations between Cambridge and Brandon, 5*s*.; and to Yarmouth, 146 miles, 7*s*. 6d. From Broxbourne to Cambridge, and all the intermediate stations, 2*s*.; to Brandon, and all stations between Cambridge and Brandon, 3*s*. 6d. From Cambridge to Brandon, and all intermediate stations, 2*s*. If the message and answer exceeds 40 words, an additional charge of 1*s*. is made for every succeeding 10 words.

Lighting and Heating by Carbonic Oxide.—A patent has been taken out, by Mr. J. Constable, of London, for a method of preparing carbonic oxide gas from anthracite, in blast furnaces, by aid of heated steam and air; passing it, for illumination, through oil of turpentine, to increase its brilliancy; and for heating purposes, mixing it with air supplied by gasometer to the burner. Materials valuable as manure are obtained from the ashes,—cyanide of potassium by washings, and ammoniacal products by aid of steam; the scarcity and high price of guano thus, as in Dr. Playfairs researches, and in the scheme for condensing sewage, leading to a fair prospect of a cheap supply of artificial equivalents.

WELLINGTON ON THE ARCH.

On Tuesday the colossal group was safely conveyed by twenty-nine of Mr. Goding's horses, amid drums, trumpets, and the shouts of a vast multitude of persons, from Mr. Wyatt's studio to the *locus in quo*, and on Wednesday it was safely hoisted on to the arch. It was raised by means of strong six-inch cables fastened round each thigh of the horse, which were then hooked on to the blocks used in the ascent. Through these blocks, four in number, triple sheaved and expressly made for this occasion, ran six ropes, also quite new and made of the strongest yarn, each rope being calculated equal to ten tons. Upon the traversing platform above, were four "crabs," or powerful windlasses, worked by eight men each. The scaffolding, erected for the purpose by Mr. W. Ellis, under the direction of Mr. Wyatt, was of itself a wonderful work, being 115 feet in height, and having taken, we are told, upwards of 200 loads of timber in its construction, besides scaffold poles and planks. The height to which it was necessary to raise the statue was 74 feet, and thence it had to traverse a distance of 60 feet to arrive at the pedestal prepared for its reception upon the crown of the arch. The arrangements were all admirable, and entitle those who were concerned to great praise.

We have now to wait the opinion of the "competent persons" to be chosen by Government, being nevertheless more strong than ever in our own.

THE NEW MUSIC HALL AT LIVERPOOL.

The foundation-stone of the Philharmonic Society's new concert hall, at the corner of Hope-street and Myrtle-street, Liverpool, was laid on Wednesday week. It will be a very spacious and commodious building. The design is by Mr. J. Cunningham. The cost will be 23,000*l.*, and the accommodation for 2,300 persons. The following particulars are from *Gore's Advertiser*:—

"The hall will have two fronts, one towards Hope-street, the other towards Myrtle-street. In accordance with its character, the style of architecture adopted is Italian. The length of the building will be upwards of 175 feet, its breadth 112 feet, and its elevation, externally, 65 feet. It was originally intended to surmount it with a dome; but, owing to the increased expense which this must have occasioned, as well as the unnecessary flood of light which it would have thrown in, the idea has been abandoned. The erection will be entirely of stone, the two fronts being of white stone, the back and side of red stone, finished with white.

The main feature of the plan is the provision made to prevent over-crowding, and afford easy ingress and egress. This is accomplished in several ways. On each front there is an open arcade, with bold pilasters rising to the height of the first story, the intermediate spaces being arched, having impost piers, impost mouldings, &c. There are five arches to the Hope-street front, and eight to the front towards Myrtle-street. A corridor extends round three sides of the pit, there being on each side three doors from the arcade, and from the corridor into the pit no less than eight. The flanks of each front in a small measure recede. A cornice and string course run above the first story and below the upper windows, the interstice being filled up with panels. The upper windows have architraves, friezes, and pediments carved cornices and mould cappings. The whole of the exterior of the building is surmounted by a richly-sculptured block cornice, ornamented with rosettes, &c.; and on the central breaks of each front the usual and appropriate musical emblems will be cut.

The whole of the interior will be painted in encaustic, with appropriate emblematic ornaments, in a style, we believe, similar to the Italian Opera House, in London. The interior of all the rooms is lofty, and provision will be made to secure due ventilation and heating. The entrances into the pit will be merely covered with curtains. The place will be lighted on a new plan. Above the cornices surrounding the pit Mr. Cunningham proposes to introduce pipes terminating as acroteriæ in the form of honeysuckles, which by a simple contrivance may be made to light the whole of the interior, without the offensive glare caused by the chandeliers and the common modes. In the arrangement of the building materials, it is said every attention will be paid to true acoustic principles." We shall see.

CHURCH BUILDING IN LYNN.

On the 24th ult., a new church in Lynn (St. John's) was consecrated by the Bishop of Norwich. A correspondent has forwarded the following particulars:—

The style is early English or lancet, of a very plain character, and its general appearance massive. The west front is in three divisions; horizontally, with quadrilateral staircase and bell turrets at the angles. In the lower division is a well-proportioned doorway, with oak doors and wrought-iron furniture; the second division has an arcade of five arches, two of which are for windows; the third division includes a lofty gable pierced with a small lancet window for the roof. The south elevation presents a row of five circular windows with trefoil lights in the clerestory. The south aisle receives light from five lancet windows, one of which is at the west end; and the walls are supported by six massive buttresses of good proportion. The south door is between the second and third buttresses. The north elevation differs from the south, having a porch with high pitched gable, an oaken door with wrought-iron hinges, handles, &c. There is also a door of entrance to the vestry on the north side. In the east elevation the nave gable, surmounted by a cross, rises above the gable of the chancel, which has also a cross; there are in all three stone crosses placed on the gables, and two of gilded metal, on the pinnacles of the west turrets. The nave, aisles, and chancel are covered with scalloped tiles. The interior has good solid stone piers and oak open seats. The following are its dimensions within the walls:—Nave, 73 feet 3 inches, by 55 feet 9 inches; chancel, 39 feet 9 inches, by 25 feet 6 inches; transepts, 15 feet by 15 feet; height of nave from floor to ridge of roof, 56 feet; ditto of chancel ditto, 42 feet; height of clerestory walls, 33 feet 6 inches; ditto of aisles wall, 17 feet; ditto of chancel ditto, 20 feet. The roof of the nave and clerestory are supported on five arches springing from six columns, two of which are engaged.

We have spoken of transepts, but these properly speaking are chapels terminating the aisles, and open to the chancel on the north and south sides—lit with double lancet windows. The roofs of the nave and chancel are supported on corbel heads carved in stone. A vestry, measuring 12 feet 6 inches, by 11 feet 9 inches, is on the north side of the chancel. The altar table, reading desk, and pulpit are of oak, plain in character, but appropriate. The triple lancet window at the east end of the chancel is filled with painted glass, by Mr. Wailes; the devices, which are on medallions, exhibit the crucifixion, our Lord after his resurrection, the hand stretched out as in the act of benediction; the ascension, and on four others the emblems of the evangelists.

The church affords accommodation for 1,000 persons; the cost will be about 5,000*l.*; Mr. Salvin is the architect; Messrs. Bennett and Son, of Whittlesea, the builders.

On the preceding day, the church of Tilney, St. Lawrence, in the same diocese, which has been completely restored, was consecrated. The tower was the only part of the ancient structure which did not need thorough restoration; to this a spire has been added. More than 2,000*l.* have been spent in the rebuilding, the whole of which was contributed by Mrs. Mann, of Lynn.

St. Margaret's, the mother church, is also in course of restoration.

The Fine Arts in the New Houses of Parliament.—The commissioners have published their sixth report, wherein they express their approval of Mr. Dyce's fresco, and recommend that the other artists to be employed, adapt the size of their figures, the style of colouring, and the finish of their work, to agree with it.

Correspondence.

GREEN MARBLE OF IRELAND.

Sir,—Having lately read that the recommendation of his Royal Highness Prince Albert to the Society of Arts, in respect of the marbles of Ireland, had not fallen to the ground, I beg to give a little information on the green marbles of that country. In the year 1839 or 1840, a quantity was imported from the estate of Mr. Martin, and was laid on Mr. Freeman's Wharf, Millbank, for safety, where it remained until it had nearly "eaten itself up." At that time the Wyndham Club were desirous of having two chimney-pieces placed in one of their principal apartments in St. James's-square, upon which Mr. Martin presented them with as much green marble as would make them, according to a design by Mr. Bardwell; and to my father was confided the execution. I can bear testimony to the great beauty of the marble, carrying as it does every shade of green intermixed with seams of white, delicately tinged with green and pinkish brown. Yet it never gained much favour, chiefly from not being carefully selected; it appears to have been shipped just as it came to hand, therefore much of it was worthless, having no beauty in colour, and refusing to take any polish.

It is to be hoped that if any is again imported, it will be properly selected, so as to give it a fair chance. I shall be happy to shew any person specimens of the marble used for the Wyndham Club.—I am, Sir, &c.,

C. S. Kelsey.

Commercial-road, Lambeth, Sept. 23.

IMPROVED TRAP FOR HOUSE DRAINS.

Sir,—I am exceedingly glad to see that the hint I suggested, under the signature Z. Z., is likely to produce some little benefit; and although I did not enter into the detail of the stench-trap, I find it was then fully described, and the cut shewn in your last number in every respect tallies with that description. I should not have ventured to write to you again upon the subject, had any acknowledgment been made by Mr. Phillips as to whence it appears he derived the idea for the "improved trap for house-drains." I would now only add, that the *trap* should be in one piece, and that there should be no joint below the water line; and I think you will at once see the objection to the position of the present joint, as any slight settlement of the work would easily disrupture it, and of course the efficacy of the trap would be immediately destroyed, even should only a small portion of the water escape.

I am, Sir, &c. E. B. Lamb.

26, Charlotte-street, Portland-place,
28th Sept. 1846.

DISTRICT SURVEYORS' FEES.

Sir,—Having just seen in The Builder of the 12th September, a letter signed "W. Woods," stating that he has lately been repairing the roofs of eight fourth-rate houses at Balham Hill, at a cost of 12s. each house, and that the district surveyor claims a fee of 10s. on each,—now the truth of the case is this, I have only made a charge of 10s. fee *on two houses*, the roofs of which have been the greater part stripped and new gutters laid, as shewn in my monthly return of December last.—I am, Sir, &c., Jno. Mullins.

St. John's Grove, North Brixton,
25th Sept. 1846.

Sewers in the Isle of Wight.—Last week tenders were delivered at Ventnor, Isle of Wight, for building sewers under the Improvement Commissioners. They required two tenders; one of them calculating the brickwork all 9-inch work, similar to the Westminster division, and the other for 4½ inch work, with radiated bricks in cement. A correspondent has forwarded to us the following list of the tenders delivered:—

	9in. work. £.	s.	4½ in. radiated B. £.	s.	d.
Brooks, Southampton	3,700	0			
Read, Ventnor	1,500	0 ..	1,200	0	0
Ball, ,,	1,050	0 ..	730	0	0
Starkey, London	1,030	0 ..	780	0	0
Emett and Tew, Southampton	1,032	16 ..	710	12	6

The commissioners adopted the 4½-inch work, and accepted Emett and Tew's tender.

Miscellanea.

Report on Iron Furnaces.—The report of Dr. Lyon Playfair and Professor Bunsen, of Marburg, on the conditions and products of iron furnaces, called for by the British Association, is said to be of the greatest commercial value to the prospects of our highly important iron manufactures, and at the same time full of interest to chemical science in some of the views which it developes. On the one hand it exhibits an entirely new theory of the reduction of iron from the ore by cyanogen gas as the chief agent; and, on the other, it shews that, in addition to a vast saving of fuel, about 2 cwts. of sal-ammoniac may daily be collected at the single establishment at Alfreton, where the experiments were made; thus leading us to infer that, in the iron furnaces of Britain, there may be obtained, from vapour which now passes away, an enormous quantity of this valuable substance, which would materially lessen the dependence of our agriculturists on foreign guano, a purpose, by the way, which is also at the present moment held forth in prospect as an advantage derivable from another proposed improvement in chemical practice, though it can scarcely be also called another new discovery in chemical science; namely, the proposed condensation of sewage into solid manure, as noticed below.

Condensation of Sewage into Solid Manure.—An explanatory lecture was delivered in our hearing at the Westminster Literary and Scientific Institution, on Friday last, by the patentee, Mr. William Higgs, who proved, clearly enough, the possibility of condensing, in a solid form, all that is valuable as manure in the sewage of towns, by collecting it in tanks, wherein all that is solid and insoluble, or merely suspended in the fluid, would, of course, subside, while by aid of calcareous or other reagents, the soluble phosphates, or phosphoric acid, &c., might be converted into insoluble salts, and precipitated amongst the general sediment, or apart from it; and the ammoniacal and hydro-sulphuric vapours, uniting in hydro-sulphuret of ammonia, be also condensed, by aid of chlorine, in covered air-tight areas above the tanks, and added, in form of sal ammoniac and sulphur, to the other valuable materials; the residual water of the sewage thus, in effect, being rendered perfectly pure before it issues into the river that may flow in the vicinity of the town. Into the question of the profitable and practicable adoption, or the relative merits, of such an economical and save-all system, it is not our province to enter; but we may remark, that certainly the health of towns could not but be vastly benefited by the absorption and solidification of the volatile and unwholesome vapours hitherto permitted to emanate from sewers, and even by the purification of the rivers, on the banks of which the habitations of man are so frequently constructed.

Plans for laying out the Jephson Gardens.—Relative to a letter on this subject in our paper of the 19th ultimo, a correspondent says, that none of the plans submitted were equal to what was desired (we should have wondered if they had been):—The plan selected as No. 1, the writer says, "was subsequently considered impracticable, and none of the others meeting with approval, the committee exercised a right they have, in attempting to procure what they consider more suitable, and invited Mr. Jackson and Mr. Squirhill to furnish designs for two lodges and other buildings, with full detail drawings, specifications, &c., and for which they are each to be remunerated by the sum of forty-two shillings, the designs to become the property of the committee! This is the 'job' complained of by 'one interested in the prosperity of Leamington.'" The result of competitions conducted as they now usually are, is every day less satisfactory, or we should rather say, *more* satisfactory to those who desire to see an alteration of the system. We have before us the particulars of a recent competition in Kensington and proceedings now going on there, which promise to be very instructive.

Fall of a House in Old Jewry.—Early on Saturday morning last, a party-wall and part of a large five-storied house fell, at the corner of Gresham-street, in consequence of the removal of an adjoining house. The only occupants, two females, escaped in their night clothes,

Effect of Pavements upon Health.—The causes of disease, which are being investigated so extensively at the present time, are sometimes traced to the most remote origin. It would enter the minds of few that pavements, which are constructed merely for the convenience of transit in crowded cities, are preventitives to ill-health; but such has recently been proved. The corporation of Liverpool having recently paved the courts and alleys of that town, it has been observed that the health of the people residing in them has wonderfully improved, and that deaths were less frequent. This led to further inquiry, and attention was directed to six of the worst courts in Liverpool. Of them, Mr. Carr of the southern dispensary remarks, that they were formerly so notoriously unhealthy, that the medical attendant was hardly ever out of them, and when any epidemics visited the town, these places exhibited their results in perfection; the surface being in a most disgraceful state, covered to some depth with putrid mud, so that the inhabitants were compelled to place large stones at intervals, to enable them to reach their houses by stepping from one to another. It is also stated by Mr. Samuel Holme that, in Freemason's-row, he found, about two years ago, a court of houses, the floors of which were below the public street, and the area of the whole court was a floating mass of putrified animal and vegetable matter, so dreadfully offensive that he was obliged to make a precipitate retreat; yet the whole of the houses were inhabited! Since these sinks of insalubrity have been paved, the change in the health of the inhabitants has been even more remarkable than what may have been anticipated. In one place (Bridport-court), which contains eighteen houses, the cases of sickness were eighteen before to four after the flags were laid down. In another alley (Oak-court), the proportion is five cases now to twenty-eight in former years; and, so far as observation has been extended, which it has been to fifty-seven of the houses, the fronts of which have been paved, to eighty-five cases of sickness which occurred before paving, only sixteen have taken place since.—*Chambers' Journal.*

Contracts for Iron.—At a meeting of the directors of the Birmingham, Wolverhampton, and Stowe Valley Railway, held at Birmingham in the latter part of the month just past, for receiving tenders, about twenty for chairs, and ten for rails, were sent in (varying considerably in prices), and from which the following were selected:—W. Sparrow, Bilston Works, 3,500 tons of rails and 1,000 tons of chairs; Lord Ward, 1,000 tons of chairs; and Messrs. Bradley and Co., Bradley Works, for 2,000 tons of rails. The meeting having been private, the prices could not be exactly given, but the rails, it is understood, were, on the whole, let for under 10*l.* per ton, the chairs for 7*l.* per ton; and, considering the number of railway projects on hand, and consequent demand for iron, the directors were of opinion that the contracts were effected on advantageous terms. The whole of the iron is to be supplied before the end of next year, and every possible effort will be made by the directors to forward the works.—A contract for 20,000 tons of iron was also adjudged about the same time to Sir John Guest, price 10*l.* a ton.

Railway Metropolitan Termini.—The *Observer* says, "The novel sight will soon be witnessed of many hundreds of men employed in the very heart of London in the construction of a railway. The London and South-Western Company have now got possession of nearly all the property necessary for the extension of their line to Hungerford Bridge, and the most active preparations are making for commencing the construction of the works without delay. There will be a magnificent station at Hungerford Bridge. The extent and style of the erection may be inferred from the fact that its cost will exceed 100,000*l.* The expenses of constructing the extension line from Nine Elms to Hungerford Bridge, including the purchase of property, will not, it is supposed, be under 600,000*l.*, making, with the station, 700,000*l.*, or the enormous sum of 350,000*l.* per mile.

Paddington Hospital.—A munificent lady has lately bequeathed 1,000*l.* to the new hospital. We hope this will put a little fresh life into the undertaking, and lead to something like work in earnest.

Preliminary Costs of Railways.—Welsh Midland *v.* Shrewsbury Railway. It will perhaps interest some of our readers to know, as the Welsh Midland Company are just winding up their affairs, that the cost per mile of the engineering, surveying, and legal expenses of that company was near 1,100*l.* per mile, while the Shrewsbury and Hereford cost only 500*l.* per mile. The former, as is well known, failed to pass the ordeal of the Standing Orders Committee, in consequence of grievous errors in the plans, &c.; while the latter company, notwithstanding the strenuous opposition of the Great-Western Railway Company, and a few landed proprietors, have succeeded with their bill, and are now making preparations to proceed with their works. The engineers to the former were Messrs. Stephenson, Gibbs, Sherrard, and Hall; to the latter, Messrs. Robertson and Baylis.

Effects of bad Ventilation.—In a report on the sickness among the Edinburgh Police, recently drawn up by Dr. Tait, the effect, upon the health, of an ill-ventilated section-house is noticed, and furnishes an additional example of the importance of pure air, and plenty of it. The men boarded in this house were the heartiest and youngest in the force, yet the ratio of sickness among the men out of the section-house was 205·59, and amongst those in it 351·35, being a difference in favour of the former of 145·76. Out of the 37 men boarded in it, only one was found free from functional disorder, the prominent symptoms of which were great sensibility to cold, copious cold perspirations, constant sense of fatigue, pain in the eyeballs, and loss of appetite. Statistics will at last force upon us sound convictions. The progress of knowledge is slow and not unobstructed.

NOTICES OF CONTRACTS.

[We are compelled, by the interference of the Stamp Office, to omit the names of the parties to whom tenders, &c. are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent Garden.]

For the works necessary in extending sewers in Devonshire-street, about 750 feet.

For the works necessary in extending sewers along Whitechapel-road, about 390 feet.

For the works necessary in extending sewers along Union-street, about 212 feet.

For the works necessary in extending sewers in Commercial-road, about 675 feet.

For the works necessary in extending sewers in Plummer's-row, about 790 feet.

For the whole works on two portions of the Glasgow, Dumfries, and Carlisle Railway: divided into several contracts.

For the supply of 500 tons of Kentish ragstone, broken to regular sizes, not exceeding two inches square, for the parish of St. John, at Hackney.

For 500 tons of best blue Guernsey granite chipping, for the Hackney Union.

For the execution of the works on the Newry, Warrenpoint, and Rostrevor Railway, from near Newry to near Rostrevor,—a length of about 8 miles, and for repairing same for one year.

For the construction of the East Riding branch of the York and North Midland Railway, from York to Market-Weighton, a length of 21 miles, or thereabouts.

For the construction of the various stations, buildings, or other works between York and Market-Weighton, on the branch line of the York and North Midland Railway.

For supplying and laying cast-iron water-pipes, cocks, and other castings for the service of the Plymouth Water Works (promptly).

For carpenter's work to be done at the Bury St. Edmund's Gaol and House of Correction.

For plumber's, glazier's, and painter's work, to be done at the Bury Gaol.

For making a cylindrical sewer in Regent-street, Cambridge.

For supply of a condensing steam-engine of 6 to 8-horse power, at Reading.

For the construction of a reservoir and filter-beds, for the water works at Warrington, including all earthwork, masonry, storing, diversions of roads and water-courses, &c. (prompt).

For the completion of the works of the Borough Gaol at Birmingham, and the supply of the necessary materials and labour for that purpose.

For the repair of the Yeovil turnpike-road (a length of 26 miles), for three years.

For making and laying the Newry and Enniskillen Railway, from Lisnisk to Drumennis, a length of 8 miles, with all excavations, embankments, bridges, culverts, gates, fences, roads, &c., and for repairing the same for one year.

For making turn-tables and other machinery for railway carriages and waggons for the Dublin and Belfast Junction, and Navan Branch Railway.

For the building of all the stations and gate-keepers' houses on the Newcastle and Berwick Line of Railway.

For about fifty yards of pump trees, 6 to 9 inches in diameter, also for tram rails, at Willenhall.

For the building of the stone wall to surround the proposed Church of England Cemetery at Warstone.

For taking down and reconstructing Looe-bridge, Cornwall (further tenders wanted).

For 3,500 tons of malleable iron railway bars for the East and West Yorkshire Junction Railway.

For about 1,300 tons of cast-iron railway chairs for the East and West Yorkshire Junction Railway.

For supplying the Maryport and Carlisle Railway Company at Maryport and Carlisle, with the following fence rails and posts, viz., 2,000 rails 10 ft. 8 by 3½ in. and 1 one-eighth in.; 2,000 posts 5 ft. by 3 in. and 2½ in.; 1,000 posts 5 ft. 6 in. by 4 in. and 3 in.; 1,000 posts 5 ft. 6 by 3 in. and 3 in.; and 1,000 posts 5 ft. 6 by 3½ in. and 3 in.

For building lock-up cells and turnkey's residence, at Hartshorn, Derbyshire.

For the execution of the whole works of the Dundee and Arbroath Junction with the Arbroath and Forfar line at Arbroath,—a length of nearly a mile, with earthwork and bridges of considerable extent.

For about 1,000 tons of cast-iron railway chairs for the Edinburgh and Northern railway (extension of time).

For 30,000 railway sleepers for the Edinburgh and Northern railway (extension of time).

For 45,000 railway sleepers of foreign timber for the East and West Yorkshire Junction Railway.

For the construction of the various stations, buildings, and other works between Church Fenton and Harrogate on the Church Fenton and Harrogate branch of the York and North Midland Railway.

For four good draughtsmen experienced in drawing bridges and other railway works, for the East Lancashire Railway Company.

For letting a small iron-foundry at Lincoln: rent taken in castings.

For an engineer, to go to Mexico to superintend engines, and prepare drawings for engine works: also

For a smith and a carpenter, both accustomed to mine-work to go also to Mexico.

For an indefinite number of good marble masons: constant work at Bradford.

For labourers to inclose several hundreds of acres of waste lands with stone or turf, at St. Agnes and Perranzabuloe, Cornwall, at per yard of eighteen feet in length. N.B. Leases of land given to said labourers on Goenvrea Commons for 21 years, at 1s. per acre.

For an inspector (salary 150*l.*) and two surveyors (salary 80*l.*) for the City of Edinburgh Paving Board.

For 10 or 12 good moulders (not club-men) at full country wages, at Reading.

For the letting of a carpenter's yard at Knottingley, Yorkshire, fitted up with every convenience for the business.

For the election of two poor lame painters to Mr. Stock's charity, at the Painters' Hall, Queenhithe.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At Norton, Long Buckley, and Welton: 600 maiden oak, ash, elm, sycamore, and poplar timber trees.

At Dunham Lodge, Norfolk: about 300 oak, ash, beech, and alder timber-trees and stands, 20 dozen hurdles, &c.

At Ilchester Jail (unless previously disposed of in one lot before 2nd October): all the building materials of said jail.

At Sheffield: an extensive assortment of cedar, ebony, box-wood, and pheasant-wood, &c., suitable for engineers, cabinet-makers, &c.

At Broomfield, near Chelmsford: a large quantity of useful oak and elm trees, willows, larches, ashes, apples, walnuts, &c.

At Earith: a quantity of building materials, comprising fifty fine large oak piles and bearers, and a lot of fir timber, deals, and oak planking, with 20,000 bricks, a quantity of iron &c., in lots.

At Ipswich: a quantity of oak slabs, &c.

BY PRIVATE TENDER.

At Greenwich hospital: 9 lots of oak, larch, beech, spruce, and other timber.

At Birmingham: a rotary cylinder; diameter 19 in. by 6 in. (or would be exchanged).

At Leeds: three second-hand boilers 25 horse-power each, suitable for railway contractors.

At Ludgate-street: two wrought-iron panelled doors, 7 feet high and 6 feet 8 wide; also two other doors, 7 feet high, 3 feet wide for party-walls, suitable under the new Buildings Act.

At the Adelphi: a cast-iron tank 32 feet by 19 feet 6, and 4 feet 2 deep, for holding 15,000 gallons in two quantities, being divided.

At Salisbury: a second-hand church or turret clock.

At Carnarvon: a slate quarry.

At 39, Great Tower-street: a 12-horse condensing steam-engine, made for the Bank of England.

At Newington Causeway: steam saw mills.

TO CORRESPONDENTS.

"*Tar and Gravel Floors.*"—A correspondent wishes to know the best method of making floors with a composition of gravel and gas tar.

"*St. Giles's, Camberwell.*"—We are asked to say who directed the removal of the paintings from the pulpit of this church, but have not had time to inquire into it.

"*F. T.*"—We are much deceived as to our correspondent's intelligence if he has read *carefully* the papers referred to.

"*S. N.*" will find some remarks on lightning conductors in our present number.

"*Observer.*"—We understand that a carriage entrance to the park near the spot pointed out is contemplated.

"*Westminster Bridge.*"—Correspondents ask us if designs will be obtained by competition. We believe nothing is yet settled.

"*A Practical Designer.*"—We will look to the criticisms complained of. As a general rule, however, we do as well as we can ourselves, and avoid finding fault with contemporary journals.

"*A Carpenter.*"—We do not know the depth of the deepest shaft in England.

"*X. Y. Z.*"—Chimney backs in lowest story of third-rate house must be 14 inches thick if in party wall; 9 inches if in other wall.

"*Arnott's Valve.*"—Purchase a penny pamphlet on ventilation, published by Churchill, Prince's-street, Soho.

"*Constant Reader*" (Doings of Official Referees), next week.

"*Suburban Reader.*"—Ditto.

"*H. B.*" shall appear.

Received.—"F. T." (Roman Cement), "G. W.," "A. J. G.," "Subscriber" (Stourbridge), "G. R. L.," "Q.," "J. M.," "Q.," "R. C. S."

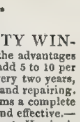
ADVERTISEMENTS.

HERRING'S PATENT SAFETY WINDOWS.—No invention ever offered the advantages to builders and the public; it will positively add 5 to 10 per cent. to all houses having it, repay the cost every two years, abolish all danger to life and limb, cleaning and repairing. It is in full operation (four different ways), forms a complete ventilator and sun-blind, all simple, cheap, and effective.—Apply for licenses and to inspect its real merits, to Herring's Patent Steam Bed-feather Factory, 14, Kingsgate-street, London.

CHAS. WM. WATERLOW,

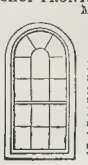


Manufacturer of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square. Well-seasoned materials, superior workmanship, lowest prices. Upwards of 400 Doors and a large variety of Sashes and Frames always on Sale. Glazed goods securely packed for the country.



Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.

SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.



JOHNSON & PASK,
1, AMWELL STREET,
Clerkenwell,

Beg to inform the Trade, and the Building Public in general, that they continue to manufacture Sashes and Frames, Shop Fronts, Doors, and all other kinds of Joiner's work, on the lowest possible scale of prices. All kinds of Wainscot and Mahogany



Work done in the very best manner; French Polished, and carefully Packed for the Country.— A full list of prices forwarded by return of post to any part of the country.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

PAINTED GLASS.

THE Subscribers, who have been appointed to furnish the PAINTED GLASS for the WINDOWS of the HOUSE OF LORDS, are ready to prepare Designs adapted to every style of Ecclesiastical or Domestic Architecture, and to execute Work, to any extent, within the shortest possible period.
BALLANTINE and ALLAN, 42, George-street, Edinburgh.

SUBSTITUTE FOR GLASS.—Transparent Sheeting, to cover in Windows, 1s. per yard, nearly 2 yards wide. Waterproof tarpauling, 2 yards wide, 1s. 2d. per yard. Wire fencing, 2-inch mesh (close enough to protect from rabbits, &c.), 9d. per yard, 4 feet high; may be had wider or narrower. Very thick tarpaulings, 2s. per square yard. Roofing canvas, as thick as floor-cloth, 1s. per square yard.—ROBERT RICHARDSON, maker of tarpaulings, 21, Tenbridge-place, corner of Judd-street, New-road, London.
N.B. Tarpaulings lent on hire.

TO THE PLATE GLASS TRADE.

THE BIRMINGHAM PLATE AND CROWN GLASS COMPANY, "Registered," beg to inform the Trade and Public, that the extension of their Works at Smethwick, near Birmingham, being now completed, their Warehouse, 141, Fleet-street, London, is now open for the Sale of their Crystal Plate Glass, which will be found to stand unrivalled by that of any other manufactory. They are also in a position to supply Rough Plate of any substance for Skylights or Floorings on the shortest notice.—Orders addressed to B. MOSS, Company's Warehouse, 141, Fleet-street, London, will be promptly attended to.

WINDOW GLASS, LEAD, VARNISH, and COLOUR MANUFACTORY.—Crown Window Glass, in squares under two feet, 4½d. per foot; glazing, 5d. per foot; sheet glass, 4d. per foot; best white lead, 20s.; seconds, 24s.; thirds, 22s. per cwt.; linseed oil, 2s. 2d.; boiled oil, 2s. 6d.; turpentine, 3s. 9d.; fine oak varnish, 10s.; carriage, 12s.; copal, 14s.; body copal, 20s.; gold size, 10s.; paper varnish, 10s.; linseed oil putty, 7s. 6d. per cwt. per firkin; patent dryers, 42s.; black paint, 28s.; lead colour, 24s.; Oxford ochre, 42s. per cwt.; best pan water-closet, 24s. complete; ¾-brass cocks, 3s. 8d. each. Milled sheet lead, patent pipe, beer-machines, tapping-cocks, and brushes and colour of every description. Thomas Millington being the manufacturer, can supply a much better article than most other houses. Address, THOMAS MILLINGTON, 87, Bishopsgate-street Without, London.—Established upwards of 90 years.

SASHES primed, glazed, and sent to any part of London at 5d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.

FOREIGN SHEET. BRITISH SHEET.
BRITISH CROWN. PROPAGATING GLASSES.

Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Shew-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.

Dry and Good Colours of the best quality; Brushes Dryers, and every article used in the Trade Warranted.

VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.

For complete lists priced.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

PREPARED FLOORING BOARDS.

AT REDUCED PRICES.

ALWAYS ON SALE, a Large Assortment of DRY PREPARED FLOORING BOARDS, and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ½ inch to 1½ inch thick.
TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.
Apply at W. CLEAVE'S Timber Yard (late C. Moore and Son), Wilton-road, Pimlico, and Great Smith-street, Westminster.

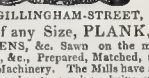
ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, at Old-Barge-Wharf, Upper Ground-street, Blackfriars, and at Hy. Castle's, Ship-yard, Millbank-street, Westminster, a large, very general, and well-seasoned stock of all kinds of Prepared Floor and Match Boarding, planed to a parallel breadth and thickness, fit for immediate use; also a great variety of machine-prepared mouldings, very accurately finished.
A. R., in calling the attention of builders and consumers, confidently presumes on being able to supply them on such terms as will ensure and merit their favours, &c.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Pantiles.

T. ADAMS (from Byron and Co.), late S. Dare, Mahogany, Timber, and Deal Yard, New-road, Bermondsey, near Bricklayers' Arms, has always in stock mahogany, cedar, wainscot, elm, beech, oak, &c. Pantile oak and fir laths, scaffold poles, pudoys, &c. Wheelwright's goods, veneers, cut deals and scantling of every dimension. Also a large assortment of SEASONED FLOORING, MATCH BOARDING FIT FOR immediate use, and MOULDINGS prepared by machinery, all at reduced prices.

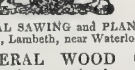
MUIR'S PATENT



PLANING MACHINERY.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.
Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.
N.B. Estimates given for Sawing and Planing.



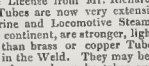
TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.

THE GENERAL WOOD CUTTING COMPANY continue to receive the most satisfactory assurances from all who have given their improved machinery a trial, that there is no method of preparing floor-boards, matched linings, skirtings, &c., by which accuracy, dispatch, and economy of material are so certainly obtained. In shooting, or proving and tongueing a board (although curved), the machine follows the edge, removing no more than the skin of the wood, and by the use of a peculiar saw for deep cutting, the board comes off with a perfect surface, thus obviating the necessity of reducing its thickness in order to plane out the hollows. The Company being neither builders nor timber merchants, unconnected with any trade but that of sawing and planing, and depending solely on the public for a moderate interest on their capital, are determined, by an assiduous attention to the interests of their customers, both as regards workmanship and general business arrangements, to merit a continuance of their support.

ZINC WORKS, 15, New-road, Fitzroy-square, London.—W. STAMPER, Manufacturer of Ornamental Conservatories, Greenhouses, Window Sashes Sky-lights, Fan-lights, Flower Cases, &c. &c.
Zinc sash-bar mouldings, bell-wire rope, &c. &c. Perforated zinc for safes, ventilators, &c. &c. Roofs, flats, and verandahs, covered on the newest principle. Manufacturer of the improved Sliding Glass Pane Ventilator.—ZINC WORKS, 15, New-road, opposite Fitzroy-square.

TO ARCHITECTS, BUILDERS, & BRICK MAKERS.

PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Roads, Gardens, and for Liquid Manure. BRICKMAKERS' PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to 12-inch bore, kept for Hire.
BENJ. FOWLER, 63, Dorset-street, Fleet-street.



TO ENGINEERS AND BOILER MAKERS.
LAP-WELDED IRON TUBES FOR STEAM BOILERS.

THE BIRMINGHAM PATENT IRON TUBE COMPANY, 42, Cambridge-street, Birmingham, and Smethwick, Staffordshire, manufacture Tubes under an exclusive License from Mr. Richard Prosser, the Patentee. These Tubes are now very extensively used in the Boilers of Marine and Locomotive Steam Engines in England and on the continent, are stronger, lighter, cheaper, and more durable than brass or copper Tubes, and warranted not to open in the Weld. They may be fixed in the Boilers without Ferules, and can be taken out and refixed without additional trouble or expense.—Address, 42, Cambridge-street, Crescent, Birmingham; London Warehouse, 68, Upper Thames-street.

WORCESTER ENCAUSTIC TILES
Specimens of these beautiful Tiles in all their Varieties, may be seen and information obtained at the London Agents, Messrs. GRIEVE and GRELLIER, Marble-wharf, Belvidere-road, Waterloo-bridge, or at the Encaustic Tile Works, of Messrs. F. ST. JOHN G. BARR, and Co., Worcester.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—J. M. BLASHFIELD, Agent. The above tiles have lately been considerably reduced in price.
N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

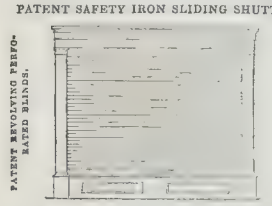
WILLIAMS'S PATENT SLATE RIDGES and HIPS.—The above article is recommended as the best and the most suitable covering for Ridges and Hips of slated roofs ever invented, possessing a solid Roll of various sizes, more elegant and durable than lead, and 30 per cent. cheaper.—Sold by Messrs. J. and J. SHARP, Slate Merchants, Tooley-street, and Mr. RICHARD COOPER, Slate Merchant, Belvedere-road, Lambeth, London.

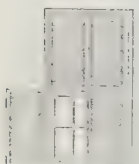
PEAKE'S TERRO-METALLIC TILES, PIPES, &c., of 100 sorts and sizes.—The Public is respectfully informed, that Mr. PEAKE has removed his Depot from Whitefriars to No. 4 WHARF, MACCLESFIELD-STREET South, City Basin, London, where a large Stock is on Sale of genuine Terro-Metallic Goods. No Agent. Roofing in Grecian and Italian styles, other devices also, or plain; ridges and hips, with plain or capped joints, roll tops, or vertical ornaments; paving, in 6 in. 7½ in. and 9 in. blue and red squares, in 6 in. blue and red hexagons, and in 8 in. blue octagons, with 3 in. drab squares. Drains, many sizes, with butt or socket joints; conduits, which will not injure pure water; tubular and other flues, of proper material; channels, large clinker bricks, and outdoor pavings; sundry wall-copings, fire bricks and tiles, garden-edging, chimney tops, &c. The Tileries, Tunstall, Staffordshire, are near the centre of England, whence boats are sent to any inland place, or to the Mersey, for the coasts, the colonies, and elsewhere. A Wharf at Whitefriars to be let for a term.

TO ARCHITECTS, BUILDERS, AND THE PUBLIC IN GENERAL.
GEORGE JENNINGS, of 29, GREAT CHARLOTTE STREET, BLACKFRIARS ROAD, begs to call the attention of Architects, Builders, &c., to his REGISTERED FASTENING for SHOP SHUTTERS, &c., which entirely supersedes the use of shutter-bars. Thereby effecting a great saving of labour, as by the old method, the bar has to pass through the hands of some one upwards of six hundred times in twelve months, which tends to deface the whole front more or less every time the bar is put up or removed. The fastening is secret, simple, and sure, in its action, and can be affixed to any shop-front in two hours, without any alteration to the shutters. New fronts fitted at a less expense than a shutter-bar would amount to. A liberal allowance to the trade, and any further information may be obtained by inclosing a postage stamp to the above address.—A Model may be seen at the office of "The Builder."

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,
Manufactory, 96, Regent-street, and 131, Chancery-lane.
THE Patentee can confidently recommend these Shutters for both security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.
PATENT SAFETY IRON SLIDING SHUTTERS.





The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 115, Old Street, London; or at the Licensees.
Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER than the ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.
REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.
CAUTION.—The Patentees beg to caution all persons against Making or Using BENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.
Licences Granted.

LIGHTNING CONDUCTORS FOR BUILDINGS.
A. SMITH'S PATENT COPPER WIRE ROPE is being daily employed for the protection of CHURCHES and other buildings from the effects of thunder storms; it possesses important advantages over other forms of conductors. References can be given where it has been applied for some time past to CHURCHES, PUBLIC and PRIVATE BUILDINGS, &c., &c. Its general adoption in the Naval and Mercantile Marine of this and other countries is the strongest possible EVIDENCE of its EFFICIENCY, &c.
A. SMITH begs the attention of those engaged in building to his IMPROVED PATENT PANELLED AND REVOLVING IRON SHUTTERS,—Also, the Patent Weather-tight Fastening and Cill Bar, for French Casements, which are so much admired for their security, simplicity, cheapness, and efficiency. Of the merits of his
Patent Double and Single Action Door Springs,
Improved Flooring Cramps,
Patent Wire Sash Lines, &c. &c.,
Little need be said, as they are pretty generally known and appreciated.
Manufactory for Iron Suspension, Sliding, and other Doors, Strong Rooms, Plain and Ornamental Palisading, Gates, and Columns.—Also, Metal Sashes, Shop-fronts, Stall-board Plates, Brass butt, and other Hinges. Buildings heated upon a new, safe, and superior plan.
Estimates given for every description of Metal-work.
A. Smith, 69, Princes-street, Leicester-square, London.

INJUNCTION.
BUNNETT and CORPE'S Patent REVOLVING IRON SHUTTERS.—Since the verdict found in favour of the Patentees, in the Court of Exchequer, in the action tried by order of the Court of Chancery, that Court has granted a perpetual injunction for restraining all infringements of this Patent, and therefore all parties are hereby cautioned against infringing the same.
THE PRICES ARE GREATLY REDUCED, and BUNNETT AND CORPE'S PATENT IRON SHUTTERS ARE THE CHEAPEST AS WELL AS THE BEST. They are made with convex laths, if required. The worm and wheel motion for raising and lowering revolving iron shutters (as secured by this Patent) is the only safe and durable mode of effecting that object. In large shutters it is indispensable.
Some thousands of Bunnett and Corpe's Shutters have now been put up, without a single complaint of their want of strength or security; and nine years' practical experience (during which they have adopted every real improvement) enables the Patentees to challenge comparison with any others. They will guarantee all Shutters put up by them to keep in order, and last twice as long as any with thin convex laths.
B. and C. also manufacture REVOLVING WOOD SHUTTERS (the Patent for which has expired), at the same prices as other makers, but greatly superior, being fitted with their patent raising gear, and proper metallic hinges, without which no shutter can be safe or durable.
BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.
Shop-fronts fitted with Iron Shutters, Patent Brass or Zinc Sashes, Plain or ornamental, handsomely Engraved, Moulded, Stall-board Plates, best Plate Glass, and Internal Brass Fittings of all kinds, superior in quality and workmanship, and lower in price than any other house.
Contracts taken in Town or Country.
Metal Drawing and Stamping for the Trade.
Office at No. 26, Lombard-street, London; Works, at Deptford, Kent.
Steam-engines, Sawing, Planing, and Moulding, Cutting-machines on Improved Plans, especially adapted for Builders' purposes, may be seen in operation at the Works.

PORTER'S CORRUGATED, and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanizing Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway, and other Iron and Smith's work Manufactured of the best quality. Iron Fence and Hurdles as usual.—The Trade Supplied.



PATENT GALVANISED TINNED IRON.
(MOREWOOD AND ROGERS' PROCESS.)
ARCHITECTS, SURVEYORS, {BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and water-closets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 9oz. to any required weight per foot, and can be had either plain or corrugated.
Please apply to CHARLES GELL, Junior, No. 5, Quick-set-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

TO ARCHITECTS, BUILDERS, &c.
GAS LAMPS, GAS BRACKETS, GAS PILLARS, BURNERS, &c. &c. In calling the attention of architects, builders, &c., to their assortment of Gas Furniture in general, C. DEBAUFER and SON respectfully announce they continue to fit up premises of every description on the most approved and newest system of gas fitting. An experience of forty years justifies us in making the above assertion.—C. D. Country orders attended to with dispatch.—10 and 11, Creed-lane, St. Paul's.

GAS.—From 40 to 60 PER CENT. SAVED.
CONTRACTS taken for Lighting Towns, Villages, Mansions, Mills, Factories, Railway Stations, Signal Lights, Dockyards, Lighthouses, Churches, Colleges, Hospitals, Theatres, Public Institutions, Prisons, Barracks, Asylums, Schools, Unions Poor-houses, Public Gardens, &c., with pure and brilliant GAS by FRANCIS' PATENT GAS LIGHT APPARATUS, either by rental or purchase.—Applications at the office and factory, 112, High Holborn, and Eagle-street, Red Lion Square, London, where the gas can be seen manufactured on the principle of this invention, from Ten till Four daily. Prospectuses and every information may be obtained.

TO BUILDERS, PAINTERS, AND OTHERS.
MESSRS. WOOD and Co., GRAINERS and WRITERS to the Trade only, 62, Waterloo-Bridge-road.
N.B. Several good Grainers and Writers wanted. Applications to be made personally, with specimens, before Ten o'clock in the morning, or after Six o'clock in the evening.
An Apprentice wanted.

ARBROATH and CAITHNESS FLAG PAVING STONES.—Stone merchants, contractors, masons, and builders, can be supplied with the above stones, in natural, planed, and polished surfaces, in cargoes direct from the quarries in Scotland, at first cost prices, delivered free from ship's side in river Thames, or free on board at port of shipment in Scotland. Orders received by, and further information may be obtained of Mr. ALEX. REID, 70, Lower Thames-street, London.
N.B. Cargoes shipped direct to any port.

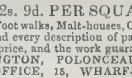
CAEN STONE.
TUCKWELL'S Norway Sufferance Wharf, Greenwich.—Architects and Stone Merchants are informed, that this stone may be procured at the above Wharf in any quantity, in blocks up to 12 tons. The stone, which is exclusively the product of the Allemagne Quarries, and of the very finest quality, is consigned solely to W. TUCKWELL, who is prepared to execute orders to any extent, having a Large Stock always on the Wharf.—Orders received by, and further information with samples may be obtained of Mr. R. A. WITHALL, Surveyor, 80, Cheapside, and of Mr. W. TUCKWELL, at the Wharf.
N.B. Cargoes shipped direct to any Port.

BARRETT, STONE MERCHANT, 24, Wharf, Harrow Road, Paddington, respectfully informs Builders, Stone Masons, and others, that he has opened a Depôt at the Great Western Terminus for the sale of Wall's Quarry Stone. Having been established at the above place for the last twelve months, and the sale of the stone increasing so much, the Great Western Company has had the kindness to favour me with a Depôt at their Terminus. The Wall's Quarry Stone is equal to Portland for Staircases, Hall Floors, Porticoes, Balconies, Chimney-pieces, Coping, Window Sills, &c. The same stone being used in Gloucestershire for all the above purposes. The stone is sawn to all sizes while in the Quarry to save expense of waste and sawing in London, on which account can be rendered much cheaper, and is free from all flints, shells, and holes.—List of prices and samples sent to any part of London, carriage free, by directing all letters to No. 24, Wharf, Paddington.
P.S. Nailsworth and Paniswick Stone in Block.

ARCHITECTS and SURVEYORS will find by making their selection of MARBLE CHIMNEY-PIECES at the Westminster Marble Company's Show Rooms, containing a great variety of elegant drawing and dining-room chimney-pieces, executed in a superior manner, and sold at such reduced prices to enable the public to realize a great saving, by their patent machinery. An unabated zeal will be maintained to continue the patronage so liberally shown to this establishment.
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N.B. Country Orders promptly attended to.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.
SAMUEL CUNDY begs to inform Architects and others that every description of Stone, Marble, and Granite work is executed at the cheapest possible rate.
MARBLE WORK for Halls, Dairies, Tables, Columns, Vases, at most reasonable prices.
A large collection of Designs for Memorials, Crosses, Mural and other Monuments.
BOX CHIMNEY PIECES from Twelve Shillings upwards.
Depôt for Caen and other Stones.
N.B. Mason's Work in all its branches prepared at the works, ready for fixing to drawings and dimensions sent, and fixed if required, including York paving, squared jambs, mantles, sills, slate shelves, &c. &c.

PAVING, 2s. 9d. PER SQUARE YARD.
Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27s. 6d. per ton.



COMMISSIONERS OF FINE ARTS' REPORT ON THE MEANS OF PREVENTING DAMP IN WALLS.
THE DIRECTORS of the SEYSSEL ASPHALTE COMPANY have much pleasure in recommending to the notice of Architects, Builders, and others, the application of the ASPHALTE of SEYSSEL as the only effectual means of preventing DAMP rising in WALLS.
J. FARRELL, Secretary.
Seyssel Asphalte Company's Works,
"Claridge's Patent."
Stangate Depôt, London.

The following account of its application is extracted from "The Appendix to the Commissioners of Fine Arts' Report," page 18:—

"In 1839 I superintended the construction of a house of three stories on the Lac d'Enghien. The foundation of the house is constantly in water, about 19½ inches below the level of the ground floor. The entire horizontal surface of the external and internal walls was covered, at the level of the internal ground-floor, with a layer of SEYSSEL ASPHALTE, less than half an inch thick, over which coarse sand was spread.

"Since the above date no trace of damp has shewn itself round the walls of the lower story, which are for the most part painted in oil of a gray stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so painted, yet the pavement of the floor, resting on the soil itself, is only about 2½ inches above the external surface of the soil, and only 19½, at the utmost, above that of the sheet of water.

"The layer of Asphalte having been broken and removed, for the purpose of inserting the sills of two doors, spots indicating the presence of damp have been since remarked at the base of the door-posts."

The Builder.
No. CXCII.
SATURDAY, OCTOBER 10, 1846.

THE public have heard with astonishment, that a lofty hoarding is already in progress of erection round the front of Buckingham Palace, with a view to the commencement of the proposed additions and alterations.* We look on this haste as positively indecorous, considering the manner in which public opinion, on this subject, has been expressed, and, in an artistical point of view, as foreboding an unsatisfactory result. We expressed our fear in August last, that the works would be so far advanced before the next session of Parliament as to afford a strong argument against any change,† but still hoped that our fear might not be realized. The hasty vote of money was much to be deplored. As we then said, "there was no satisfactory assurance before the house, that the building could be made quite fit for its purposes by the expenditure proposed, but moved to pity and indignation by the architect's touching picture of their royal mistress's miserable home, they at once, in a fine frenzy of loyalty, cried 'aye' to the question, in spite of the warning voice of Mr. Hume, and began to think of its *in*expediency directly afterwards."

We did hope, however, that no advantage would be taken of this; and, at all events, had a *right* to expect that if the additions were quite determined on, the arrangement and design would be carefully and fully considered, so as to make the expenditure productive of as much good as possible, however unlikely it was that the palace could be made fit for its purpose. The present unseemly haste, and other circumstances within our knowledge, seem to shew that even this will not be the case.

Experience is valueless: example has no effect. All that was said when the present palace was in progress (and which, if attended to, might have enabled us to shew something better for more than a million of money, than we now can), will have to be urged again, and perhaps with no better effect. Sir Frederick Trench, when he drew the attention of the House to the expenditure which was being made at Buckingham Palace, in 1832, said he had applied for permission to see what the plans were, so that he might call the attention of the public to them, and had been refused. The public themselves asked respectfully to know what was being done with their money in a case where the national taste was concerned, but were entirely disregarded. Mr. Hunt said in the House on the occasion already alluded to, "The people certainly *ought* to be satisfied that this will be made a fit residence for the monarch, before they expend more money upon a filthy hole, surrounded by all sorts of nuisances."‡ They were not satisfied, but their money was unwisely and inefficiently squandered, as is fully proved by the present proposal to spend more, in order to render the building simply habitable,—to render it honourable to the nation is quite out of the question.

With such a result before their eyes, why should the public be asked again to remain in contented ignorance, until more bad taste and more caprices be perpetuated in stone and marble? Moreover, will they do so?—especially when they learn what we now tell them, namely, that at this moment not only are they (the public) in the dark, as to the goodness or otherwise of the design, but that her Majesty and the Government are so also; and to the best of our knowledge, that Mr. Blore himself, has not yet quite made up his mind what it is to be. Estimate or calculation there is none: how can there be?—for, as we verily believe, and we are not speaking carelessly, there are no correct drawings yet ready. Whether the additions will cost a quarter of a million, or half a million, or a whole million, we defy the architect to say, excepting that he may make his plans to accord with an estimate, instead of making an estimate of the cost of carrying out his plans. The sum named in the House, when the grant was voted, means nothing; and on this ground alone the public have a right to ask for more precise information before the works be proceeded with.

Plans were made some time ago, but the Commissioners appointed to inquire into the subject, and of whom Lord de Grey is, we believe, the presiding spirit, threw these aside, and gave fresh suggestions, which are to be acted on. We have seen what we have every reason to think is the only design yet prepared in accordance with these suggestions. Some will wonder how;—suffice it to say, we have many eyes and keep them open.

The intention, as it now stands, is to erect a long rectangular building from north to south, in a line with the front of the present palace, close up to the wings, and extending past them on either side (thus inclosing a quadrangular court), and to build a ball-room for state occasions, and other rooms, on the south side of the old building. The drawing in question was to a small scale, quite insufficient for a decision,—probably is so regarded by the architect, who would scarcely like to be bound by it, or have it criticised, and yet the builder is appointed, a very good one by the way, Mr. Thomas Cubitt,* the hoarding is being put up, the seventy thousand pounds' worth of marble —arch is to come down, although what is to be done with it seems uncertain, and the works are to go on at least one stage.

Now, against such a mode of proceeding we are bound by our duty to the public, to protest most strongly, and further, to require on their part, that such consideration shall be given to the subject as its importance demands, and that the people receive a satisfactory assurance that the palace, when completed, will be a fit residence for the monarch, and a structure not unworthy of the nation.

The illustrious personages whose convenience is in question, are understood to have expressed some such opinion as this:—"We do not for ourselves require a new palace; what we want is, immediate accommodation; and this could not wisely be given by a new palace. The plans for such a structure should be maturely considered; two or three years would probably not be too long a period for the preparation of proper plans, and eight or ten years would be occupied in building it. This would be too long to bear present inconveniences, but should the country determine for its own sake on having a new palace, it is to be hoped that no undue haste will be allowed to interfere with its beauty and excellence."

The wisdom of this observation requires no remark on our part; it would be presumptuous for us to say how much we respect the sound sense and proper feeling it displays.

We commend it to the consideration of Mr. Blore and the commissioners. If the addition *must* be made to Buckingham Palace, if half a million more must be spent here, at least do it with some propriety, even though immediate accommodation is required. Let us have carefully considered drawings and perspective views —models too; and take some little time to hear what objections may be urged. Once up, a building lasts for a long time to disgrace or ennoble. The improvement of a palace does not offer itself every day, and demands care, knowledge, and genius. What is undertaken in haste is sometimes repented at leisure.

PRINCIPLES OF ART

CONSIDERED IN REFERENCE TO THE DECORATION OF ROOMS.

"Still follow sense, of every art the soul."

AN apartment without some attempt at embellishment, would be a difficult thing to meet with. Rooms, with extravagant or tasteless ornament upon their walls, or with ill-designed ceilings and cornices, are common enough; but some evidence of a love of decoration is met with every where, even in an attic or a lumber room. The walls, here, may have a common pattern of paper, and the mouldings of the cornice and skirting may be few and misshapen, but *there was* the desire to get as much of good effect as circumstances or funds would allow. Therefore, a knowledge of interior decoration is applicable in every part of a house; for it is seen that beauty of form and colour would be agreeable in situations, where display would not be needed. The dining and drawing rooms are embellished for the purposes of the entertainment, but every where else there is an attempt to gratify the love of beauty, which is universally implanted. Since these attempts are constantly complete failures, to consider how all this outlay may be rendered subservient to the objects there intended, becomes a matter of no small importance, as well as to render more important attempts remarkable for something beyond the amount they have cost. Form and colour, when directed by the hand of art, gratify the love of beauty; otherwise they are merely evidences of extravagance, greater in any case, than in the most elaborately decorated apartment, where the enrichments have been regulated by the principles of taste. Beauty, it cannot be too often repeated, is almost in every case cheaper than deformity. Consequently, it is important that such principles should become familiar to that numerous class, who, in one way or other, have the opportunity of influencing popular taste. Not only upholsterers and decorators, but the manufacturers of furniture, of carpets, of paperhangings, of ironwork; plasterers, glaziers, and joiners have all more opportunities of supplying the demand for beauty of form and colour, than are warranted by their familiarity with art. Though we have argued, that the artist should be the designer of every thing that can be included within the field of art, and that the properly qualified architect should be applied to in every department of interior decoration, it nevertheless does commonly happen, that such materials and forms as can be supplied by the manufacturer, are the best which the circumstances of the case will admit of. Grates, paperhangings, or carpets must, in most cases, be purchased, not executed to order; and it must often mortify him who has a high estimate of his art, to see the means by which his design could be completed, and yet to know that his doing so, in a manner at all reconcileable with correct principles, would be a thing quite impossible to accomplish. Much as architects have neglected to interfere in those branches of art which minister to interior decoration, and little as they are still too often qualified to inculcate, by precept, or the actual production of designs, the principles we desiderate; the studies with which they are familiar, would readily place them in a far more favourable position for disseminating sound appreciation of the beautiful, than the

* We have received several letters on the subject: one will be found on another page.
† See page 409, *ante*.
‡ "Mirror of Parliament," Part CXLIII.

* Mr. Cubitt has been fortunate in obtaining the confidence of Those whose good opinion is of greater value than that given by exalted position alone.

workmen, who prepare the designs in the establishment of the manufacturer, who know merely how to draw.

In a picture or a statue, illusion is never the object of the true artist. However closely he may have studied the varying features of nature,—however assiduously he may have gathered from the beauties of the landscape, or the graces of the human form divine, nothing is further from his expectation, than that he shall be able to cheat the observer into a belief, that the work is *not* a work of art. He does not even claim praise for his fidelity in producing a copy of nature; that would be a lower rank of art than he aspires to. As it is well said, nature does not afford to him the matter for *transcripts*, but for *lessons*; thence he draws his principles and his materials, but gives to both a new development. His art is

"Nature still, but nature methodized."
* * * *
"Something whose truth convinced at sight we find,
That gives us back the image of our mind,"

something which increases in us our love of nature, and unfolds beauties till then unseen, and yet in every line has evidence of nature's greater work, the mind which produced that work of art. True to nature, art must still pervade the whole, though not the art of manipulation; for that it was which the old author said it was the highest art to conceal. Indeed, it has even been considered, that a literal and minute observance of nature is a positive demerit, reminding us of the absence of that which cannot be attained in a work of art. Whatever skill there may be in the hand of the artist, life and animation will still be wanting; the even surface of the canvas, and the materials of his art will alone tell against him. Therefore, he wisely eschews an attempt which, if successful, would command only a moderate quality of praise, and substitutes the resources of art for those which are denied. The surface, in this case, is merely the convenient vehicle, a thing which has no essential connection with art, except as a mechanical aid. The object was to produce a picture, but not to cheat the eye.

In interior decoration, the architectural principle must be every where observed; it must never be forgotten that the wall, for example, of a room is a reality, and that where no difference of surface has been produced by relief, none can be attempted satisfactorily by colour or shadowing. Columns, niches, pannels, or sculpture, imitated by painting on the wall, will always be unsatisfactory, except, perhaps, they are far removed from the eye, and inaccessible to close examination. If otherwise, they may display the perfection of manipulation, but will never do more than remind the observer of a deficiency which they seem intended to supply. It is not the art of the scene-painter that is required here. It will never for a moment be forgotten by the observer, and therefore must not by the architect, that the wall is a flat surface, which may be enriched by form and colour, but on which it were better not to attempt to supply the want of relief. Representations in detail, as in arabesques, pictures painted in compartments or framed, are all at his disposal, for these the true aim of art excludes from the adverse argument. Representations of fruit, and flowers, and animals, if well executed, and treated on the principle of the picture, not as substitutes for relief, are perfectly admissible. In colour, even, strong contrasts will require to be used with caution. The borders of pictures must always stop short of the angles of the room: as Mr. Eastlake recommends, "the real wall is in short never to be lost sight of." The decoration must be adapted to the architecture, and appear to grow out of it, not as in many of the mural decorations of the old painters, where architecture seems to have been considered as an antagonist. The rooms of old Montague House, the late British Museum, beautiful as they may have been in some respects, were instances of the mistakes to which we have alluded. A balustrade and cornice painted upon the cove of a ceiling, or a figure skilfully foreshortened, upon the compartment of a groined roof, may excite our wonder as achievements in perspective, yet are lamentable evidences of mis-applied labour, such as could not have occurred where the *architect* directed the completion of the work, upon the principles of his art, and where the painter worked in unison with him. Even pictures which contain figures the size of life, are inadmissible, where the living figure must so often stand near them. With the array of argument against us, in the grand works of the Italian schools, we should perhaps hesitate to contend against the use of the full-sized figure in all pictures; but where the object is not to exhibit some one or two works, but to decorate an apartment, with some degree of variety in details, we are certain that the objects are best met by figures, considerably beneath the natural size. With all the antipathy of some historical painters to what is called "tea-board size," it should always be recollected, that not only is the patronage for large works limited to a very small amount, but that their production itself interferes very greatly with the space, which might be otherwise filled, and probably with greater benefit to art. The bent of our argument, as regards the decoration of rooms, however, is, that success will generally follow the treatment of the pictorial part, as accessory to mere form and colour, but will be more difficult where paintings occupy a large space; they are then better disposed in galleries, arranged expressly for the purpose; but works of art, if we would derive all the pleasure which they are capable of affording, must be around us, in the library or the drawing-room.

If sincerity of treatment be necessary in the decorations of walls, it is still more so in those of floors. Pavements or carpets, which, either by shade or contrasts of colour, destroy the appearance of the even surface, are great mistakes in art. A little consideration for this principle would prevent those errors in design, which are continually made. We may be told, that we should be denied the use of groups of flowers in carpets, and so lose one of those resources, which possibly is capable of very beautiful application. Our satisfaction with the most open attempt at imitation would be greater, could it only be made a little more true to reality. There is no department of art, which so much needs attention as that of design for carpets; it is not only that they display an ignorance of principles, but they are vile in drawing and combinations of colour.

If the imitation of forms in relief be tolerable anywhere, it must be in ceilings, which may be so far removed from the eye, that the actual even surface may not be always apparent. But even here, every shifting of the sun may display the deception; and a shadow which happens to be on the same side of a moulding as the light, will be an occurrence not easily reconcileable with rules, either of nature or art. To display a fine painting upon a ceiling, where it cannot be looked at without pain, and often cannot be seen entirely from any one point, is a mistake which modern art will seldom fall into. It would hardly be conceived, that the finest works in Italy are thrown away upon the vaults and ceilings, and examples are familiar in England,

"Where sprawl the saints of Verrio and Laguerre,
Or gilded clouds in fair expansion lie,
And bring all Paradise before your eye."

Amongst the different manufactured articles intended for interior decoration, paper-hangings are certainly the most important. They are used in every part of a house, are produced in every variety, and can be obtained at prices ranging from a very low rate; and yet it is this manufacture which most of all requires the application of correct principles of design. If the imitation of relief be undesirable in painted decorations, it is doubly so in paper-hangings, which are hung where the light of the apartment is generally in direct contradiction to the represented shadow, and which have not usually the minute finish, which could entitle them to criticism as works of art. The mechanical regularity, also, which most of them, from the limits of the manufacture, display, as well as their tasteless forms and manner of execution, quite debar them from the rank of average merit, even as works of imitation. In some of the designs lately produced, some of these defects are obviated by printing separate pieces for borders, centres, and groundwork, so that the architect is able to make such combinations, as he may deem best in the circumstances of the case. Much, however, has yet to be accomplished in the improvement of this branch of art, and the erroneous notion that shadowing, is indispensable cannot be too soon eradicated. We have endeavoured to shew that form and colour are alone desirable.—In that class of the present designs for paper-hangings, in which the representation of objects is attempted, we have to contend against the influence of French taste, which is at this time more apparent in this article of manufacture, than probably in any other. We pass over the large number of such subjects as landscapes and battles, meant to cover the whole of an apartment, subjects much in fashion in tea-gardens, and bar-parlours, and look at another description of the scenic manner of treatment, against which we have endeavoured to argue. Here, statues, niches, and other objects are represented, relieved from the ground by shadow, and with such skill, that at a sufficient distance they might almost be taken for the objects, which they represent. But, like similar parts of the scenes of the theatre, a near approach shows that they are not realities, which they profess to be; whilst their treatment, and indeed alone that very claim which they prefer, prevents their successful resistance of the ordeal of those tests, which, it may now be inferred, must be applied ere they can rank as works of art. Many of these designs are remarkable for invention and fancy, and show that those who invented them, would be quite capable of producing satisfactory works, were their attention directed to sound principles.

We have already printed some remarks on the treatment of colour,* and we need only allude here, to the importance of considering the principles of the combinations of colours, in every part of the furniture and decoration. The purpose of the apartment must also be considered, and the decorations must accord with the frame of mind, which is likely to be induced by such use of the apartment. The effect of much positive colour can hardly fail to be a diminution of the beauty of form, and a decrease in the effect of the accessories of any entertainment, in which we may include the attire of the guests. Indeed, it may be questioned, whether the present desire for positive colour alone, is not the result of the antiquarian taste of the day, which has discovered its constant use in the architecture of the middle ages, where it had often a symbolic meaning. If gilding and positive colours be employed to the exclusion of others, we miss the happy effects which would be at our disposal, from their occasional introduction in composition—a method more in accordance with the example of Nature, ever a sound counsellor in every walk of art.

The more the art of interior decoration becomes identified with architecture, the more scope will there be for its exercise, accompanying sound construction and elegance of effect, with integrity of material and true economy. The architecture of the exterior will not longer employ the deceptive and the perishable material, in place of the truthful and the enduring, and the art of internal decoration will find its best materials in those which Nature has perfected.

AWARDS OF OFFICIAL REFEREES.

RUINOUS BUILDINGS.

THE surveyor to the western district of the city of London, having in pursuance of the authority and direction of the official referees, surveyed the premises No. 15, Field-lane, Holborn, and certified "that the said premises are ruinous, and that passengers are endangered thereby, and that it is necessary that the same be forthwith pulled down, repaired, or otherwise secured, as shall from time to time be requisite,—"

Mr. Charles Pearson, for the Lord Mayor and Aldermen of the City of London, appealed against the certificate on the ground, that "by the said certificate it is not certified whether the whole of the premises mentioned therein, or any, and what part thereof requires to be taken down, or whether the same, or any, and what part thereof requires to be repaired, or whether the same or any, and what part thereof requires to be otherwise secured."

The referees' award was, "that the certificate of the district surveyor made under the

* "Colour in Internal Decoration: questions affecting its Treatment." Vide page 14, *ante*.

40th section of the Metropolitan Buildings Act, ought to declare whether the building on which he reports is, or is not, ruinous and dangerous to passengers, and if in his opinion it be ruinous and dangerous to passengers, then whether a general or partial repair is necessary, and will be sufficient for the safety of passengers; and if a partial repair, what part described generally ought to be repaired, or whether a total or partial pulling down is necessary for the safety of passengers, and if a partial pulling down, what part, described generally, ought to be pulled down. And we do hereby find, and certify, and award, that the building in question, that is to say, the house, No. 15, Field-lane, Holborn, is ruinous and dangerous to passengers; and that it is necessary for the safety of passengers to pull down the same." The costs to be paid by Mr. Pearson.

THICKNESS OF WALLS.

With regard to certain additional rooms or stories now in progress at Middlesex Hospital, Charles-street, Marylebone, the district surveyor of Saint Marylebone lodged an information to the effect that "the external walls forming the external inclosures of the said rooms were carried up of the thickness of one foot two inches, instead of the thickness of one foot six inches, the said rooms forming portions of the said hospital, which is a building of the third, or public class, and ought to have walls of the thickness for the extra rate of the first or dwelling-house class."

The referees' award was:—"That the irregularity referred to in the said information had been committed, but inasmuch as the height of the story is not more than ten feet, and the thickness of wall such as the official referees would have authorized, if special application had been made to them in this matter before the works were begun, we make no direction thereon."

EXEMPTION OF BUILDINGS BELONGING TO RAILWAY OR DOCK COMPANIES.

With regard to a dwelling-house for the secretary of the Great Western Railway Company, now being erected by Messrs. Locke and Nesham, on land belonging to the company, adjoining the railway at Paddington, the surveyor of the Paddington district gave notice of certain irregularities, which the builders refused to amend, on the ground that the house was included in the list of buildings exempted from supervision in schedule B, part 2, of the Act, which concludes with the following paragraph:—"And the buildings and structures belonging to any other dock or railway authorized to be erected by any Act of Parliament."

The district-surveyor thought otherwise, and contended—first, that the 46th section of the Act 1 Victoria, cap. 92, providing that the exemption therein contained of certain buildings of the said company, from the rules and regulations contained in the statute, passed in the fourteenth year of the reign of his late Majesty King George 3 (cap. 78), should not apply to any dwelling house which might be erected on the land of the said company, was still in force.

Secondly; that schedule B, part 2, contained in the Act first-above mentioned, applies only to such buildings and structures as had been exempted by Act of Parliament, from the operation of the said Act of the fourteenth year of George 3.

Thirdly; that the said schedule B, part 2, did not apply to dwelling houses.

Lastly; that even if the said schedule B, part 2, did apply to any dwelling houses, it applies only to such dwelling houses as are within, and in connection with, the works of the said company's railway: that a residence for the company's secretary is not a dwelling-house of that description, and the more so, as the building in question was an isolated residence out of the line of the railway, in direct communication with the public way, and not separated therefrom, or from adjoining property by any wall, and might at any time be appropriated to the use of some person totally unconnected with the railway.

On the part of the company it was urged:—

First, That the said Act of the 14th year of Geo. 3rd having been repealed, so far as it related to the construction of buildings, and the supervision of the district surveyor, the 46th section of the said Act, 1 Vict. c. 92, became inoperative.

Secondly, That the provisions of the said Schedule B, part 2, were to be read independently of, and without reference to, the enactments of any railway Act passed previously to the statute first above mentioned, (the Metropolitan Buildings Act).

Thirdly, That the said Schedule B, part 2, applies to buildings of all classes, and consequently to the dwelling-house in question.

Lastly, That the clause "within and in connection with the works," contained in the said Schedule B, part 2, applies only to the buildings of the London and Birmingham Railway Company, and ought not, nor ought the effect thereof, to be imported into the last and concluding paragraph of that Schedule; but that even if the said clause, or the effect thereof, ought to be so imported, still the building in question would be within the said Schedule B, part 2, inasmuch as it was built for the use of a permanent officer of the Great Western Railway Company, in direct communication with the line of the railway, and upon ground held by them, and which they were authorised by Act of Parliament to purchase.

The award was as follows:—

"That such buildings and structures only as are erected, or to be erected, by the Great Western Railway Company, within and in connection with the works of their railway, by virtue of the several Acts of Parliament relating thereto, are within the meaning of the said Schedule B, part 2, and exempt from the supervision prescribed by the said Act.

And inasmuch as the building in question was and is built by the last-mentioned company, upon land which they were empowered by Act of Parliament to purchase and use for the works of their railway; and inasmuch as it immediately adjoins such works and the line of the last-mentioned railway, and communicates with the railway by a private way, and does not adjoin any other building not in the occupation of the said last-mentioned company, and is to be used as a residence for the secretary of the said last-mentioned company, the same is for the present, and so long as it may continue to be used for that purpose, to be deemed to be erected within and in connection with the works of the said last-mentioned railway.

And that the said building in question is within the meaning of the said Schedule B, part 2, and exempt from supervision under the Metropolitan Buildings Act, 7 & 8 Vict., cap. 84."

Costs to be paid by the parties in equal moieties, the case being one of reasonable doubt.

ORIGINAL WORKING DRAWINGS OF STRASBURG CATHEDRAL.

We are glad to be able to lay before English readers the substance of a statement recently issued by Dr. Schneegans, relative to the publication of the ancient plans of Strasburg Cathedral.

In a period where the monuments of mediæval architecture have become objects of general attention and admiration—where every thing connected with old Christian art is matter of studious inquiry,—the research of architects and archæologists has been greatly directed towards those plans and drawings, made by mediæval masters, which are to be met with in several places of Europe. Amongst those, certainly, the collection preserved in the *Frauenhaus* of Strasburg claims the first rank, as well on account of the high signification of the monument to which they refer, as the number of the plans, and the great artistical worth which many of them possess. They consist of eighteen geometrical plans and elevations, drawn on parchment—mostly relating to the *western façade* of the dome, as begun in 1277 by Master Erwin von Steinbach, and completed by his worthy follower, Hans Hültz von Köln, in 1439. All these drawings are of the highest import to the history of the building of that part of the sublime (*hehren*) monument. Besides, they afford the best explanation on the many additions and changes, which the original plan of Erwin had to undergo by the hands of later directors (*Werkmeister*), and contribute, therefore, towards explaining the extraordinary form which the chief façade of the Strasburg minster exhibits—even so through those changings of the original plan; a feature which, it is true, has been already passingly noticed in some works, but never yet properly expounded, explained, and proved. The front of the minster, as it appears now to the beholder, exhibits a composition and combination (*Verschmelzung*) of five different plans, belonging to as many architects and epochs. It is therefore a subject exceedingly interesting—not only as regards the history of the building of the minster itself, but also as one connected with the history of mediæval architecture in general, to account (what has not been done hitherto) for those changes made in Erwin's original plan, and, as far as possible, to point out those masters and epochs, to whom the several parts of that monument are to be ascribed.

In this respect, therefore, as we have said before, those ancient, venerable building-plans (*Baurisse*) are worthy of especial attention. They afford the most tangible and surest data towards the art-endeavours of those mediæval masters, as well as the means and the manner in which these masters made their plans and executed their drawings—and are, therefore, the best documents of the historical development of German architecture, from the second half of the thirteenth, to the beginning of the sixteenth century. It is true, that these ancient drawings have been dilated upon on several occasions; still always only in a general point of view, mostly not in a way to satisfy the true student. It is Professor Görres, who has the merit of having given first a general notice of them in his spirited essay on the Strasburg Minster, published in the *Heidelberg Jahrbücher*.

For the sake of giving a general outline of these plans, we have to class them into several departments. The oldest date from Erwin's times, and some of them, there is no doubt, are made by the hand of the immortal architect himself. They consist of—1. The sketch of the left side of a façade, which, although it corresponds with the general features of that, as it exists now, differs *entirely* in the character of its details. 2. The inner view of the two lower stories (*Stockwerke*) of the Erwin façade. 3 and 4. Two plans relating to the latter.—To these oldest drawings succeed 5 and 6, of nearly a similar character, which seem to be of the same date as the former, being, however, sketches of another master, much inferior to Erwin. Then follow the more recent plans. 7. A ground plan, containing every thing from the foot of the façade up to the pyramids. 8. The largest plan—on a parchment scroll of twelve feet length, shewing the whole middle portion of the façade up to the middle of the present platform; also a sketch of the *campanile*, placed between the postaments of the door made by Erwin, by which the façade was raised a whole story; but also that incomparable proportion between height and breadth, as well as the harmony of the single parts, materially impaired. This change in the plan of Erwin dates from the second half of the 14th century. 9. A nearly valueless plan of the south portion of the present façade. Then follow the plans relating to the present high steeple. 10. Is the most interesting of all—viz. the plan of the whole steeple structure, from the platform to the crown. In the lower parts, and up to the end of the four winding staircases, now overbuilt with little turrets, the plan exhibits the structure as it exists now. But thence, to the present spire or pyramid, it shews us the original plan. 11, 12, 13 are plans relating equally to the steeple. The remaining drawings comprehend single parts of the building, and constructions made after the completion of the steeple. 15 and 16 are the elevation and plan of the splendid pulpit, built in 1485 by Master Hans Meyger, or Hammer. 17, is a coloured view of the organ, and 18 is the plan of the so-called Lorenzen *Vorbaues* (addition), erected from 1494 to 1505, by Master Jacob von Landshut. To this already rich collection is to be added—19, an elevation of the steeple like that of the *Frauenhaus*, shewing up to the staircases the present building; thence, however, an earlier project of a pyramid, adorned with the colossal statue of Mary, with the infant. This original plan is the property of one of the Paris architects.

The above summary catalogue may suffice, at present, to shew the great importance of the collection of ancient dome-building plans pre-

served at the *Frauenhaus*—and to prove, how desirable and important the publication of this mediæval treasure will be to the professor, as well as any art-searcher. Conjoinly with his friend, Architect Mr. K. Perrin, Dr. Schneegans has for several years past collected and prepared every thing for this undertaking. All plans, traced masterly by Perrin, exhibit in their complete correctness real *fac-similes*, in which even the character and the sentiments of the originals are faithfully rendered. The publication of these drawings will take place under the auspices of the Common Council of Strasburg. The engraving is entrusted to one of the ablest Paris artists, and all measures have been taken for making this work worthy as well of the great German master and his followers at the minster, as of this sublime monument of German art and might; worthy, in fine, of the body under whose protection it will appear.

THE POWERS OF THE OFFICIAL REFEREES.

Mr. Editor,—Your report of the case, Edwards *v.* King, respecting the eaves and cornice of a certain dwelling-house in Canonbury-park, wherein the official referees certify, that so long as such building shall remain so distant, 30 feet from any other building, they approve and permit the said eaves, although contrary to the Act and to their own directions—is another of the cases referred to in your number of the 5th of September.

Such approval and permission are *invalid*, unless confirmed by the consent of the Commissioners of Works and Buildings (c. 12). In your note to your correspondents, of September 5th, already alluded to, you say that the eightieth section gives the referees "a discretion in the relaxation of the fixed rules and regulations of the Act." Section eighty does no such thing; it merely states in the preamble, that "for the purpose of providing *for the appointment of competent official referees to exercise a discretion*," be it enacted that they be appointed according to certain regulations. But the mode in which they are to carry out their powers is contained in other clauses, and it is under cl. 12 that modifications come; wherein it is shewn they can do nothing of that sort (modification) without the consent of the Commissioners of Works and Buildings. In law and in practice such proceedings on the part of the official referees are bad. There is no doubt that modification is required, and would be beneficial, but let it be general and not partial; according to the legal form, and not by a side wind.

Under the decision above quoted, how can any district surveyor require adherence to the Act, or compliance with the general instructions of the official referees as to dripping eaves?—May not a builder very reasonably urge, that this last quoted decision settles the question, and that it would be only captious officiousness on the part of the district surveyor, to require any other mode of constructing the eaves wherever one building remains 30 feet from any other building, although directly contrary to the Buildings Act, and to the general decisions of the official referees? The public and the surveyors are harassed by such irregularity of procedure.

A Constant Reader.

Sept. 29th, 1846.

FALL OF RAILWAY BRIDGES, ARCHES, TUNNELS, AND EMBANKMENTS.

There has been a singular and unworkmanlike disturbance, of late, in various of those railway works at present hurrying to a close. We have very recently had occasion to notice several cases which, had they occurred on the continent, would have probably been attributed to the immature condition of the science of architecture, or the art of building, in general, there; and we regret to be obliged to chronicle a new accumulation of still more recent instances both in the northern and southern divisions of our immaculate island. In the north, at the Aberdeen railway works, near Aberdeen, several arches of the inclined plane, near the Devanha brewery, having been completed, and the supports taken away, the week before last, three of them gave way, burying amongst the stones, bricks, and rubbish, a number of the workmen, seven of whom were instantaneously killed, and four others severely bruised. The immediate cause is not known. The building was only level with the key-stone, and the arches are said to have burst in the middle. Mr. Cubitt, the consulting engineer, has been sent for, and a searching investigation was to be immediately made.——On another Scotch line, the North British, between East Linton and Dunbar, no less than three bridges have given way; but the ruin here is attributed to the heavy rains, which swelled the river Tyne, and other smaller streams over which the line was carried by the bridges, which have thus been proved to have been insufficient to meet contingencies which ought to have been foreseen and well provided for. Other devastations were at the same time committed by the flood, such as the destruction of a large portion of an embankment connected with two of the bridges. No personal injury occurred. The expense, it is said, will fall upon the contractors, who were bound to maintain their works for a year from the opening of the line.——In returning southwards, we observe that, on Thursday week, a portion of a tunnel gave way on the Newcastle and North Shields line. That portion of the Tynemouth extension railway works, opposite to the east end of Northumberland-square, had been left in an unfinished state, and the recent heavy rains are said to have destroyed nearly twenty yards of tunnel there in course of erection.——On the Reading and Newbury there appear to have been so continual a succession of casualties that, in general terms, we are told, "that the works on this line have hitherto been greatly impeded by the falling of bridges, arches, &c., and the sinking in of others." Some of these accidents, it is said, have been caused by the too hasty removal of temporary buttresses and supporters; others, by the insufficiency of the foundations, laid on light or peaty soil, or subsoil, and the weight of the structures pressing on such sub-soil and foundations.

In reference to the accident on the Tynemouth extension Railway, it has been stated that the failure occurred from the tunnel having been constructed with inferior materials, and the erroneous principles adopted in the formation, facilitated by the accumulation of water which settled in the haunches of the arch.

Whatever may have been the cause, there appear to have been some grievous errors somewhere; one of the principal of which was the employment of ordinary *lime-mortar* instead of cement in setting the brickwork, of which the arch is composed; and when it is considered that this mortar never had the chance of setting, by the action of the atmosphere, having been covered up with soil and other substances immediately after the tunnel was formed, need we wonder for one moment that the water acted upon it, and that the accident took place. Had good Roman cement been used, the arch would now have been standing perfectly secure, even if a deluge of water had passed over it.

Some remonstrance is necessary to railway proprietors, their engineers, and architects, in order to warn them in their future works to employ proper materials, and not put the lives of her Majesty's liege subjects in jeopardy by ill-constructed works, upon which no confidence whatever can be placed.

In adverting to the insufficiency of foundations, and the injudicious choice of materials, we may safely conclude that the fall of the bridges on the North British, must have been in a great measure owing to defective foundations and improper materials having been employed; and *en passant*, it may not be out of place here to observe, that in all works under water, or where there is a probability of water coming in contact with them, *hydraulic lime*, or *good Roman cement* should in every instance be adopted.

Railway Bankruptcy.—A fiat of bankruptcy has been opened against the Tring, Reading, and Basingstoke Railway Company, the shareholders having determined upon "winding up" the scheme, and resolving that the dissolution should be considered as an act of bankruptcy. This being the first fiat issued under the 9th & 10th Victoria, cap. 28, it has excited much interest among parties who have identified themselves with the late railway speculation.

JEPHSON GARDENS' COMPETITION.

Sir,—Although we are very far from wishing to enter into a controversy with any parties upon the above subject, on which so much has already been said in this neighbourhood, we beg you will do us the justice to insert the few following remarks upon a paragraph which appeared in last week's Builder. It is there stated, that the plan selected as No. 1, was "subsequently considered impracticable." We would, in the first place, ask by whom the plan was proved to be impracticable; and, secondly, who decided that its impracticability had been proved? *We* have never been consulted as to its practicability, nor do we yet know that any decision in the matter has been given. So far from considering that there is any thing impracticable in it ourselves, we are so perfectly willing and desirous of *proving its practicability* to all parties who may wish it, whether interested therein or otherwise, that we will at any time attend with them upon the ground, and demonstrate the perfect feasibility of carrying out the plan, whether as regards its constructiveness or otherwise. We would not have intruded ourselves upon your notice, had we not considered that our silence might have been construed into acquiescence in the imputation that we were the designers of an impracticable plan; which is an imputation which we think you will allow no man ought to permit to pass unnoticed, unless the accusation were true.—We are, Sir, &c.

Hopton & Wills.

Leamington, 5th Oct. 1846.

IS THE STATUE TO REMAIN?

Sir,—Having in my avocations often to pass Hyde-park Corner, and being in fear that on each future occasion my feelings may be pained, I assume the right, in self defence, to endeavour to avert the possibility; for incongruity, in the fine arts especially, must always cause pain in the beholder, as is but too ostensibly demonstrated, at present, by the equestrian statue upon Burton's archway, on Constitution Hill. The disproportion of the one to the other—the statue to the pedestal (the arch)—is infinitely greater than I had anticipated prior to the elevation; and as that disproportion so overpowers the pedestal, now that the large timbers hide portions of its form, how much more glaring and offensive to good taste must it be when denuded of them, and its full extent of size shall remain in no degree concealed? These relative disproportions are only fully observable on the south side, and may be well noticed from the extremity of the first bending of the road of Constitution Hill; then afterwards, approaching the pedestal, which becomes, perspectively, as you near it, a larger object, the statue is of course perspectively smaller, and disproportion in the exact ratio of approach diminishes, and the actual discrepancy, when close to the gateway, ceases therefore to be so offensive. However, to shew to *what extent* the proportions are irrelevant, the beholder should then proceed to the north side, and place himself just within the iron railing next the carriage road, opposite the figure of Achilles, so as to have the top of the middle gate of Hyde-park squaring with the plinth on which the horse is placed, and the eye will immediately rest on a harmony of proportions. By this means the real pedestal is entirely shut out, the screen of Hyde-park becomes at once associated with the plinth of the statue, and a pedestal apparently extends the whole continuation of the screen, of which the statue and its plinth form a pyramidal centre.

There is another painful discordance, in relation of the statue with the pedestal, by which the former suffers much in its colossal grandeur. The arch is constructed with an appearance of lightness, being hollowed by a lofty gateway, and ornamented with small Corinthian columns and pilasters, with other delicate corresponding architectural beauties. All these well exemplify its intention, that of a decorative triumphal arch; and as clearly its inapplicability to be burthened by an enormous weight; the mind therefore mistrusts the idea, that the gigantic form which has been imposed upon it, weighs forty tons, imagining that if it did so, a more solid, substantial, and characteristic basement would have been constructed for its reception.

Permit me, Sir, to say one word in conclusion, to express how much I commiserate with the unfortunate artist, whose bold and enterprizing mind has grappled with and successfully achieved, perhaps the greatest effort of the kind that has ever been accomplished; that the result of his great labour and anxieties should have been, even for a moment, placed in a situation detracting from its importance, and its imposing capability of effect, by the obstinacy of a few individuals, who would not, or in charity I might say, could not see with the "mind's eye" what was palpable enough to the public generally, the certain impropriety of the present position of this noble work of art; but who have thrust it there, despite of public opinion, evincing at once their great want of judgment, and their greater want of discretion.

An Inhabitant of May Fair.

Oct. 7th, 1846.

THE TURNPIKE NUISANCE.

Sir,—In the days of highwaymen and footpads, the inhabitants of the metropolis and provincial towns fortified themselves with turnpike-gates. The local tax was submitted to for the protection it gave; the gibbet, too, was added as an ornament to suburban scenery, and within the last thirty years the owner of an estate in Hampshire was proceeded against, for having caused one of these hanging woods to be cut down.

Of late years, highwaymen have become scarce, and gibbets have disappeared, but the ugly turnpike-gate still remains, a nuisance, and a partial and oppressive tax on the neighbourhood afflicted with it.

Some little progress has been made in the removal of this ancient barbarism; and when you visit a borough town, you look for the old nuisance, you see that it is demolished, and that the adjoining locality is improved. Coming back to the metropolis, you see the iniquitous metropolis roads' barrier, as ugly, as filthy, as inconvenient, and as annoying as in the palmiest days of highwaymen and jobbing.

There it stands, as near to London as when a road-waggon, a post-chaise, and a hackney-coach were half a day's traffic of the road on the outside of it.

Hundreds of houses have been built beyond it, thousands of persons have to pass it in their communication with London, cabs are driven up to it, omnibuses ply to and not beyond, carts and waggons are left while their owners walk and save the tax, unemployed navigators, supernumary cads, and collector's acquaintances lounge against the posts, and enliven passengers with their facetiousness; beershops and publichouses add to the disorder, and in the midst of this your carriage stops the way while you pay for your petty, dirty, and annoying passport—a piece of paper which the experience of half a century has proved to be (in size, and shape, and material) best adapted to the purpose of—being lost or mislaid.

Who can or will improve property abutting on such a locality? No one; and this scene is to be continued to the edification of the young and female population of the district; and what is the gain to the locality? why this, that the inhabitants of the neighbourhood pay an enormous portion of the tolls collected, and, *in addition*, pay in highway-rates sums far more than sufficient to keep their own roads in repair. If they have to send a quarter of a mile for a hundred weight of coals, the toll to be paid is greater than would be paid for the carriage of a ton for three miles, on the best appointed railway in the kingdom.

Much has been said and written of excessive tolls on railways—the more than excessive demands of the gibbet-box monopoly have escaped reprobation. More than half this impost is lost to the public in enormous profits to the contractors, salaries, and patronage.

If turnpike-gates *are* to be continued, let them be removed beyond the range of contemplated improvements in town as well as country. If the roads *are* to be kept in repair by highway tolls, let those tolls be collected on roads, and not in streets: let the limits of locomotive trade be extended, and not crippled by taxation. To you, as the advocate and able promoter of metropolitan as well as provincial improvements, I address myself. I claim your powerful assistance, and in the hope that if you cannot destroy the gates, you will remove them at least three miles further from London than they now are,—I am, Sir, &c.,

Sept. 29th, 1846. Suburban Reader.

NOTES IN THE PROVINCES.

The old Priory Church at Christchurch is about to have its northern porch, ceiling, and stone rood-screen, restored, according to plans by Mr. Ferrey.——The name of the liberal dissenter who supplies the glass for the principal windows of St. James's Church, Bristol, is Mr. John Wesley Hall, whose excellent example has been already followed by another gentleman, Mr. John Dix, who has presented the glass for the clerestory windows. We are pleased to see our hint so promptly followed up by efficient contributions such as these; but much remains to be done, and quite as much to do it with, too, were it only made forthcoming, like the liberal means of Messrs. Hall and Dix. A drawing of the west end of the church, by a lady, is to be lithographed also by a lady, Mrs. Rose Pocock, and the lithograph to be published and sold in aid of the restorations, which are said to be proceeding, so far, satisfactorily. The oak roofing in the nave, disclosed by the removal of the clumsy ceiling which concealed it, is now said to present an appearance in good keeping with the rest of the interior.——Earl Auckland, as first Lord of the Admiralty, laid the first stone of a new church at Pembroke Dock, on Monday week.——Government, it is said, intend to propose next year, that 30,000*l.* be expended on the erection of barracks at Carmarthen.——Baths and washhouses for the poor of Cheltenham are talked of.—A writer in *Douglas Jerrold's Newspaper*, by the way, suggests the very apposite association of baths with collieries, "where the men could plunge in the moment they came out of the pits, and remove the black coating from their skins before it became absorbed by the pores."——The proposed cemetery at Wolverhampton has been sanctioned by the Bishop of Lichfield, and effectual means are forthcoming for its realization.——A subscription has been commenced for clearing out a handsome entrance into Worcester from the bridge.——In Coventry, we find they are carrying on the works of the new cemetery and the supply of water with great spirit.—— The new church of Saint Andrew, Bordesley, Birmingham, was consecrated by the Bishop of Worcester, on Wednesday week. This is the fifth of ten new churches proposed to be erected in this busy town. It is in the early decorated style, with nave, chancel, north aisle, and tower. The chancel is divided from the nave by an arch rising from octagon pilasters. There is a great east window of five lights, with flowing tracery. A row of arches, springing from pillars, alternately circular and octagonal, divides the nave from the aisle, in which latter there is a window, the gift of the architect, Mr. Carpenter, of London. Sittings, 1,000; one-half free. The ground was given by Messrs. Robins, the surveyors. Expense of erection, including the porch and wall, about 4,000*l.*——The "twenty thousand pounds subscription" scheme, for the erection of free parish churches at Liverpool, has been already so far successful, that ten thousand have been now subscribed.——Amongst the new erections and improvements in Salford are the Scotch church, at present in progress at the corner of St. Stephen-street and Chapel-street, a perpendicular gothic building, by Mr. Hollins, from designs by Messrs. Travis and Mangell, and the Roman Catholic church of St. John, higher up Chapel-street (a building in the decorated gothic style), also in course of erection by Mr. Hollins, from designs by Messrs. Weightman and Hadfield, Sheffield architects. A tower and spire rises from the centre of the latter; and these, with the pinnacles to the front, or western entrance, are its chief external characteristics. The tower is 102 feet in height, and the spire 118 feet above the tower. The length of the building is 172 feet; width, 58 feet. The interior comprises a nave, 72 feet in length, with a lofty ceiling, supported by eight massive decorated columns, and intersected by a transept, 120 feet in length, at its approach to the choir, which is 70 feet long. The east window is to be filled with stained glass, in seven lights, 40 feet high and 20 feet wide. The west window, in the nave, is 36 feet high, and is to be also ornamented with stained glass figures.——In noticing the projected improvements at Doncaster, on the 4th July last, we expressed a hope that the inhabitants would yet take care how so large a sum of money as 17,000*l.* was to be expended on buildings "developed," not by any architect, but by a "corporation steward." Now, it at length appears that although the new shambles and the dwelling-houses next to the market-place have, as already notified to our readers, been pulled down with the view of preparing the site for the new markets, as already planned, the inhabitants have at length bestirred themselves by requesting the mayor to call a general meeting, and "to submit to such meeting the plans selected by the corporation as the most desirable for improving the markets." The meeting has accordingly been called, and although it has been considered too late to throw aside the plans already so far acted on, they have been somewhat grumblingly allowed to pass the ordeal only on the explicit understanding that an amendment, proposed by Mr. Mandall, to the effect "that the plans be further considered by the corporation, and that this meeting request that they will look over the original plans, and take the opinion of two architects on the subject," shall be acted on in spirit by the corporation, though not formally seconded and carried against them. Better late than never. But it is a pity good advice has been so long in being acted on.——The Leeds town council are moving in the matter of baths and wash-houses for the people.——An association has also been formed for the improvement of the sanatory condition of York.——Carlisle Cathedral is at present undergoing some considerable adornment and repair.——A considerate Irishman, named Neil McDonald, a contractor, at Cupar, in Fifeshire, Scotland, offers, in a letter to the Bishop of Derry, to employ 200 or 300 of those suffering from famine in his native county, Donegal, and to induce his sons to employ 400 to 500 more.——The attention of the Lord Provost and council of Edinburgh seems to have been at length effectually pointed to the considerations brought into view, in the selection of a site for the proposed new corn-market, as quoted by us lately from the *Edinburgh Register*, whose arguments have been reiterated on the reading of the report of the Lord Provost's Committee on the enlargement of the corn-market; when the subject of a new site was fully discussed. Five were enumerated as being the most likely to answer, viz., the North British Railway terminus, George IV. Bridge, the Old Sheep-market, the Grass-market, and the corner of Spittal-street. From various considerations, the last-named situation was regarded as combining the greatest number of advantages; most of the others being difficult of access, or having too little accommodation for carts, or being too far removed from the main entrances to the city. But there were difficulties in obtaining the requisite room at Spittal-street. The Lord Provost remarked, that while railways might be the means of making Edinburgh the great grain market of this part of the country, if sufficient accommodation were not given for transacting business, the market might, on the contrary, soon be taken from the city altogether.

West London Literary and Mechanics' Institution.—We hail with much satisfaction the establishment of a Literary and Scientific Institution in Chelsea, where an association of this kind has long been needed. The usefulness of such societies is too well understood now to need exposition, and we hope the committee will have that support from the more opulent inhabitants of the parish and of Kensington, Brompton, Pimlico, and neighbouring localities, as may enable them to carry out its purposes well. On the 1st inst., the opening meeting was held, when the very Rev. Dr. Buckland took the chair, and addressed the meeting at some length. In the course of his speech, the Rev. Doctor very properly drew attention to the importance of proper drainage, supply of water, consumption of smoke, &c., as subjects, to the improvement of which the attention of all might with propriety be directed. The *Morning Chronicle* questioned the usefulness of the doctor's remarks we think without good ground.

CONFESSIONAL, IN THE CHURCH OF ST. GUDULE, BRUSSELS.



THE CHURCH OF ST. GUDULE, BRUSSELS.

BELGIAN CARVED WORK.

In no point is the difference between the churches of England and the continent more remarkable than in their internal decoration. In our country the effect is dependant entirely on the architecture, which, so far from receiving any aid by the addition of sculpture or carving, is too often injured either by the erection of some monument or tablet totally at variance with the character of the building in which it is placed, or, what is worse, a rich capital or suit of mouldings is entirely destroyed to make room for some monstrosity which had been much better left in the stonemason's yard. On the continent it is far otherwise; let the eye turn where it may, it is sure to meet with some object worthy of attention, some fine statue or rare piece of carving, not only valuable for its own intrinsic merit, but from being so judiciously placed as to aid greatly in producing that grandeur of effect, for which the interiors of many of the continental churches are so remarkable. These remarks will apply to the generality of the churches in Belgium, and to none more than to the Church of St. Gudule, at Brussels. The whole character of the interior of this church is equally simple and grand. The pillars supporting the arches of the nave are of enormous size, with rich foliated capitals, and against them, standing on ornamented brackets, are placed colossal statues, representing our Saviour, the Virgin, and the Apostles. Some few of these, of very superior execution, are said to have been the work of Duquesnoy. On the south side of the high altar is the chapel of St. Sacrament, the interior of which is very splendid, the effect being much aided by four windows magnificently painted by Roget.

As an object of curiosity, shewing the perfection to which the art of carving in wood was carried by the old Flemings, few if any works could be mentioned so well worthy of attention as the pulpit standing in the nave. The subject is Adam and Eve driven by the angel from paradise. On the left is seen death in pursuit of them, and over the sounding board are figures of the Virgin and infant Saviour trampling on the serpent. On each side of the pulpit is a staircase, formed to represent the trunks and branches of trees, on which are placed birds and animals of different kinds, all carved in the most spirited manner. The sounding board is of equal beauty both as regards design and execution. It is supported behind by a tree rising from the base, and on either side by angels. The whole of the work is executed with the utmost regard to careful finish, and yet nothing is lost in freedom or spirit; it is said to have been carved in 1699.

Mr. Godwin, in his essay on "Buildings in Belgium," has the following remarks on the pulpits there, which may be usefully extracted:—

"The pulpits found in the Belgic churches are in many cases remarkable for their large size, the profusion of materials employed, and their elaborate workmanship, rather than for good taste and propriety. The pulpit in the cathedral under notice, Louvain (situated as most of them are, on the south side of the nave), represents the conversion of St. Paul. The saint and his horse are on the ground; on the west side of them stands the figure of a man gazing with astonishment, if I remember

rightly, at the miracle; a huge mass of rocks and trees supporting angels and birds forms the chair itself. Behind rise two lofty fir trees, from the stems of which, about midway, extends the canopy or sounding board, adorned with angels and other carved decorations.

The pulpit in the cathedral at Malines (a most interesting town) represents the same subject, but is differently arranged. St. Paul and his horse are on the ground at the foot of a mass of rock forming the body of the pulpit. Our Saviour on the cross, the Virgin, and other figures, enter into the composition; a stem of a fallen tree serves as a rail to the stairs; and a continuation of the rock work, from which the Holy Spirit in the shape of a dove descends over the head of the preacher, forms the canopy.

In the church of St. Andrew, at Antwerp, the pulpit represents Andrew and Peter called from their nets by our Saviour. It is ascribed to Van Hool and Van Gheel. The pulpit in the cathedral of the same city is a curious composition, consisting of twining shrubs and birds, said to be the work of Verbruggen. This artist also executed the pulpit in St. Gudule, at Brussels, which represents the expulsion of Adam and Eve from Paradise, and is perhaps better known than any of those I have already mentioned. The pulpit at Nôtre Dame, in Brussels, is a representation of Elijah fed by ravens. In some cases part of the sculpture is in wood and part in marble; as for example, in the cathedral of Ghent, where the pulpit is of large size and elaborate design, embracing many figures."

Before leaving this subject I would just direct the attention of my other architectural brethren to the pulpits in Belgium, and ask if a careful examination of them might not enable us to produce something better than those erected in our own churches?

In my hasty description of the church of St. Gudule, I must not omit to mention the chapel of St. Gudule, on the north side of the choir, the general design of which is very beautiful; it also contains some fine niches, with pedestals and canopies of rich composition. On either side of the nave are several small chapels, dedicated to some saint, each containing a confessional, different as to design but of equal merit with regard to execution; the best of these I have chosen as the subject of the present illustration. In this case the figures are winged angels; in some they are pilgrims, apostles, bishops, &c.; the brackets on which they stand present also a great variety of design; also the columns, and in short the whole of the ornamental portions. The centre compartment is intended for the priest, and the sides for the person confessing, the communication being made through an open panel. I would merely add that the figures project about two feet before the columns.

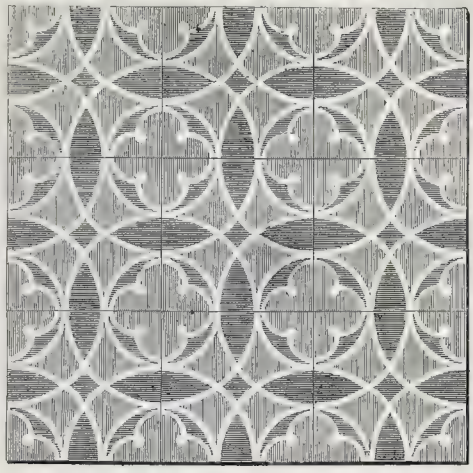
I cannot conclude this article without noticing the very beautiful manner in which the west front of this church has been restored; the whole of the front, especially the centre porch, is covered with niches and statues, all of which have been carefully restored; and I am happy to add that the work is now being continued on the south side of the nave.

Margate, Sept. W. Caveler.

CONSECRATION OF ST. MICHAEL'S, OTTERY.

The new district church on West Hill was consecrated on Tuesday week. This is the third district church erected of late on West Hill, one having been built by Sir John Kennaway, a short time since, in the northern part of the parish, and a second erected at Tipton. St. Michael's stands south of the town on the Exmouth-road. The cost (about 2,000*l.*) has been liberally aided by the Coleridge family. The architect was Mr. Wollaston; the builder, Mr. T. Livermore; the mason, Mr. J. Digby. The church consists of a nave and chancel under the same roof, and is in the early English style, with lancet-headed windows, filled with stained glass, and a small bell tower. The roof is of varnished oak, supported on pointed oaken arches, springing from stone corbels. The pulpit and font, supplied by Mr. T. Selway, are of carved stone, and the ends of the seats and the communion table are carved. The stained glass was obtained from Newcastle-on-Tyne.

ANCIENT QUARRY PAVING.



ANCIENT QUARRY PAVING.

Sir,—I have forwarded you a sketch of the ancient quarry paving from Humstall, Ridware Church: they are 4½ in. square, of red, blue, and white clay, and so well jointed, that they appear like a floor of painted tracery. It will be seen by the line of joints, that only one pattern of quarry is required, and what ever way laid, will produce the same design.

Your humble servant. H. B.

Derby, Sept. 28, 1846.

*** The blue colour is shewn by horizontal lines; the red by perpendicular.

CLUBS FOR THE MARRIED.

Sir,—In a recent number of your journal a correspondent suggested the expediency of establishing club chambers for married persons; and I trust that a few remarks upon the same subject may be acceptable to you. That the union of several private residences under one roof, would improve the architecture of London, is unquestionable; and in that point of view, the system is certain to meet with your support, and deserves public encouragement. If it were properly carried into effect, we might live to see palaces erected for the accommodation of the middle classes, instead of interminable rows of mean dwellings, which depress the spirits of all who behold them. The system would also be most advantageous, in preventing the inconvenient extension of the metropolis. It is already a day's journey from one end of London to the other, and unless railways be introduced to facilitate communication, it will soon be easier to travel from London to York, than from Fulham to Woolwich. Economy of space is, therefore, of the greatest importance; and there can be no question that by a judicious plan of club-chambers, a much larger number of persons could be well accommodated, in a limited space at a smaller cost, and with more elegance and comfort, than are now provided with dwellings which occupy a considerable district.

All these, and other matters, are worthy of your consideration, and, I doubt not, will be fully elucidated in the columns of The Builder; but my chief object in addressing you, is to point out the economy and comfort with which ten or twelve married couples might live together, in one handsome building, divided into separate sets of chambers. I propose that each family should have its own distinct domicile, but that there should be an establishment of servants common to the whole club, and under the management of a committee. The advantage of club chambers, in point of comfort and economy, would be comparatively, small if separate establishments were maintained by each family; but if many families could unite in maintaining one efficient establishment, they would enjoy the advantages which are at present confined to single men. Each club, constituted upon these principles, might, of course, lay down its own rules, and modify them from time to time as experience might suggest amendments; but I would propose, for consideration, the following outline of a first-rate family club, which, I think, may be found deserving of a trial.

Let a club-house be built for the accommodation of twelve families, without children, and comprising a suite of apartments for each family. Each suite should consist of two good sitting-rooms, two bed-rooms, one or more dressing-rooms, and one or two servants' bed-rooms, together with a convenient entrance-hall. The different suites would vary in size according to their situation in the building, and the rent would be proportioned to their relative value, varying from 150*l.* to 90*l.* a year. The entire building should be in the occupation of a club, of whom the tenants of the chambers would be the members. This club would either build the house in the first instance, or rent it of the proprietor, and would collect the rents from its members which might include all rates and taxes; unless, for the sake of the elective franchise, it should be thought advisable to retain a separate rating of each set of chambers. In addition to the chambers, there must be kitchens and offices, common to the whole club, and sleeping apartments for all the officers and servants of the general establishment. And further, a large dining-hall and drawing-room, also common to the whole club, would be necessary, for purposes which will be presently explained.

The building being thus arranged, it is proposed that a sufficient establishment for the whole club should be provided out of the general subscription fund. Everything would be cooked in the public kitchen; the chambers would be kept clean and otherwise attended by the servants of the club; and unless a family should require some personal servants, they might live without keeping any establishment of their own. In regard to meals, it is proposed that the system adopted in other clubs should be carried out in this. A scale of charges would be prepared for every description of meal, and for wines, and other articles of consumption, which should amount, as nearly as possible, to the actual cost. These could at all times be obtained by persons in their private chambers, exactly in the same manner as at a hotel, or in the coffee-room of a club. It is most probable, however, that in a

club of this high character, each family would require a footman and a lady's-maid; for whom, as already seen, accommodation is to be provided. It is proposed that, in such cases, the family should be waited upon at meals by their private servant, in order to reduce, as much as possible, the general establishment. Such families as did not keep a footman, would be charged with an additional subscription in aid of the establishment. All the private servants would be boarded together at a public table, and be amenable to the rules and discipline of the general establishment.

No club of this kind could succeed, unless the independence of its several members were secured, and the arrangements which have been proposed are calculated to maintain it. But economy and luxury alike suggest the propriety of establishing a *table d'hôte*, at which all the members of the club could dine whenever they pleased. The habits of the English people, in spite of their intercourse with the continent, are generally considered adverse to the practice of public dinners of this kind, and notwithstanding its advantages, it could not be made compulsory; but if a better dinner could be obtained at less cost, at the *table d'hôte* than in private, many would be tempted, on that account, to attend it; and as the members of so small a club would all be acquainted with one another at its first establishment, and would afterwards be able to exclude new members who were disagreeable, a club dinner would seem more likely to suit English prejudices, than the miscellaneous company of a foreign hotel. In some clubs the system would succeed, and in others it would very probably fail; but until it has been tried, it ought not to be condemned. It is further proposed, that each member may entertain his friends in his own apartments, but that the charges shall, in that case, be higher than those paid by members of the club, so as to prevent the hospitalities of one member from being any expense to the others. Under certain restrictions, also, friends of the members might be admitted, as guests, to the public table.

Under this scheme of a family club, all parties would be independent of each other in their social arrangements, but might associate as much as they pleased without trouble or expense; while they would all participate alike in the luxuries of a large and well managed establishment. Free from the cares of housekeeping, they would enjoy the pleasures of home; and though luxuriating in the proverbial "ease" of a man "in his inn," they would forfeit no advantages by which every man is surrounded whose "house is his castle."

In conclusion, I have only to add, that being myself "a married man without incumbrance," I shall be most happy to offer myself as a member of the first club which may be proposed upon these principles, and that I know of others who wish the plan all possible success, and are anxious to join in so agreeable a fellowship.—I am, Sir, &c.

October 1st, 1846. T. E. M.

CRITICISMS ON CEMETERIES, &c. IN EDINBURGH.

A CORRESPONDENT of the *Edinburgh Register* gives rather an amusing account of some of the Edinburgh cemeteries; albeit the subject is a grave one. That called, par excellence, the Edinburgh Cemetery, occupies a site with a southern exposure, sloping down to the water of Leith. The grounds are well laid out, and the monuments numerous, but most of them far from tasteful, almost every one consisting of a little block, surmounted by a ponderous pediment, as if all were striving to imitate the top-heavy aspect of the mighty roof of a small but monstrously outrageous sacristy, in the form of the little toy which children call a bumbee's bink, with pepper-boxes to match. An elegant gothic bridge, a sort of virgin effort of a young architect, redeems much of what is ludicrous and absurd in these misplaced vagaries; and there are various obelisks, columns, &c. The Newington Cemetery is gracefully arranged. The Dalry Necropolis, however, is decidedly the most tasteful in Edinburgh. The whole has a picturesque and antique aspect, well supported by catacombs of striking outline, and a gate-lodge with a lofty Gothic arch. The Western Cemetery at the Dean is not yet completed. The Southern Cemetery is severely animadverted on. The vaults are in the gothic, or rather barbaric style; the lodge is in the "cottage-gone-mad" style; and the vaults, with the diminutive battlements crowning their enormous buttresses, remind one of the metaphor of shadows supporting substance,—a metaphor mayhap designedly, however, although somewhat vaguely and indefinitely, applied (or rather turned upside down), in the endeavour to embody an idea of substance supporting shadows.

This perhaps rather severe tirade against the taste or fancy of the architectettes of tombstones, obelisks, and sepulchral vaults, appears to have stirred up the ire of those who found the cap to fit them; but the critic has but forged the red-hot ire into another peg on which to hang a new cap, at the further service of those who chose to put it on. "I have only to say," he adds, "that in thus assuming the part of a critic, I am doing no more than is done daily in England, where the journals keep the works of art under a scrutiny so strict, that artists and architects are more than usually careful with their designs. Here it has been the reverse, especially with the latter, otherwise we had never beheld those deformities, the Free churches, which rear on every hand their hideous façades, with zigzag arches, and unshapely pinnacles. Symmetry, which is of such vast importance in architecture, is there forgotten, and the distribution of ornament, which requires such nicety of judgment, has there given way to a lavish profusion of bad details, copied from the barbarous erections of the early Normans. Though different in style, these remarks apply to the Unitarian Chapel (a most *original* design) and to St. John's Chapel, which the late Sir W. Scott never passed without an observation of marked contempt. The meagre doorway and western window are unsufferably bad, and the cope of the battlement, butting against the pediments on those caricatures of buttresses, is also beyond expression *bad*.

What is Nelson's monument meant to represent. Some say a spyglass—some a mason's mallet—I say *nothing*. Sir W. Scott's statue appears to give very little satisfaction; and either the sculptor or architect, recently appointed, have placed it on a ridiculously low pedestal. It is a pity that the design of the talented Kemp should be marred at last by such ignorance of proportion.

The general aspect of the New Club-house is striking; yet it presents a strange anomaly, or confusion of styles. An oriel (a window almost strictly *English*) in an *Italian* building, and close beside a Roman portico, copied literally, line by line, from Pierre Letarouilly's work on modern Rome. That of the Merchant Maiden Hospital, which is taken from the Ionic temple on the Ilissus, shows also the indiscriminating copyist, in retaining the angular volute (an error of the early Greeks), which any modern man of taste would have avoided. What malconstruction was lately displayed in the chapel erected at Dalkeith-park, where the first shower of rain passed through the roof as through a sieve, and almost wholly destroyed the splendid organ!

It would require the pen of the immortal *Punch* to expose to just ridicule the plagiarisms and blunders of our Scottish Pecksniffs, whose only talent seems combination without originality. Without doubt, our architects generally are far inferior to the English in status and talent; but it was otherwise when Scotland possessed such men as John Murdo, of Melrose, and the artists of her abbeys, her castles, and her palaces; Sir James Hamilton, of Finart the fierce 'bastard of Arran;' Sir William Bruce, the brave and loyal knight of Kinross, and others.

Apropos! When will my close-handed country complete that noble design of Playfair's—the national monument, which was to hand down to posterity the memory of those legions of her sons who perished during the bloody struggle of the last long war? I say *close-handed;* for so she is, in all save what concerns the Kirk, for which she has sacrificed everything. Those twelve columns on the Calton stand a monument of the nation's folly. U.

P.S.—I will keep my eye on the various banks now erecting in St. Andrew-square, and will in time expose their errors, if need be."

THE NEW PARISH CHURCH OF ST. ALKMUND, DERBY.

THIS spacious edifice was opened for Divine service on the 15th ult., by the Bishop of Lichfield. It has been erected from a design by Mr. Henry J. Stevens, of Derby, to whose description of it in the *Derby Mercury* we are indebted for the following particulars:—The windows, we may here observe, were executed by Mr. Warrington, of London.

The church is built entirely of stone, chiefly of a very durable quality from the quarries at Breadsall Priory. It consists of a chancel, nave, north and south aisles, tower and spire, and south porch, with a parvise over for the use of the parishioners. There is also a vestry on the south side of the chancel. The architectural character of the church is the late decorated, of the style which prevailed in this country during the middle of the 14th century. The chancel is divided externally into two bays with two-light windows, and the east gable has a large five-light window with flowing tracery in the head. The buttresses are terminated by crocketted gablets; the latter having two large octangular pinnacles; and the parapet is perforated in a trifoliated pattern. The aisles are divided into five bays, one of which on each side is engaged to the tower; the remaining four combine with the arrangement of the nave. Each of the latter compartments is pierced by three-lighted windows, traceried heads of varied design, and the westernmost bay has a two-lighted window only. The clerestory has segmental headed three-light windows, and the parapet is perforated. A porch of large dimensions occupies one of the bays on the south side. Over it is a parvise lighted by two windows, approached by a stone staircase from the outside, inclosed by an octangular turret, and terminated by a conical stone roof.

The tower at the west end is 25 feet square at the base, and 92 feet high to the commencement of the spire. One of the principal entrances to the church is obtained through a bold moulded doorway on the west side. There is a four-light window over the west doorway. The spire rises to the height of 112 feet above the flat of tower; the angles have moulded ribs. It is divided into three distinct bays by ornamental raised bands, and the upper part is diapered by a scale ornament.

On entering the church at the west door an uninterrupted view is obtained of the whole length of the building. The tower is supported on massive piers and arches of solid masonry. There is no western gallery. The side arches are partially filled by screens of stone work. The thickness of the wall at the west end has enabled the architect to have double doors, and the whole of the effect of this part of the church—so often destroyed by entire or partial blocking up—is, in this instance, completely obtained; and the area forms a large ante-church. The nave is opened to the aisles by clustered stone pillars and arches, and the timbers of the roof spring from carved corbels.

The approach to the chancel is under a lofty arch with clustered shafts, and the roof is formed by six ribs each, forming a pointed arch, springing from carved corbel heads, and the spandrils of each rib are filled in with tracery. The sittings on the ground floor are all low and open, with panelled bench ends. The galleries are arranged for close seats. They are supported in a novel manner by a corbel stone projecting from the pillars of nave, which supports the front beam, and has the effect of entirely disengaging the gallery front from the pillars, and renders iron pillars for its support altogether unnecessary. The pulpit is of stone, and of elaborate design.

The whole of the roofs are boarded, and, as well as the fittings of the interior, stained, so as to preserve the grain of the wood, and varnished. The floor of the chancel in front of the rails is laid with encaustic tiles. That portion, also, of the floor of the nave immediately in connection with the reading desk, pulpit, and chancel, is laid with encaustic tiles.

The east window, of five lights, has the head filled with foliage, and in the lights, subjects from the history of our Saviour and the emblems of the four evangelists are introduced.

The west window is armorial in its general character.

RAILWAY JOTTINGS.

It appears that there are at this moment about 104,314 lineal yards, or 59½ miles, of railway tunnelling still to be built, and that during the last session of Parliament the construction of 4,705 miles of railway was in all authorized to be carried out, at an average expense of 19,299*l.* a mile, or 90,802,550*l.* in all. These railways will cross, on the same level, upwards of 209 turnpike-roads, and 1,240 common roads, and the quantity of land requisite for occupation is estimated at 53,356 acres, or nearly 11¼ acres per mile of railway to be executed.——Over and above all this, the legacy of legislation left by 1846 to 1847 comprises no less than sixty projected railways lost last session but to be again brought forward in the next.——The death of a passenger during his railway transit from Swindon to Cirencester has led to the suggestion that passengers might communicate with the guard by means of cords and weights (why not bells), numbered or ticketted according to the position of the carriage in the train, with which they may be easily connected, while the guard might have facility of access to all the carriages by a kind of enlargement and inclosure of the present footboards, so as to form a railed passage round the whole train.——The expense of opposition to the North Staffordshire line amounted to no less than 74,371*l.*, besides legal and engineering charges amounting to nearly as much, namely, 66,473*l.*——The original average of 800,000 to 900,000 passengers per annum on the Great Western, in place of 302,118, as before, between the metropolis and other towns on the Bristol roads, is now further increased to nearly double that amount.——The foundation-stone of the Menai suspension tunnel bridge was laid on Friday week, with little formality, by the contractors and engineers of the district. The work is expected to be accomplished, if possible, in three years.——The Gravesend branch of the South Eastern Railway, recently commenced, is, according to the contracts, to be completed for traffic by Christmas, 1847. The works are not heavy either in cuttings or embankments. The Gravesend station is to occupy a central position in the town. The line will run into the Rochester about a mile further down.——The traffic on the Manchester and Leeds line, which, when all its objects are accomplished, will extend over 343 miles of country, and accommodate a population equal to sixty towns of 50,000 inhabitants each, and seventy or eighty villages of 5,000 inhabitants each, and will have cost 10,500,000*l.*, is already so far on the increase, that the two extensive stations already possessed in Manchester are found to be much too limited, and a third is about to be formed for branch traffic, between Fennel-street, Long Millgate, and Todd-street, almost at the centre of Market-street, on ground at present fortunately occupied by "some of the most tumble-down, close, and ill-ventilated buildings in the town," which will thus be exchanged for "handsome new offices," to the great improvement of the sanatory comfort and the general appearance of this public and central portion of the town. The new station is to be connected with the Victoria station by a viaduct over the Irk, and extending over Long Mill Gate at a point between Mill Brown and the College.——Particulars of the fall of bridges, arches, tunnels, and embankments, have been thrown together into the form of a separate article.——The project of making railways in Ireland by aid of Government advances for behoof of the able-bodied portion of the unemployed poor, is about to be urged by public meeting, called by the Lord Mayor of Dublin.——The Austrian Government has just issued a decree by which every engineer who has driven his engine for an entire year without accident shall receive a reward of 100 florins (10*l.*), and that those who have done so for ten consecutive years shall receive 1,000 florins (100*l.*) and a gold medal.——Notice has been given for tenders to be sent in for laying the rails on the line of railway between Dijon and Chalons. The length of road, with stations, is 150,000 metres (37½ leagues), including the three sections, which, from one point to the other, extend to 68,949 metres. All the works of art are completed, except the viaduct at the Porte d'Ouche of Dijon, which, from certain difficulties, has been delayed.

PORTLAND CEMENT AND ROMAN CEMENT.

Sir,—In reference to your remarks on "Portland Cement," at page 435 of The Builder, allow me to observe that experience has taught us that there is no doubt the *slow-setting* cement, bearing the above name, is an excellent material, and applicable in all cases where facility of execution is not required; but for all hydraulic purposes it certainly cannot be depended on, and its slow setting powers render it totally unfit for the bringing out of all kinds of projections, such as cornices, window-sills, architraves, &c.; neither can it be used with advantage in the casting of architectural enrichments, and consequently it never can compete with the genuine Roman cement for universal application.

Another great disadvantage in Portland cement is that it should never be mixed in a thin liquid state, to grout stone or brickwork together, for we are enabled to cite an instance of this description, where it was applied to a quay wall, in opposition to the lavings of the tide, in which the cement *actually never set*, but was washed away by the action of the water, and utterly wasted. In consequence of such failures, is it not really incumbent on cement manufacturers to state in their prospectuses, both what their materials can be applied to with advantage, and what they cannot be applied to, in order to save their own characters and the ultimate condemnation of their articles? In illustration of the absolute necessity of this being done, several instances have come within my own observation, where for want of proper instructions the Portland cement has been *condemned for ever*, owing to the causes above adverted to.

Roman cement possesses the peculiar properties of setting quickly, so that work may be carried on with facility, and it is perhaps worthy of remark that when its consolidation is too rapid, it can easily be controlled to the greatest nicety in this respect, by the admixture of certain liquids with the water employed, and which are known to every expert plasterer in the kingdom.—I am, yours, &c.,

Frank Tyrrell.

Newcastle-upon-Tyne, Sept. 27th, 1846.

DESIGN IN MANUFACTURES.

MENTAL CULTURE.

At a soirée given at the Bradford Mechanics' Institution, on Wednesday last, Lord Morpeth opened the proceedings with an admirable address, full of good sense and good feeling. In the course of it, his Lordship made the following remarks on the practice of drawing, and the arts of design:—

"As to those topics which relate more to the accomplishments, and to the fine arts, I think it is very gratifying to find that you have established a school for drawing, and that it is in favour among you. I hope you will carry that delightful pursuit still further; and besides, it cannot be looked upon as a mere idle accomplishment, or as a mere pleasant recreation; it will even stand the test of this utilitarian age. This town is largely engaged in manufactures. It is, as I have said, busied with one of the principal branches of the manufactures of this country; and it is a branch of manufactures in which the art of making suitable patterns and designs must find a place. Now, it is a well-known fact, that in many respects the manufactures of this country defy all competition, and that in the adaptation of our machinery, and in the intelligence of our operatives, we are not afraid to confront the whole of the old world and the new. But it is not less acknowledged by those who take an impartial view on such subjects, that we are inferior to many nations on the continent, as yet, in the arts of design and colour, and that we have not arrived quite at that happy delicacy in making out those beautiful combinations in designs at which some of our neighbours, especially the French, have arrived. Now I believe there is nothing in the natural composition or genius of Englishmen which unfits them for excelling here as well as in other respects. But they have not made it part of their practical, positive business to attend to it; and with this view schools for drawing are eminently useful. It may be, that in some of our drawing schools, where you have models put before you of the human form and other objects of that class, you cannot see at first sight of what good they may be to you in making out a delicate and pretty pattern; but, depend upon it, that the eye which has been trained to all the true doctrines of proportion and beauty will attain comparative excellence in every branch of labour to which it applies itself. And I do most earnestly hope that not only the working classes, the operative men, those who have to carry on the hand-work of manufactures, will attend to this suggestion, but that the great employers of labour will take it into their earnest consideration too. I hope, on all accounts, they will give an enlightend and liberal support to the general objects of this institution. I feel it to be eminently their duty, but not more their duty than their interest, to take every means of surrounding themselves with an orderly, a refined, and an educated population. I believe that they will find this to be the case in every respect. It will return unto them in a thousand ways, however little immediately concerned the subject-matter of the studies may appear with the daily business with which they are connected. But in this particular of drawing, the poet Pope, whom I have once mentioned before, and whom I may specify perhaps not as the first, perhaps not as the greatest, but as the most perfect of our poets, says, "True self-love and social are the same,"—that by promoting the good of others you are sure in the end to promote your own; and so, upon the most sordid calculations of interest, upon what concerns your pockets, you may depend upon it, that if in the long run the patterns and manufactures of other countries exhibit a decided superiority to your own, you will lose your hold of the market of the world; and, therefore, besides encouraging good order, besides encouraging general knowledge, besides encouraging useful information, among those by whom you are surrounded, also encourage that taste for beauty, that true conception of the loveliness of nature, of which art is but another embodiment, and you will find it the best means not only of advancing and elevating the population in which you live, but of rendering yourselves superior to all the competition of the world's rivalry.

GOVERNMENT COMPETITION IN OIL PAINTINGS.

In the sixth report of the Commissioners on the Fine Arts, already referred to, the following statement is given:—

"Her Majesty's Commissioners having announced that their attention would in due time be directed to the means of selecting for employment artists skilled in oil painting, with a view to the decoration of portions of the palace at Westminster, hereby give notice:

"1. Three premiums of 500*l.* each, three premiums of 300*l.* each, and three premiums of 200*l.* each, will be given to the artists who shall furnish oil-paintings, which shall be deemed worthy of one or other of the said premiums by judges to be appointed to decide on the relative merit of the works.

2. The paintings are to be sent, in the course of the first week in June, 1847, for exhibition, to Westminster Hall.

3. The commissioners reserve to themselves the right of excluding from public exhibition works which shall be deemed by them not to possess sufficient merit to entitle them to such a privilege.

4. The paintings, not exceeding two in number, by each artist, are required to be prepared for the occasion.

5. The subjects are required to come under the general classes of religion, history, or poetry.

6. The dimensions are left to the choice of the artists under the following conditions:—The figures are not to be less than two in number; the size of the nearest figure or figures, in at least one of the specimens by each artist, is to be not less than that of life; but the size of the figures is altogether left to the choice of painters of marine subjects, battle-pieces, and landscape.

7. The judges appointed to decide on the relative merit of the works may, if they shall think fit, require any artist, to whom a premium shall have been awarded, to execute, under such conditions as they may think necessary, an additional painting as a specimen of his ability, and in such case the premium awarded

to such artist will not be paid, unless his second painting shall be approved by the judges.

8. The names of the artists are not required to be concealed.

9. The paintings will remain the property of the respective artists.

10. Paintings which may combine appropriate subjects with a high degree of merit, shall be considered eligible to be purchased by the nation, in order to be placed in one of the apartments of the palace at Westminster.

11. Religious, poetical, or allegorical subjects, which by judicious adaptation or treatment may have reference to the history or constitution of the kingdom may, as well as strictly historical subjects, be eligible to be so purchased.

12. The judges to be hereafter appointed to decide on the relative merit of the works, with a view to the award of premiums, will consist partly of artists.

13. The competition hereby invited is confined to British subjects, including foreigners who may have resided ten years or upwards in the united kingdom."

ALTERATION OF BUCKINGHAM PALACE.

Sir,—I take up my pen again, and begin by saying, that I am sorry to find that "R." has laid down his, and quite abruptly, too, just as he seemed to be coming to the pith and vital part of his subject. At most could I say—hang him for a recreant! Did his courage fail him? or was he too bold, too free-tongued? Mercy on us! what a cowardly, flunky set we are. We are, as Michael Angelo Titmarsh says, "a nation of flunkies." But we will dismiss this ugly subject—though, mind, I do not thereby give you leave to cut out my words.

What I really have to say is, that your correspondents may spare themselves the trouble of making any further suggestions as to the style in which a new royal palace should be, there being very strong symptoms of Mr. Blore's commencing operations upon Buckingham Palace forthwith, the hoarding having been commenced. Unless an entirely new façade for the full extent of frontage towards the park be intended, it is easy enough to guess what sort of a *patch-up* we shall get.

There is a very great reason indeed for mistrust and apprehension, if only on account of both the secresy and the precipitancy which mark the proceedings. Why are not the public afforded the opportunity of knowing for certain what is going to be done, instead of being left to make all sorts of disagreeable and sinister conjectures? Does such overcautiousness manifest anything like confidence as to a satisfactory result? Is it politic? Is it generous towards "a generous and loyal people?" Is it honest as regards art? If the palace alteration affair be not a mere job, why should it be made to look like one—one that must be screened as far as possible from public observation, until remonstrance becomes wholly unavailing?

But we deserve it, we deserve to be so treated, if we continue to put up with such ungenerous treatment; if the more we are kicked, the more we fawn. Either the public have no right to meddle or make at all with Buckingham Palace, but ought to leave Queen Victoria to please her own taste, just as they left George the Fourth to the free indulgence of his "refined" taste in building it, and therefore ought to say nothing; or they ought—that is those who speak for them in matters of art, ought to speak out loudly,—so pertinaciously and so loudly, that their clamours—or if needs must, their thunders may reach the ears of royalty itself. Let come what will, one comfort is still in store for us, though the palace may not be altered at all for the better, except as far as mere accommodation is concerned, it cannot possibly be altered for the worse, or so as to be more insignificant looking and paltry in taste than it now is. Budownik.

Turkey.—The first stone of a building destined for a Normal School was laid on the 4th ult., at Constantinople, by Rifaat Pacha, the president of the council. The European formalities of depositing coins, &c., were observed.

Work for the Archæological Associations.—It is feared that the curious old stone pulpit at Widemarsh will be destroyed in the levelling of an intended railway.

PRACTICAL UTILITY OF MATHEMATICS.*

It is not uncommon to hear people say, "Acquaintance with the principles of geometry and mensuration, and with so much mathematical analysis as may be required in the ordinary routine of practical affairs, may be all very necessary for professional men; but where is the use, even to them, of pushing these inquiries so far, and of occupying so much time with subjects which, after all, are little else than matter of barren speculation." Before replying to this objection, I would first inquire which of the numerous applications of mathematical science to practical affairs did not at one time appear to be matter of barren speculation? The conical pendulum of Huygens was certainly little better than a subject of barren speculation to him; but when, in the succeeding age, it was applied by Watt as a governor to the steam-engine, it proved to be one of the most efficient contrivances for equalizing the supply of steam that could possibly have been devised. The remarkable theorem of the Flemish mathematician, Albert Girard, technically known by the name of the Theorem for the spherical excess, was certainly to him, and no doubt to thousands of others, a matter of barren speculation. It was, however, after the lapse of 150 years, at length called from its repose among speculative truths by General Roy, at the suggestion of Professor Dalby, of Sandhurst, and successfully applied by him, during the great trigonometrical survey, to abridge certain laborious computations which occurred in reducing the observations.

And what were the researches of the ancients respecting the conic sections, but barren speculations to them and to many succeeding ages? The properties of the ellipse and parabola were as well known in the days of Apollonius as in the time of Kepler and Newton, yet it was not discovered till then that these hitherto unappropriated properties were necessary to the true explication of the celestial motions.

It was by contemplating a certain problem which appeared to be but a barren speculation, and to offer no reward except the gratification of solving it, that Descartes was led to the discovery of his beautiful system of analytical geometry, one of the most useful inventions of modern times, to which the continental mathematicians are much indebted for their recent rapid progress in mathematics and mechanical philosophy. Our celebrated countryman, Dr. Brook Taylor, to whom we owe the remarkable theorem which bears his name—*Taylor's Theorem*—little suspected the practical importance of that theorem when engaged in its investigation; and, indeed, it was by British mathematicians generally regarded for upwards of half a century, as little more than a barren speculation. But upon this very theorem, so long neglected in the land of its birth, the French mathematicians have founded a most extensive body of science, as full of valuable applications as of beautiful theories.

These few instances may serve to shew that mathematical inquiries, even as regard their practical application, should not be condemned as useless, merely because the state of our practical science is such that they do not find their immediate application. What to one age may appear but barren speculation, may to the next furnish information of the highest practical importance.

* From Professor J. R. Young's lectures.

Correspondence.

ARTIFICE IN BUILDING.

Sir,—I wish to express my approbation of the valuable remarks relative to artistic design, thrown out in the paper "On the adaptation of furniture, &c.," in No. 189 of The Builder. The writer did well to give a slap at that nonsensical squeamishness—for I can call it nothing better—which objects to, as being no better than artifice and tricking, every process by means of which the appearance of natural materials can be improved. The indiscriminate, unqualified, and even angry condemnation, of every species of imitative material for decorative purposes, which has for some time past been made a standing subject in a certain quarter, argues more of dogmatism than of real regard for the advancement of taste. Supposing any colours could at pleasure be imparted to woods by staining, or that our building stone could be bleached to the whiteness, and afterwards polished to the lustre of marble, where would be either the harm or the paltriness of it? That there is a good deal of "very paltry" is not to be denied; but the paltriness arises, as frequently as not, from careless preparation of the materials themselves, from paltriness of design, slovenliness of execution, and the vulgar taste that possesses the whole thing. But paltry imitations and deceptions are no more an argument against good, than doggerel rhyme is against poetry, or trumpery and paltry daubs against pictures altogether. If even scagliola, which I am sure you will agree with me is any thing but paltry, is to be scouted as "*sham*," why not ashlar also? But enough; I will only remark, in addition, that the best cure for those who take up with such morbid crotchets, and refuse to tolerate any material that is not employed in its natural and perfectly unsophisticated state, would be to sentence them for a month to diet on raw beef instead of roasted. Q.

BUILDERS' TENDERS.

Mr. Editor,—Having several times observed in your valuable journal, remarks upon the wretched system of competition existing between builders for work, and fully agreeing with the opinions then expressed by you, that the only remedy was to expose such system, I beg leave to submit to your notice the following account of a contract lately entered into at Hampstead.

A few days past, I, in common with other builders, received a communication, inviting me to send in a tender for the erection of two six-roomed houses in Perrin's-court, Hampstead, but I declined tendering.

On the 1st inst., the tenders were sent in and opened in the presence of the parties, when the amounts were found as follows; each party having taken out their own quantities:—

Johnson and Son, Hampstead		£550
Nicholas	ditto	460
Milton	ditto	450
Styche	ditto	374

The lowest tender was accepted. Now observe the difference in the amounts between highest and lowest,—one hundred and seventy-six pounds,—and say if such a ruinous system ought not to be put a stop to.

It has resulted, in one or two cases lately in this place, in the total ruin of the parties concerned. Many of the masters here are working men doing pretty well; but having no knowledge of large works, they think that three or four hundred pounds can do almost anything. Your continued attention to this subject, will be a great service to all builders.

I am, Sir, &c.,
A Hampstead Builder.

IRISH MARBLE.

Sir,—Having heard so much of Green Irish marble, and having been ever anxious to promote, as much as possible, home productions and home manufactures, I have recently ordered some marble dressings to an ornamental fire-place, to be executed in green Irish marble. I have been sadly disappointed in the result. This material will not take a bright lustrous polish. It is extremely rotten, and full of defective cavities, which require to be stopped. The green colour, instead of being of a clear brilliant tone, is opaque, and being interspersed with cold dark grey tints, the effect is by no means attractive. It was extremely difficult to procure, and I have been assured that this specimen is a very favourable one of that marble. J. L. D.

3rd October, 1846.

*** Evidence varies so much as to the value of this material, that it is difficult to form a correct judgment on it. We have seen some good specimens.

Windmills in Holland.—There are 18,000 engines of this description in Holland, averaging a force of 90,000 horses power, of which 60,000 are required to keep the country above water.

NOTICES OF CONTRACTS, &c.

THE authorities of the Stamp Office having given us notice to discontinue the insertion of our lists of contracts, &c., excepting as advertisements, we have, in deference to their wishes, omitted them on the present occasion, but shall immediately take steps to place the facts of the case properly before them, and, as we hope, remove their objections. In the meantime a list may be seen at our office.

When it is explained to the Board that our list is simply an index to advertisements, which, having appeared in other papers, have paid duty, and are inserted solely for the convenience of our readers, and not for the benefit of advertisers, or for our own profit, excepting so far as results from increasing the usefulness of our paper, we are disposed to think the objection, even if it can be legally maintained, will be withdrawn.

TO CORRESPONDENTS.

"*Hanging Sashes in Mullions.*"—A correspondent wants a description of the mode of hanging sashes in mullioned windows, adopted in the new Houses of Parliament.

"*Regular Subscriber.*"—An architect's charge is 5 per cent. In our correspondent's position it must be matter of arrangement, on which we can offer no opinion.

"*C. L.*"—Your card as an exhibitor will admit you to all the lectures.

"*E. W. S.*"—Students of the Royal Academy, exhibitors, and friends of the academicians, are alone admitted to the lectures.

"*Wheels and Pinions.*"—A correspondent asks to be informed "Upon what principle the section for proportioning wheels and pinions is constructed? And whether the instrument is capable of much enlargement, and if so, what is it necessary to learn in order to construct one? and what is the best and cheapest work on the subject?"

"φιλοτυχη."—The information cannot be obtained from one book; Gwilt's "Encyclopædia" is perhaps the most complete.

"*Brevis.*"—We shall be glad to see specimens.

"*Y. C.*"—Mr. Davy, 10, Furnival's Inn.

"*J. T.*"—Ditto.

"*W. P. G.*" should address his communications to the "Editor."

"*South Weald Church.*"—The notice has been accidentally delayed, but shall appear shortly.

"*A. B.*" (Reading).—We are obliged by the information.

"*A Young Carpenter.*"—Hutton's Treatise would be found useful. Better get a master to put you in the right road, if in your power.

"*Architectural Schools of Design.*"—We have received several letters on this subject, but must consider them at leisure. Mr. G. R. Lewis thinks the school should be very comprehensive.

"*C. X.*" asks for the best mode of "taking a mould off a bronzed plaster cast without injuring it."

"*Subscriber*" (Waltham Abbey), next week.

"*R. C. S.*" shall appear.

"*Books and Addresses.*"—We have not time to point out books or find addresses.

Received.—"Lover of Truth," "J. P. W.," "T. A.," "A Student," "T. S.," "Beckman's History of Inventions and Discoveries," Vol. II. Bohn's Standard Library. "Old England's Worthies," Part IX. (Knight). "Pictorial Gallery of Arts." Part XXI. (Sculpture). "Westminster Review," for September.

ADVERTISEMENTS.

PARTNERSHIP.—Wanted a Partner, active or otherwise, to join the Advertiser, a Builder, doing a good business, who is sole inventor of a most important improvement in house and ship painting, a patent for which will be obtained; it will realize a large fortune in a short time. This will be found, on inquiry, to possess advantages at once safe, lucrative, and respectable; certificates of its great value and approval will be readily shewn, and every information given.—Apply by letter, prepaid, to T. J. J., at J. Skinner's, Esq., Solicitor, 3, Barnard's Inn, Holborn, or 47, Church-street, Minories. Or the Business and Invention to be Sold.

HOWARD'S TRANSPARENT TRACING PAPER.—The many very high encomiums which have been passed on this article by those who have made trial of it, induces Mr. Howard to give it greater publicity. Sample books, containing seven different qualities, with prices, &c., can be sent by post to any part of the kingdom.—Orders directed to Mr. HOWARD, 28, Great Russell-street, Bloomsbury, will receive immediate attention.

RIVER SAND AND GRAVEL SUPPLIED IN BARGE.

R. DOWNEY AND SON, Licensed Lightermen and Pile Drivers, of No. 11, Millbank-row, Westminster, beg respectfully to inform Builders, Contractors, Lime-merchants, and others, that they have added to their before considerable stock of Barges, other two large Sand-getting Craft. They have now every facility to execute large Sand orders, and solicit patronage, promising to give due attention to punctuality and quality of material.

It is intended this advertisement appear four times from Oct. 10th.

ZINC WORKS, 15, New-road, Fitzroy square, London.—W. STAMPER, Manufacturer of Ornamental Conservatories, Greenhouses, Window Sashes Sky-lights, Fan-lights, Flower Cases, &c. &c.

Zinc sash-bar mouldings, bell-wire rope, &c. &c. Perforated zinc for safes, ventilators, &c. &c. Roofs, flats, and verandahs, covered on the newest principle. Manufacturer of the improved Sliding Glass Fane Ventilator.—ZINC WORKS, 15, New-road, opposite Fitzroy-square.

ARCHITECTURAL SUBJECTS (Outlines) coloured for competition or exhibition, and embellished with landscape, &c. Buildings, portraits, and views of every description, lithographed in a superior manner, by GEORGE CHILDS, 12, Amwell-street, Pentonville.

TO BUILDERS, PAINTERS, AND OTHERS.

MESSRS. WOOD and Co., GRAINERS and WRITERS to the Trade only, 62, Waterloo-Bridge-road.

N.B. Several good Grainers and Writers wanted. Applications to be made personally, with specimens, before Ten o'clock in the morning, or after Six o'clock in the evening. An Apprentice wanted.

CHEAP PAN FOR WATER CLOSETS, With Trap, in one Piece.

DOULTON and WATTS, Lambeth Pottery, London, Manufacturers of the above in superior glazed STONE WARE, price 7s. 6d. each. They are of the most durable ware, and are recommended in preference to iron on account of their cleanliness and cheapness. If preferred, they can be had in two parts, the pan at 4s. 6d., and the Trap at 3s. N.B. Manufacturers of RAIN-WATER PIPING for houses.

SURVEYING and LEVELLING in all their variety, Plotting, use of Theodolite, and all other Instruments, Draughting, Mapping, &c., practically Taught, in a few easy Lessons, with the applications of Geometry, Trigonometry, Logarithms, &c., by the Advertiser, who is now on an extensive Survey. Proficiency guaranteed. References given. Terms, until complete satisfaction is given, Three Guineas. Apply to Mr. G. M. TODD, Engineering Surveyor, &c., 2, Grafton-place, Euston-square.

TO CARPENTERS, BUILDERS, ARCHITECTS, ENGINEERS, &c.

WM. TURNBULL begs leave most respectfully to inform gentlemen of the above-named professions, that having had much experience in making calculations respecting the dimensions, strength, stiffness, and flexure of cast-iron and timber beams and columns—he continues to calculate and give his opinion as regards the efficiency of supports in large and important structures of every kind.

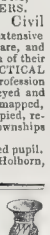
N.B. Private instructions in Arithmetic, Algebra, and Geometry, as applied to all the departments of Mensuration, Mechanics, Engineering, &c., and mechanical patents mathematically considered and faithfully reported on.—Application to be made at 27, Whiskin-street, Clerkenwell.

TO ENGINEERS, ARCHITECTS, SURVEYORS, SOLICITORS, LAND AGENTS, AND OTHERS.

MESSRS. SMITH and LEWIS, Civil Engineers, Architects, Surveyors, &c., of extensive practice, beg to announce that they receive, prepare, and thoroughly qualify young gentlemen in every branch of their profession. Terms for the course moderate. PRACTICAL INSTRUCTION is also given in every part of the profession on the most reasonable terms. RAILWAYS surveyed and levelled; land, timber, and buildings measured, mapped, and valued; maps, plans, designs, &c., drawn, copied, reduced, and lithographed; estates, manors, and townships measured, mapped, and valued.

N.B. There is a vacancy in the office for an articled pupil.—Offices, 4, Harper-street, Theobald's-road, Holborn, London.

STEDALL'S
PATENT SCOLECOTHIC VENTILATOR,
AND CURE FOR SMOKY CHIMNEYS.



The most effectual and most ornamental Chimney-pot yet invented, entirely obviating the objection to which all others are open, namely, that of soon becoming clogged with soot, and, consequently, useless.

A large quantity has been made in various parts of the kingdom, which have given the greatest satisfaction.

Price, Strong Painted Iron..... 32s.
" Strong Galvanized Iron .. 40s.

To be had of R. STEDALL, 13, Nelson-street, Greenwich.—The Trade supplied, and also licences granted to Manufacturers.

WOATLEY and SON, Inventors and Manufacturers of the SELF-ACTING VENTILATOR, Registered Pursuant to the Act of Parliament August 14th, 1845.

W. O. and SON, 25, Aldermanbury, City, beg to call the attention of architects, builders, and others, to the imperfect method of ventilation. The ventilation offered to the public is complete in itself, it is adapted for buildings of all dimensions requiring ventilation. The ventilation acts by means of boxes and pipes, so constructed, as to discharge all tainted air, whether it arises from gas-lights, or an overheated atmosphere, or other causes. The pipes act as suction-pipes by the current of fresh air entering the room by the opening of the door, giving a healthful and pure air to the room where the self-acting ventilator is used.—Workmen sent to any part of Town or Country.

LIGHTNING CONDUCTORS FOR BUILDINGS.

A. SMITH'S PATENT COPPER WIRE ROPE is being daily employed for the protection of CHURCHES and other buildings from the effects of thunder storms; it possesses important advantages over other forms of conductors. References can be given where it has been applied for some time past to CHURCHES, PUBLIC and PRIVATE BUILDINGS, &c., &c. Its general adoption in the Naval and Mercantile Marine of this and other countries is the strongest possible EVIDENCE of its EFFICIENCY, &c.

A. SMITH begs the attention of those engaged in building to his IMPROVED PATENT PANELLED AND REVOLVING IRON SHUTTERS,—Also, the Patent Weather-tight Fastening and Cill Bar, for French Casements, which are so much admired for their security, simplicity, cheapness, and efficiency. Of the merits of his

Patent Double and Single Action Door Springs,
Improved Flooring Cramps,
Patent Wire Sash Lines, &c. &c.,

Little need be said, as they are pretty generally known and appreciated.

Manufactory for Iron Suspension, Sliding, and other Doors, Strong Rooms, Plain and Ornamental Palisading, Gates, and Columns.—Also, Metal Sashes, Shop-fronts, Stall-board Plates, Brass butt, and other Hinges. Buildings heated upon a new, safe, and superior plan.

Estimates given for every description of Metal-work.

A. Smith, 69, Princes-street, Leicester-square, London.

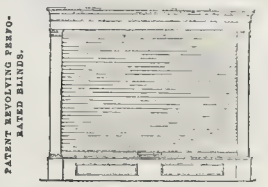
SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters for both security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.

PATENT SAFETY IRON SLIDING SHUTTERS.





The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 115, Old Street, London; or at the Licensees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using RENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licenses Granted.

INJUNCTION.

BUNNETT and CORPE'S Patent REVOLVING IRON SHUTTERS.—Since the verdict found in favour of the Patentees, in the Court of Exchequer, in the action tried by order of the Court of Chancery, that Court has granted a perpetual Injunction for restraining all infringements of this Patent, and therefore all parties are hereby cautioned against infringing the same.

THE PRICES ARE GREATLY REDUCED, and BUNNETT and CORPE'S PATENT IRON SHUTTERS ARE THE CHEAPEST AS WELL AS THE BEST. They are made with convex laths, if required. The worm and wheel motion for raising and lowering revolving iron shutters (as secured by this Patent) is the only safe and durable mode of effecting that object. In large shutters it is indispensable.

Some thousands of Bunnett and Corpe's Shutters have now been put up, without a single complaint of their want of strength or security; and nine years' practical experience (during which they have adopted every real improvement) enables the Patentees to challenge comparison with any others. They will guarantee all Shutters put up by them to keep in order, and last twice as long as any with thin convex laths.

B. and C. also manufacture REVOLVING WOOD SHUTTERS (the Patent for which has expired), at the same prices as other makers, but greatly superior, being fitted with their patent raising gear, and proper metallic hinges, without which no shutter can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop-fronts fitted with Iron Shutters, Patent Brass or Zinc Sashes, Plain or ornamental, handsomely Engraved, Moulded, Stall-board Plates, best Plate Glass, and Internal Brass Fittings of all kinds, superior in quality and workmanship, and lower in price than any other house.

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Metal Drawing and Stamping for the Trade.

Office at No. 26, Lombard-street, London; Works, at Deptford, Kent.

Steam-engines, Sawing, Planing, and Moulding, Cutting-machines on Improved Plans, especially adapted for Builders' purposes, may be seen in operation at the Works.

TO ARCHITECTS, BUILDERS, AND THE PUBLIC IN GENERAL.

GEORGE JENNINGS, of 29, GREAT CHARLOTTE STREET, BLACKFRIARS ROAD, begs to call the attention of Architects, Builders, &c., to his REGISTERED FASTENING for SHOP SHUTTERS, &c., which entirely supersedes the use of shutter-bars. Thereby effecting a great saving of labour, as by the old method, the bar has to pass through the hands of some one upwards of six hundred times in twelve months, which tends to deface the whole front more or less every time the bar is put up or removed. The fastening is secret, simple, and sure, in its action, and can be affixed to any shop-front in two hours, without any alteration to the shutters. New fronts fitted at a less expense than a shutter-bar would amount to. A liberal allowance to the trade, and any further information may be obtained by inclosing a postage stamp to the above address.—A Model may be seen at the office of "The Builder."

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.

Manufactured by J. B. WHITE and SONS, of Millbank-street, Westminster; and sold at their warehouses—Earl-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

ATKINSON'S CEMENT.

Rotherhithe Cement Works, Church-street, Rotherhithe.

WILLIAM WOOD, Jun., Manufacturer of Bath, Portland, and Roman Cements, Blue and White Lias Lime, &c. &c., begs to inform Architects, Builders, and others, that he is appointed AGENT for the sale of ATKINSON'S CEMENT, and has just received a shipment direct from the Works, which is now ready for sale, in any quantity, at the price of 2s. 3d. per bushel.—WILLIAM WOOD, Jun., also begs to call the attention of the public to his Bath Cement, which he thinks will merit approbation. It is of a very light colour, and will take up more sand than any cement now in use; requires no paint, and is well adapted for ornamental castings of every description, however elaborate; 2s. per bushel, delivered free within three miles of the works.

KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Milbank-street, Westminster.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Seaside. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Water, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

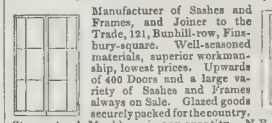
JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, produceable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

CHEAP ROMAN CEMENT is sold in Casks that will not contain five bushels, even by some manufacturers of a very respectable name. Consumers should see that the standard size cask is 29 inches long by 17½ across the head, outside measure. Any workman with a rule in his pocket can ascertain this.

PATENT METALLIC SAND CEMENT, requiring no colour or paint, and free from cracks and blisters, mixed ready for use at 8s. per cask; 2s. 6d. allowed for each cask returned in good order. 3½ bushels common sand to be added to each cask of Metallic Cement, which will float 14 square yards of stucco.—Apply at the Metallic Cement Wharf, King's-road, Camden New Town.

HERRING'S PATENT SAFETY WINDOWS.—No invention ever offered the advantages to builders and the public; it will positively add 5 to 10 per cent. to all houses having it, repay the cost every two years, abolish all danger to life and limb, cleaning and repairing. It is in full operation (four different ways), forms a complete ventilator and sun-blind, all simple, cheap, and effective.—Apply for licenses and to inspect its real merits, to Herring's Patent Steam Bed-feather Factory, 14, Kingsgate-street, London.

CHAS. WM. WATERLOW,



Manufacturer of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square. Well-seasoned materials, superior workmanship, lowest prices. Upwards of 400 Doors and a large variety of Sashes and Frames always on Sale. Glazed goods securely packed for the country. Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

TO THE PLATE GLASS TRADE.

THE BIRMINGHAM PLATE AND CROWN GLASS COMPANY, "Registered," beg to inform the Trade and Public, that the extension of their Works at Smethwick, near Birmingham, being now completed, their Warehouse, 141, Fleet-street, London, is now open for the Sale of their Crystal Plate Glass, which will be found to stand unrivalled by that of any other manufactory. They are also in a position to supply Rough Plate of any substance for Skylights or Floorings on the shortest notice.—Orders addressed to B. MOSS, Company's Warehouse, 141, Fleet-street, London, will be promptly attended to.

WINDOW GLASS, LEAD, VARNISH, and COLOUR MANUFACTORY.—Crown Window Glass, in squares under two feet, 4½d. per foot; glazing, 5d. per foot: sheet glass, 4d. per foot; best white lead, 26s.; seconds, 24s.; thirds, 22s. per cwt.; linseed oil, 2s. 2d.; boiled oil, 2s. 5d.; turpentine, 3s. 9d.; fine oak varnish, 10s.; carriage, 12s.; copal, 14s.; body copal, 20s.; gold size, 10s.; paper varnish, 16s.; linseed oil putty, 7s. 6d. per cwt. per firkin; patent dryers, 42s.; black paint, 28s.; lead colour, 24s.; Oxford ochre, 42s. per cwt.; best pan water-closet, 34s. complete; ¾-brass cocks, 2s. 8d. each. Milled sheet lead, patent pipe, beer-machines, tapping-cocks, and brushes and colour of every description. Thomas Millington being the manufacturer, can supply a much better article than most other houses. Address, THOMAS MILLINGTON, 87, Bishopsgate-street Without, London.—Established upwards of 90 years.

SASHES primed, glazed, and sent to any part of London at 5d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.

FOREIGN SHEET. BRITISH SHEET.
BRITISH CROWN. PROPAGATING GLASSES.

Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Shew-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.

Dry and Good Colours of the best quality; Brushes Dryers, and every article used in the Trade Warranted.

VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.

For complete lists priced.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

TO all who use the Hammer and Chisel, as Sculptors, Masons, Wood-carvers, Engravers, for clean and finished cutting in marble or stone, use TEMPLETON'S IRON GAUNTLET, now used by some of the best artists and tradesmen in London. Price Three Shillings.—Apply to R. TEMPLETON, 16, Wellesley-street, Seymour-street, Euston-square.



TO ENGINEERS AND BOILER MAKERS.

LAP-WELDED IRON TUBES FOR STEAM BOILERS.

THE BIRMINGHAM PATENT IRON TUBE COMPANY, 42, Cambridge-street, Birmingham, and Smethwick, Staffordshire, manufacture Tubes under an exclusive License from Mr. Richard Prosser, the Patentee. These Tubes are now very extensively used in the Boilers of Marine and Locomotive Steam Engines in England and on the continent, are stronger, lighter, cheaper, and more durable than brass or copper Tubes, and warranted not to open in the Weld. They may be fixed in the Boilers without Ferules, and can be taken out and refixed without additional trouble or expense.—Address, 42, Cambridge-street, Crescent, Birmingham; London Warehouse, 68, Upper Thames-street.

PREPARED FLOORING BOARDS.

AT REDUCED PRICES.

ALWAYS ON SALE, a Large Assortment of DRY PREPARED FLOORING BOARDS, and MATCHED BOARDING of all sorts, planed to a paralled width and thickness, from ¾ inch to 1¾ inch thick.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Wilton-road, Pimlico (late C. Moore and Son), and Great Smith-street, Westminster.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, at Old-Barge-Wharf, Upper Ground-street, Blackfriars, and at Hy. Castle's, Ship-yard, Millbank-street, Westminster, a large, very general, and well-seasoned stock of all kinds of Prepared Floor and Match Boarding, planed to a parallel breadth and thickness, fit for immediate use; also a great variety of machine-prepared mouldings, very accurately finished.

A. R., in calling the attention of builders and consumers, confidently presumes on being able to supply them on such terms as will ensure and merit their favours, &c.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Pantiles.

T. ADAMS (from Byron and Co.), late S. Dare, Mahogany, Timber, and Deal Yard, New-road, Bermondsey, near Bricklayers' Arms, has always in stock mahogany, cedar, wainscot, elm, beech, oak, &c. Pantile oak and fir laths, scaffold poles, pudlogs, &c. Wheelwright's goods, veneers, cut deals and scantling of every dimension. Also a large assortment of SEASONED FLOORING, MATCH BOARDING FIT FOR immediate use, and MOULDINGS prepared by machinery, all at reduced prices.

MUIR'S PATENT  PLANING MACHINERY.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.

Advantageous to Timber Merchants, Builders, Coopers, and others, who may require Timber to be sawn.

THE PATENT SAWING COMPANY beg to call the attention of parties in the above trades to the advantages which their Mills offer as regards charges, and the saving of expense in carriage, being situate close to the Grand Surrey Canal Docks, in Rotherhithe. They solicit a trial, and hope to obtain a share of patronage by a strict attention to all orders intrusted to their care. Letters addressed to the office, No. 5, Church-court, Clement's-lane, City, will be promptly attended to.

TO BRICK AND TILE MAKERS.

THE AINSLIE PATENT TILE MACHINE COMPANY (James Smith, Esq., of Deanstone, Chairman,) invite attention to their improved Tile Machine, and to their new improved Patent Kilns for drying and burning Bricks and Tiles, by which a saving of from two-thirds to three-fourths of the fuel is effected, and all the articles are burnt equally without loss or damage. The Machines at work, and a model of the Kilns, to be seen, and all particulars to be obtained from Mr. JOHN PATON, Secretary, 193A, Piccadilly, London.

Agents wanted.

WORCESTER ENCAUSTIC TILES

Specimens of these beautiful Tiles in all their Varieties, may be seen and information obtained at the London Agents, Messrs. GRIEVE and GRELLIER, Marble-wharf, Belvidere-road, Waterloo-bridge, or at the Encaustic Tile Works, of Messrs. F. ST. JOHN G. BARR, and Co., Worcester.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—J. M. BLASHFIELD, Agent. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

WILLIAMS'S PATENT SLATE RIDGES and HIPS.—The above article is recommended as the best and the most suitable covering for Ridges and Hips of slated roofs ever invented, possessing a solid Roll of various sizes, more elegant and durable than lead, and 30 per cent. cheaper.—Sold by Messrs. J. and J. SHARP, Slate Merchants, Tooley-street, and Mr. RICHARD COOPER, Slate Merchant, Belvedere-road, Lambeth, London.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c., of 100 sorts and sizes.—The Public is respectfully informed, that Mr. PEAKE has removed his Depot from Whitefriars to No. 4 WHARF, MACCLESFIELD-STREET South, City Basin, London, where a large Stock is on Sale of genuine Terro-Metallic Goods. No Agent. Roofing in Grecian and Italian styles, other devices also, or plain; ridges and hips, with plain or capped joints, roll tops, or vertical ornaments; paving, in 6 in. 7½ in. and 9 in. blue and red squares, in 6 in. blue and red hexagons, and in 8 in. blue octagons, with 3 in. drab squares. Drains, many sizes, with butt or socket joints; conduits, which will not injure pure water; tubular and other flues, of proper material; channels, large clinker bricks, and outdoor paving; sundry wall-coping, fire bricks and tiles, garden-edging, chimney tops, &c. The Tileries, Tunstall, Staffordshire, are near the centre of England, whence boats are sent to any inland place, or to the Mersey, for the coasts, the colonies, and elsewhere. A Wharf at Whitefriars to be let for a term.

The Builder.

No. CXCIII.

SATURDAY, OCTOBER 17, 1846.

IF Lord Morpeth and the Government were sincere, when they stipulated that if the appearance of the Wellington colossus on the arch was not satisfactory to competent persons, after being "on liking" for three weeks, it should come down,—*down, unquestionably*, IT MUST COME. As the network of timber is removed spar by spar from before it, so do the folly of the experiment, the absurdity of the conjunction, and the greatness of the sacrifice become apparent. Its effect is even worse than we anticipated,—the destruction of the arch by the statue, and of the statue by its elevation on the arch, more complete. Every post brings us letters urging renewed efforts to remove the figure to another site, but not a single line have we received in praise of its present position, or even in defence of it. The case is hopeless: surely no one *can* praise the appearance presented who is competent and unbiassed.

A respectable morning paper, indeed, impelled perhaps by kindly feelings, is so bold as to urge, that "so far as the objection to this site, on the score of the statue being too large in its proportions for the arch, is concerned, we believe it will be found that the fault (if fault there be) will be directly the reverse;" and elsewhere says, "if any thing, the arch is too large for the statue!

It is, indeed, too large,—too lofty, considered as a pedestal, in which character alone it is regarded by the two or three journals who have in a still, small voice, endeavoured to defend what we hope will prove, the untenable position. Thus, the *Observer* says, after finding great fault with the statue,—"if the artist were called upon to erect a pedestal for his own work, it is doubtful whether he would have selected one that fits it so well in every requisite particular, namely, elevation, size, and situation."

Proh Pudor! But the fact, without stopping to deny this altogether, is, as we have repeated over and over again, that the arch was not intended to be a pedestal, but a structure,—a monument of itself, and if embellished as proposed by its architect, with a statue flanking the attic, over each column, trophies on the main piers, sculpture in relief on the face of the attic, and a quadriga on the top, of proper size as a decoration,—an accessory, not the principal,—would have been a worthy adornment of the metropolis. Used as it now is, that character has entirely disappeared; all the money expended upon it is utterly thrown away and wasted, while, as a pedestal, it is wholly inappropriate and unfit.

The artist must feel by this time how much he, individually, has lost by the obstinacy of the committee. Seen sufficiently near to the eye to distinguish all the parts, and on such a pedestal as should make its colossal size apparent, the merits of the work would be found greatly to overweigh its defects,—and the vastness of the undertaking, the labour, energy, and skill required to carry it out, which are not now felt by the beholder in the slightest degree, would gain for the sculptor the applause which he deserves.

As seen, however, on the top of the arch, where the outline alone can be embraced, it is, as a work of art, and irrespective of the inappropriate pedestal, an utter failure,—mawkish, effectless, and insipid; conveying no clear idea, exciting no lofty emotion.

We have scarcely patience to speak calmly, when we reflect on the evil done,—two monuments destroyed, two artists injured, and a whole nation in a degree disgraced.

Earnestly then we express a hope that Lord Morpeth's stipulation was not merely a blind, being satisfied that in that case, as we have already said, the statue *must* come down.

That this much desired step will expose all concerned in it to a shower of ridicule, is certain; we trust, however, that the fear of this will not operate on the decision. It is better to be laughed at for a week, than condemned for a century: and nobler to acknowledge an error and retrace your steps, than to persist in it to the injury of others.

Still, dreading lest the same determination and influence which, unnecessarily and at such great cost, lifted the enormous mass on to the arch in opposition to the will of the House of Commons, to see "how it would look," may succeed, despite the almost universal opinion, in keeping it there, without that opinion make itself loudly heard,—we would suggest that a respectful protest against its continuance on the arch, addressed to her Majesty, should be forthwith drawn up for signature, and should lie, during a specified time, at some public place for that purpose. The accomplished professor, whose personal protest we commented on a short time since, would but perform a duty he owes the public were he to imitate this measure, and would thereby entitle himself to the thanks of every lover of art, and of every man jealous for the reputation of England in matters of taste.

In the case of a recent competition, where professional assistance was desired in the selection of plans for premiums, letters appear to have been addressed, by order of the committee, to several eminent architects, stating their wish, and asking "for what amount of remuneration they would undertake the task." Whether the committee took the *cheapest* that offered, or managed to find one who, for love of art and fair play, was willing to do it for nothing, has not reached us. It seems rather a new move, however, thus to seduce even the old stagers into *a competition*, and that, too, on so low a ground as *prices*. We shall, perhaps, hear more of it.

It will not surprise us to see, one of these days, advertisements such as this, with a difference: "To architects and surveyors. Professional advice wanted, in the case Easygo *v.* Gammonall. Letters, post-paid, stating lowest price per day, including cab-hire and expenses, to be addressed to Ignatius Loyala Lofty, Esq., solicitor, of Lions Inn. Write soon, to prevent disappointment, as applicants will be numerous!!"

The Kensington Board of Guardians have set an example to competition committees which will, we trust, be imitated; and have given a lesson to disingenuous competitors, likely, when generally known, to produce a salutary effect. The guardians advertised, as our readers may have seen, premiums for the first and second best plans for a new workhouse; with the understanding that the author of the first set, if a competent person, would be employed to superintend the execution of the work. The cost was not to exceed 9,000*l.*

Twenty-two designs, some of them very elaborately displayed, were sent in; and from these the Board selected a set by a Mr. Blore, as No. 1 (chiefly because it promised more for money than the others), and a set by Mr. Allom as No. 2. When, however, the selected plans had been forwarded to the Poor Law Commissioners and precise estimates were needed, the fact came out that the building would cost nearer 18,000*l.* than 9,000*l.*; in other words, that the plans were a deception. Upon which the guardians very properly revoked their decision, returned the plans, and selected the design No. 2 for execution, provided the same can be carried out for the sum named. The injustice that would have been committed if the Board had not acted thus (and which, in the case of the Consumption Hospital hard by, *was* committeed), is too apparent to need comment.

ANNOTATIONS ON IRON.*

Few contrivances connected with the working of iron are of more value than those which perform the operations of *planeing:* by means of these powerful machines, that obdurate material, whatever its form—plane, cylinder, cone, or sphere, whether simple or in any combination, however complicated, and therefore embracing every shape which machinery can assume, can be reduced to a surface the most mathematically true, and that with the utmost facility—human labour being superseded, and human superintendence alone wanted. The advantage which a planed has over a ground surface, consists in its being exempt from those irregular masses which, upon close examination, are to be detected in the latter, and which proceed from the difficulty of obtaining an equal distribution of the grinding powder: these irregularities being absent in planed plates, their bearing points are so infinite, that if one be placed on another, it will float until by its weight it in a great measure excludes the air, when the two will adhere together with considerable force; and that with the more certainty if the very smooth surface produced by a repetition of the planing process is bestowed on them. The immense power of these machines, and the hardness of the cutting instrument—which encounters such resistance for perhaps a day together, without becoming inoperative—may be imagined, when it is considered that this resistance against the edge of the latter, in a large machine, amounts to as much as thirty tons.

Of the operation of *iron-turning*, on its largest scale, an idea may be formed by imagining the paddle-shafts, one at a time, of some immense steamer, fixed in the lathe, ten tons in weight, and revolving rapidly; while the chisel moves steadily along in its slide, and turns off, as if it were but lead, a continuous shaving of iron, perhaps thirty or forty feet long, and curled up like the worm of a screw, one of its edges, probably, split into short regular teeth like a fine comb, from the pressure of the tool, and the only food of which is a constant dropping of water upon it during its progress to and fro, either in this or the planeing process: or, it may be, the top, whether flat or hollowed, of a steam cylinder, companion to the shafts, eighty inches in diameter, and as bright as a mirror. Articles of such magnitude as these, finished with ease and unerring accuracy, by a self-acting process—the work only requiring to be placed in the lathe, and the tool to be set—the machine doing the rest, afford a fair criterion on the subject.

The importance of making good *welds* cannot be more forcibly inculcated than by adverting to the frightful loss of life which took place at Yarmouth on the 2nd of May last year, from the falling of the suspension-bridge across the river Bure, the leading cause of which, according to the report of Mr. Walker, the engineer, who was appointed by Government to ascertain the origin of the catastrophe, was the defective joining of the short pieces containing the eyes to the ends of the rods forming the chains—the appearance of the fracture

* See page 470, *ante*.

of the bar which first broke proving "that for some length of time, or from perhaps its original manufacture, the weld was imperfect—not more than one-third of the melting surface being united, and the other two-thirds presenting a rusty surface." It has been found that the welding together of different kinds of iron gives an unfavourable result. Welds made with peat are superior to those made with coal, which might be expected, since ligneous carbon, being free from sulphur or pyrites, must be better for the purpose than any fuel containing these impurities.

It is found that vibration, such as railway axles are subject to, and also, which is analogous to it, the operations of hammering, swaging, or planishing iron after it has lost its red-heat and high ductility, have the effect of reducing the fibrous texture of wrought to the crystalline structure of cast-iron (evincing an effort on the part of the metal to return from an artificial to its primal state); thereby causing it to materially deteriorate in quality, and endangering its stability wherever there is any strain to bear: but it is also ascertained, that there is nothing inherently wrong in this cold hammering, &c., for, on the contrary, if it is combined with the curative process of *re-heating and slow cooling*, the tenacity and shock-resisting quality of the iron are even much enhanced. Hence, in the case of iron trusses, for example, when the eyes of the tension and suspension rods are formed and finished, they should be brought again to a red heat, and not afterwards subjected to any percussive process.

In *Newton's Journal* for 1827, is described a method then lately discovered of rendering the hardest cast-iron soft and malleable, so that it may be welded together, or when in a cool state, bent into almost any shape by a hammer or vice; it consists in placing the casting in a pot surrounded by a soft red ore found in Cumberland and other parts of England, and setting the pot in a common oven; the doors of the latter being closed, and but a slight draught of air admitted under the grate, a regular heat is kept up for one or two weeks, according to the thicknesses and weight of the casting; the pot is then withdrawn and suffered to cool. We may imagine that from this discovery very important results might be obtained.

In the contracts of the Admiralty for chain cables for the British navy, it is (or used to be) stipulated that "the iron shall have been manufactured in the best manner from pig-iron, smelted from iron-stone only, and selected of the best quality for the purpose, and shall not have received in any process whatever subsequent to the smelting, the admixture of either the cinder or oxides produced in the manufacture of iron; and shall also have been puddled in the best manner upon iron bottoms, and at least three times sufficiently drawn out at three distinct welding heats, and at least twice properly faggotted."

"When iron once gets rust, so as to form a scale," says Smeaton, "whatever coat of paint or varnish is put on over this, the rust will go on progressively under the paint." Such being the case, it is obvious that all works in iron, whether cast or wrought, should be defended against atmospheric action before it has once cooled; for this there are many methods, but perhaps the best of all is that practised by Smeaton himself, namely, striking the iron over with raw linseed oil when at a blue heat, which fills the pores, and gives it the appearance next day of having received a coat of varnish.

It was the practice of the ancient architects, and of those also of the middle ages, to qualify their design to their materials; and hence we do not find in their works the incongruities that abound in the falsely conceived imitations of our own times. If we examine the candelabra, tripods, chairs, and other similar works of the former, as existing in marble and bronze, we find these objects, destined as they were for the same purposes, though executed in different materials, to exhibit the same general design, and be equally symmetrical, while they materially differ in their proportions and detail. In like manner, if we turn to the works of the latter, we find that it was with them a chief aim to regard the peculiar character of each material, and never, while aiming to surprise, to affect in one the characteristics of another, but, on the contrary, even appreciating the varieties to be found in one material,—as may be seen in their use of slender insulated shafts of Purbeck marble, where a more fragile description of stone, employed in the same proportions, would have had less stability, and would have conveyed also a sense of less safety. With moderns, however, this has been grievously overlooked; and accordingly we find castings of iron arrayed in a tawdry disguise of paint, which soon gets rusty, taking the place of stone, and wearing the stamp of vulgar pretension, where, had it been given its own character, no such mark of deception would have been the result. This proceeds from the primary error of misapprehending the character of the material,—first thinking ourselves called upon to imitate the massive proportions of another which is more friable in its nature, and then perceiving the obstacles to our working by hand that which we have chosen. In the days of the old architects, too, the fashion had not arisen of concealing aught that was necessary or useful; and they made it their business to render subordinate objects of utility as sightly as possible; thus, instead of the mortise-locks and edge-hinges of the present day, those essential articles became in their hands rich and beautiful ornaments—their efficiency running no risk of being impaired from any attempt to render them invisible. The varied and flowing scroll-work of the early hinges, overspreading the surface of massive oaken doors, and the elaborate specimens of smith-craft decorating antique chests and cabinets will occur to the reader, and be contrasted favourably with the bald and stealthy practices of the nineteenth century.

In contemplating the class of ancient works to which we have referred, and encouraging in our minds a sympathy with the spirit in which they were produced, we become alike forcibly impressed with their exceeding beauty and the peculiar capability of the material: reason, however, shews us that although these old examples are all executed in wrought-iron, it does not follow that we who possess an improved knowledge of the physical properties of that material, and can render it in another and more enduring form, are not, when employing it in similar works, to avail ourselves of our superior knowledge. In contending for the use of cast-iron in an ancient style of architecture, when occasion offers, we do not mean to promulgate such an erroneous idea as that of executing in cast-iron, forms which it is obvious are exclusively adapted to wrought; that would be blindly travelling the beaten track of imitation. Let it be conceded that, had the ancient architects possessed cast-iron, they would have made it subservient to their purposes; and in this supposition, let us, in using it, do so in the way they would have done, as far as imagination will assist us, disusing the pincer twists and the rivettings, and any such operations as, in this material, are impossible or no longer necessary. This will, of course, alter the character of the production; but then, the material being another, it is reasonable that its character should be as distinctive as we find those of stone, wood, and wrought iron invariably to have been; and that where both are employed, they should respectively perform a part peculiarly their own.

But it is in the hands of science, as a material of construction, that iron has in modern times assumed its high importance. Confined no longer to the formation of locks and hinges, it appears in shapes undreamt of by those ancient artists whose clever but limited performances we have been admiring. Instead of the wooden-walls, coming ages will boast of the iron-sides of old England; our pleasant old highways, which wound accommodatingly round hill-sides, and dipped into valleys, and clambered steep uplands, have given place to iron ways, made by engineers—men of straightforward, uncompromising minds, who make our paths straight, and narrow, and level, and gauged—who, tholas-like, bore through wood and stone alike, unflinchingly and insubvertible. Our stage-coaches, too, which whilom carried six insides and twelve out, whirled along by sleek bays, and browns, and dapples, and guided by some spruce genius of the thong, have vanished in the hissing breath of the fiery and panting locomotive, who with muscles, and sinews, and nerves of iron, and a boiling current in his veins, now flies along his track, with the power of squadrons, and the speed of light, bearing a population in his train; our bridges of arched masonry are superseded by ponderous beams or vertebrated slings of iron; we export iron dwellings to our colonies, and have sent an iron church to Jamaica, not omitting its complement of stained glass. In a word, the progress of civilization is due to iron. Just fancy railways across the deserts of Arabia, and through the wilderness of America,—imagine yourself careering along from Albany to Niagara, on a pleasure-trip to see the falls, and the red Indian humbly vending, at the stations, trinkets, baskets, and mocassins, dividing your attention with the smart waiter, who tempts your palate with ices and confectionary. To portray the achievements of iron, as already accomplished, might be easy, but to conceive its latent capabilities is impossible.

HOUGHTON HOUSE, BEDFORDSHIRE,

DESIGNED BY INIGO JONES.

At a meeting of the Freemasons of the Church, held on the 8th ultimo, a paper on Houghton House, by Mr. E. W. Smith, of Bedford, was read, of which the following is the substance:—

The existing structure owes its chief historical interest to the circumstance that it was built by the celebrated Countess of Pembroke, immortalised by Ben Jonson in his justly lauded epitaph.

> "Underneath this marble hearse
> Lies—the subject of all verse—
> Sidney's sister, Pembroke's mother.
> Death—e'er thou hast slain another,
> Fair and good, and learn'd as she,
> Time shall throw a dart at thee!"

But the estate of Houghton was in possession of the family of the *Conquests*, who conferred upon the parish and manor this additional name, and it has since been recognized as Houghton Conquest. The manor was in possession of this family in the thirteenth, and probably in the twelfth century. Sir John Conquest, one of the Bedfordshire knights, served in the army of Henry III. The mansion was called Houghton, or Conquest Bury, and some small remains still exist of it in a farmhouse, but I have not yet had an opportunity to examine them.

The male line of this family became extinct in Benedict Conquest, father of Lady Arundel, and the estate was sold to Lord Ossory's father in 1741.

Houghton, or Dame Ellersbury Park, was in the beginning of James First's reign occupied by Sir Edmund Conquest, as keeper. In 1605 the king, in one of his "progresses," honoured Sir Edmund with a visit, and attended service with all his court at the parish church, which is recorded in a curious MS., written by Dr. Zachary Grey, editor of Hudibras, and since handed down through the successive rectors of the parish; and I am indebted to the kindness of the present incumbent, the Rev. H. J. Rose, both for a sight of the MS., and also for several valuable notices which I shall have occasion to insert in this sketch of Houghton Conquest.

"It appears from certain records in the possession of his grace, the Duke of Bedford, that in the year 1615 Sir Edmund Conquest, lessee under the crown of Houghton Park, made over his interest in it to the Lady Mary Sidney, then a widow, through her trustees, Matthew Lister and Leonard Welstead.—In 1630 the two estates, united in the Bruce family, were granted by charter to one Ditchfield and others, who conveyed it to Sir Francis Clerke, whose heirs sold it to the Pigots, and they again to the Earl of Aylesbury, in 1675. In 1738 it was purchased of his family by the Duke of Bedford, and from thence passed with Houghton Park into the hands of the Earl of Upper Ossory."

The present house (now in ruins), on a totally different site to the old residence of the Conquests, was built by the celebrated Mary Sidney Herbert, Countess of Pembroke, about the year 1615, or between that year and 1621, when she died. There is little doubt but that Inigo Jones was the architect, both from the evidence of style, and also that he was much patronised by William Earl of Pembroke, son

* See Parry's "Illustrations of Bedfordshire," p. 63.

of the countess, and for whom Jones built a great portion of Wilton.

The house is admirably situated on the brow of an eminence, commanding extensive views over the wide spread vale of Bedford; it had noble avenues of trees leading down the hill into the valley, and also carried across the estate in various directions, forming a picturesque and interesting park, though on a small scale; the want of water, however, is felt in the landscape.

The house, though dismantled and in ruins, presents many fine features, great depth of shadow, bold projections, and costly decorations; it is built of brick, with stone facings; the architraves, mullions, and dressings generally, being richly and deeply cut in a rather soft, but close-grained freestone, called Totternhoe. Some parts of it approximate to the style of Palladio. The centre of the north front is similar to the interior of the Convent della Carita, at Venice, which was built by Palladio after the plan of a palace in ancient Rome. The centre of this front is sufficiently perfect to give a good idea of its pristine beauty. A noble recessed portico, 22·5×12·3 forms the centre of the ground story, having four Doric three-quarter columns, with arches between, and two in the return angles, standing on a base, from the middle of which a flight of steps descended, to probably a terrace or garden lawn. Three arches support the entablature and gallery of the Ionic Loggia, similarly arched, which is again surmounted by a story, having two Corinthian or composite pilasters between three recessed niches, the centre one pierced as a window, and each ornamented with a sculptured shell in the archings, and above which there is a small pediment supported by scrolls; a coat of arms, with supporters, filled the panel under the pediments. The two principal apartments on this side the house had noble bay windows extending to the first-floor, the chamber story above which, it may be presumed, was terminated by an ogee moulding, according to a print, taken from elevations, late in the possession of Lord Holland.

The west, or garden front, is also of an ornamental character—the centre forming a recessed portico of Doric architecture, with open loggia above in Ionic; above which, it is supposed to have terminated, in a story of Corinthian or composite, with a pediment. The metopes, between the Doric triglyphs, have the armorial bearings of the Sidney and Pembroke families, sculptured in reliefs alternately with monograms.

The south front, or principal entrance, was plainer than the two sides above described, but nevertheless formed an imposing approach to the mansion. It consisted of a centre tower, beneath which was the porch; on either side, deeply recessed, were the large mullioned and double transom windows of the Great Hall, divided, as I presume, into two portions, beyond which were two noble projections on either side, forming a library of 36 feet, and a dining hall of about 40 feet in length; the whole building flanked at the angles by four towers, and measuring 123 by about 84 feet. The porch tower appears to be rather a peculiar feature.

Houghton House, while in the possession of the Duke of Bedford, was repaired, and the interior fitted up by Sir W. Chambers for the Marquis of Tavistock (grandfather of the present duke), who was killed in hunting at this seat, to which he was extremely partial. Lord Ossory afterwards resided at it for a short time. And in 1794, it was dismantled and rendered a ruin.

It is to be regretted that a structure, built for centuries, should have been purposely dilapidated and ruined, the situation of which was remarkably fine, the park well timbered and convenient, and the materials of the house of so firm and strong a character, that even now, after an exposure of half a century to the weather, the brickwork and stucco in the interior are so hard and polished, as to resist considerable efforts to penetrate the walls. Some small remnants of painted stucco are discernible, but mutilated by that spirit of vulgar mischief, whose delight seems to be in obliterating the remains of ancient times, and fastening a reproach (but too well founded) on our national character.

Having thrown together these few disjointed and hasty notes and observations, I must deprecate censure by pleading my incompetence to treat upon a subject which, strictly speaking, belongs to a professional man, but as your society have been kind enough to compliment me by affixing to my name the honorary title of corresponding delineator for this county, I cannot do less than tender to them my acknowledgments, by sending the result of a few agreeable hours, passed during this most enjoyable summer, in the groves and ruins of Houghton Conquest.

NEWLEAFE DISCOURSES ON ARCHITECTURE.

THE STATUE ON THE ARCH—PRECEDENT—REASON.

SIR,—By your kindness I have a character to lose. In your last number (unwittingly, I will admit,—but none the less therefore forcibly), that character is assailed. For I am held up as affording, but another lamentable instance of the deep-rooted and universal "flunkyism" of man.

Et tu Budownike! the same whom I remember with gratitude as coming so boldly forward—*the first* to give me "a hearty *bravissimo!*" and at a time when bravissimos seemed likely to be few! To be pilloried, and by him, as "cowardly" and "flunky,"—"hanged" as a vile "recreant,"—and finally "dismissed" to silence and the grave "unwept, unhonoured, and unsung," as altogether an "ugly subject!" and at the very moment too, when poor human nature was haunting me with the dread word *publication of heresy*, and whispering maliciously that there exists a thing by name *discretion!*

But it may be that the error lies with myself. Perhaps I ought to have apologised to you and your readers for having withdrawn from the pages of THE BUILDER, to deliver myself into the hands of the book-printer. By your favour I was permitted to undertake a public service; and I certainly cannot complain when I find myself reminded that that service has never been completed. When I commenced my letters, nothing could have been farther from my thought than the publication of "The Newleafe Discourses;" my intentions were limited by the simple idea of a few hasty sketches to do a little quiet good. I have been guilty of no fraud; for if it had been possible, I should have very much preferred to advance the good truth by the medium of your journal, so much more widely circulated than my little volume can ever be expected to be. But the subject warmed with me, widened, deepened. I had known myself for long as a heretic; but it was soon apparent that the full volume of my heresy was undisclosed even to myself. My honesty prompted me too, to say very much that I feared THE BUILDER never would endorse. And last, not least, I could throw the letters of a year into the reading of a day. And so it happened that "The Young Architects of England, by one of themselves," changed form and purpose. For which, if I have sinned against you, I pray forgiveness.*

Now that I have put pen to paper, with your leave I will add "one *more* voice to the outcry already so justly raised against the erection of the statue of the Duke of Wellington over the arch at Hyde-park-corner." On the afternoon of the memorable Tuesday, I was aroused from a little reverie by the well-known knock and ring of dear Dr. Verditurus. Another moment and it was, "O my friend, Mr. Newleafe, I pray thee to accompany me straightway unto the street Piccadilly; for the image of the Duke Wellington and his horse—is it not all strung up into the air with a string! We shall obtain an excellent view thereof." So to Piccadilly we went.

Arrived, the Doctor soon perceived the form of his porter, "Master Hugh," surveying the suspended sculpture with a keen eye. "O Master Hugh," quoth my friend, "tell us now what is thine opinion of this image: for I know thee for a man of unsophisticated imagination." "Weel raley, Doctor," returned he (Hugh is a shrewd old Northerner)—"Weel raley, Doctor, I jist div not like to say't; but raley that horse—raley it diz not please my notions ava'. Na! the Lord preserve's? saw ever ye or mortal boddy sic a daft like beast? Noo, I'll jist speak rael honest, an' tell ye my rael opingon. It jist diz not mind me of nothing ither than a stirky, at the shore o' Ebberdeen when they're pettin' him aboord ship wi' a cran'. For ye must cknow that they pet a kind o' belt oonder the belly o' the beasty, an' hyste him up wi' a cran', an' swing him aboord; considerin' this to be maist easy for the men an' confortablest for the craters themsels. An' so, in coorse, when the puir nouty's i' the air he leuks feel eneugh, as ye may verra weel suppose, an' his leggies hang dingle-dangle jist like that for a' the wordl, and his een an' luggies gang skeery-skarey like that jist kisactly, as if althegither not cknowin' whether to tak' it in earnest or in fun. Weel, Gweed forgie me, Doctor, an' a' boddy, but gif the horsy wad jist cry *Coo-mo-o* noo, the thing wad be raley perfit an' complete."

"Thou knowest," said the doctor to me afterwards, "that I am one who loveth not to say hard sayings. Neither is Master Hugh, my man, one who rejoiceth in acidulated discourse. But what couldest thou object, dear friend of mine, were I to propose for this image support from above? Would it not be appropriate? for I agree with Master Hugh. Novel likewise? a thing much to be desired in these our days. Even so; and likely, as well as any other mode, to please all parties, my friend,—even the Knight Frederick Trench himself, whose ingenious argumentation it is, that the Duke Wellington being a most unprecedented man, it is well that we place his effigy in a most unprecedented position."

But Mr. Newleafe is a cautious person in sculpture; so he changed the subject.

If it were not exceeding my licence I might expatiate upon the wonderful ingenuity of the "Artist" who accomplished, for the small sum of thirty thousand pounds, the extraordinary conception of a large Duke astraddle on a large horse: and, secondly, I might expose my reasons for perfect concurrence with the Dr.'s opinion, that "the Duke his horse undoubtedly appeareth to have been a wonderfully unlovely beast;" but what I have at present to say refers more particularly to the idea—*The statue on the Arch.*

The placing of the sculpture with the profile to the front I shall take no notice of. It is not only a matter much more difficult in argument, but it is also a point at present of much less importance, than the general fact of putting that statue, in any way whatever, on that "bad eminence."

Your humble servant and Sir Frederick Trench are quite and cordially at one in an utter contempt for precedent. I will frankly confess this,—I was really prepared to defend (if possible) the statue on the arch! Come, thought I, here's an opportunity, now, for fastening quite a quarrel on Mr. Precedent. *If possible*, of course. But it wouldn't do. I own that I must in this case—not *defend Precedent*, mark you—but perfectly *agree with it.* The thing is monstrously bad.

The letter of "C. R. C." in *The Times* is a very able criticism of the question. I have nothing to add to it. But I have a good deal to abstract from it, if you will,—to lop off the evil and rotten branches, that the good and sound may be the better and the sounder,—to clear away the weak sophistry, that the strong truth may the more strongly appear.

For the *precedent* on which Professor Cockerell so hugely dwells, has nothing whatever to do with the matter. The question is, This statue on this Arch,—on its own merits. Ancient Romans have no authority in the case any more than ancient Kamschatkans. We may take notice of their practice as *advice*,—we may give it due weight as the result of their study, due value as suggestive of principles to the mind; but *to adhere to it* on account of *precedent* is to wear pigtail and powder because our fathers did so.

"In a question of this nature," says the Professor, "we naturally turn to classical examples." Not at all, we do nothing of the kind. We naturally turn to "the true end and aim of Art"—the principles of Nature and Reason, on which if the classical examples be not themselves dependent, said classical examples with all their classicality are absurd and bad. A pretty pass have we come to indeed when in a question of this nature we—*we*

* To the book which the letters in question and others in addition, now form,—"The Newleafe Discourses on the Fine Art Architecture,"—we shall refer hereafter. We may, in passing, express surprise that the fact of their previous appearance in our pages does not appear to be mentioned in it.

turn to *classical examples!* A fine tale to tell of this nineteenth century and its England, that we turn to the poor old Roman as a god, just because it has been handed down an empty dogma—mere play upon big sound—*vox et preterea* NIHIL—to turn to *classical precedent!* Put Bellori back into the book-case, Mr. Cockerell, and tell us what Mr. Cockerell *himself* says of the matter—he is better than a thousand Belloris.

Apart from the precedent portion of the letter (which must have looked supremely absurd in the uninitiated eyes of Mr. Bull, the shopkeeper) Mr. Cockerell gives us very full and excellent reasons against the contemplated atrocity. Other critics also have done it justice. It has been well canvassed; and I have nothing new to urge. But the reference to Antiquity I would not permit to pass in silence. For the uninitiated may think that we have no other argument to bring forward than this,—which they laugh at heartily, and which we would laugh at too

"If damned custom had not braz'd us so
That we are proof and bulwark against sense."

The true criticism proceeds thus. The statue is—as we have it; and its *effect* is dependent on certain natural principles. The Arch is—as we have it; and its *effect* is dependent on certain natural principles. These are the facts of the Arch and the facts of the statue. The question is, Do the facts of the Arch and the facts of the statue agree together? The development of this is the whole criticism of the case. And the Arch and the statue do *not* agree. And the offence is even a double offence. One is not sacrificed to one, the statue to the completeness of the Arch, or the Arch to the dignification of the statue; but each is sacrificed to each,—the facts of the Arch mar the statue, the facts of the statue mar the Arch. However beautiful and valuable separate, together they are worthless and worse,—two organ-grinders grinding good and well ground tunes, but wretchedly in discord, each a hideous accompaniment to the excellent other!

In future war on the matter, then, for the sake of common sense, let there be no more absurd reference to *ancients*. If "the learned Thebans of the sub-committee" force us to fight, let us fight with the weapons of rationality and Truth, and throw the edgeless things of silly superstition behind us for ever and for aye,—they are encumbrances more than arms. Leave the clattering of brazen pans and the lifting up of death's heads to the simple Chinaman,—*we* must use the broadside and the boarding-pike. Leave the *dicta* of ancient Romans to such as may believe in Jupiter's amours, and the auguries of sacred entrails, and let Mr. Bull, who is a common-sense plain man, with a tolerable idea of plain logic, look at the matter in the light of common sense, and decide it by the rules of common argument.

And I will say this, that so long as Architects doggedly and stupidly persist in their absurd system of criticism by *precedent*, they have themselves to blame if the public pay little deference to their opinion, and sub-committees treat them as mere crotchetty fiddledeedum people to be *set aside* as best may be. Mr. Bull knows very well that precedent is nonsense. The Architect's province in this matter, is to employ his knowledge of the subject, to point out to Mr. Bull the facts of the case, that Mr. Bull may see them for himself and be satisfied for himself; not to produce Belloris, and medals, and Vitruvii, to show what *the ancients* did! What does Mr. Bull care for the ancients? What he wants is the common sense reason and truth of the matter.

ROBERT KERR. (R.)

PALACE AT CUDDESDEN, OXFORD.—Some extensive alterations and additions have been made at the Bishop's palace, at Cuddesden, under the direction of Mr. Ferrey, including a new chapel of the decorated period. The roof and fittings are of oak, and the windows filled with stained glass. The east window, by Willement, was presented by Prince Albert, the rest, by Warrington, Wailes, and O'Connor, were presented by the Archbishop of York and others. The same architect is building a new governor's house to the Oxford gaol; it is designed to form an angular tower, in keeping with the rest of the structure.

PROGRESS OF THE BATHS AND WASH-HOUSES IN WHITECHAPEL.

SIR,—Your observations in THE BUILDER of the 3rd instant, as to the delay in the completion of the building at Goulstone-square, are made in so fair a spirit, that I have no doubt of your publishing the following remarks on them:—

Of the two years which have passed since the public meeting at the Mansion House (October 16, 1846), nearly one year elapsed before a site could be obtained; and of course, before the working plans could be prepared. The railway mania then occasioned additional, and, so far as the committee are concerned, unavoidable delays, amounting to some months in the whole. During the progress of the works, the causes of delay to which you refer and others equally beyond the control of the committee, have operated to retard their completion; but I confidently submit, that even if a twelvemonth should be spent on them (which will not be the case), that would not be at all an unreasonable time; and I have no hesitation in expressing my conviction, that when they are completed, you will be perfectly satisfied that the committee have acted with great prudence in the course which they have pursued. It is of vastly greater importance, that they should spend a twelvemonth in producing what will really serve for a model, than that they should have an imperfect building opened some months sooner.

Your observations appear to proceed on the assumption that the building of baths and wash-houses is the main duty of the committee. That is by no means the case. They are "The Committee *for Promoting the Establishment* of Baths and Wash-houses for the Labouring Classes," and they have succeeded in promoting that object, to a degree far beyond the most sanguine expectations which most of the originators entertained at the outset. At first four model establishments were proposed to be erected by the committee. It was soon found that it would be impossible to raise subscriptions sufficient for this purpose; and it was thought that if the committee could show one model establishment, realizing such a profit as might tempt capitalists to erect others, they would have performed the building part of their duties. No pains to secure the most economical application of fuel (for which very careful experiments have been made), and the best arrangement of the apparatus, have been spared, and if the wash-house succeeds as well as that at Liverpool, and the baths as well as those at St. Pancras, the yearly net profits, after paying all expenses, will not be less than 18*l.* per cent. on the capital sunk. Let this result be proved, and we shall soon have no more lack of baths and wash-houses than we now have of breweries. That it shall be proved, the committee have spared themselves no labour, and will run no risk by making "more haste than good speed."

You refer to the St. Pancras baths and wash-houses, and also (though not by name) to those at Glasshouse-yard. Both are owing to the parent committee. On their recommendation, the St. Pancras committee was formed, as you may see by their own early circulars, and the Glasshouse-yard project originated in the parent committee.

By Sir Henry Dukinfield's Act, public baths and wash-houses are now to be numbered among our national institutions. That excellent clergyman is a member of the parent committee, and in his promoting of the measure he was cordially assisted to the utmost of their power by that committee. While it was pending in Parliament, they sent a copy of their petition in its favour, containing a general statement of the case, to every mayor, alderman, town councillor, and town clerk in England and Wales, to the editor of almost every newspaper in England, and to many thousands of others; and within one week after the royal assent was given to the Act, they published it (with notes explaining how it should be put in force), at such a low price as should put it within the reach of every rate-payer.

It is quite true that the labours of the parent committee during the last twelvemonth, have not brought them prominently before the public, and that their having rarely advertised may have led to the suspicion that they were doing but little. They have, however, been steadily and systematically at work, in performing their main duty of promoting the establishment of baths and wash-houses for the labouring classes. They have distributed throughout the whole kingdom, from Plymouth to Aberdeen, and from Portsmouth to Belfast, not less, I believe, than 70,000 circulars, of various sorts, calculated to explain their objects, and to gain converts to their cause; and to their efforts, with the invaluable assistance of the press, it is owing that the project of establishing cheap baths and wash-houses for the labouring classes—which in September, 1844, was, to the whole of the nation, except that inconsiderable fraction of it which knew what had been done in a small street in Liverpool, utterly unknown—had, in July, 1846, become so thoroughly well known and popular a topic, that it was alluded to on almost every hustings without exception, at the election consequent on the ministerial changes.

I will not occupy more of your space in defending the Parent Committee from the charge of negligence in the performance of their duties; but I will beg to add a few lines, in the hope of throwing out a hint of which you may make use.

A very careful estimate shews that the washing expenses of the metropolis, in the course of the year, amount to more than the property and income tax of the whole kingdom—considerably above 5,000,000*l.* a year. Why should not we have wash-houses for the middle classes as well as for the labouring classes? In time, trouble, and money, much might be saved to them by wash-houses constructed on the plan of those at Goulstone-square. I do not propose a washing company. That has been tried and failed. But might we not have washing accommodations supplied by companies? Do not let this hint be thrown away. Two years ago, half a crown was the ordinary charge for a warm bath; now you may have one for twopence, of which nearly one halfpenny is profit. The parent committee hope to shew that the actual cost of a warm bath need not exceed one penny. We are as yet in the infancy of the subject, and that 5,000,000*l.* a year is an untouched field. Let it be prudently broken up, and I am much mistaken if it will not be found to produce an abundant harvest to careful speculators. If the cost of bathing be reduced 1,500 per cent. why should not the cost of washing be reduced 20 per cent.? That would be a saving to London of more than 1,000,000*l.* a year; and if such a saving would not enable those who effected it to realize as good a profit as they now could by the best known commercial speculation, it must be from their taking less pains to fill their own pockets, than the parent committee have done to insure the success of their model establishment.—I am, Sir, &c.,

A MEMBER OF THE PARENT COMMITTEE.

October 8, 1846.

LECTURES ON ART.—At the Western Literary Institution on Thursday last, Mr. R. W. Buss, the artist, delivered a lecture on fresco and the British school of historical Painting, and will complete the subject next Thursday. At the Islington Literary Institution, Mr. Samuel Nixon will give two lectures on modelling and sculpture, December 10th and 17th. At the same place on January 1st, Mr. John Hawksworth will read a paper on art, considered in its ancient, mediæval, and modern manifestations, with a view to the development of its prospective tendencies. On Tuesday, Nov. 3rd, at the Literary Institution, Newbury, Berks, Mr. George Godwin will lecture on the architecture of the middle ages. Professor Hosking commenced his course at King's College, on Tuesday last; and Professor Donaldson's will begin at the London University on Tuesday next.

ARCHÆOLOGY OF PALESTINE.—A prospectus of a new translation of "Josephus," to be illustrated by drawings of architectural remains, specimens of Jewish architecture, &c. by Mr. W. Tipping, has been issued by Messrs. Houlston and Stoneman, publishers. One of the specimen plates shews a colossal stone in the quarry at Baalbec 70 feet long, 14 broad, and 14 feet 5 in. deep!

NEW BRIDGE AT WESTMINSTER.—There is a rumour that it is intended to run the new bridge from the Duke of Northumberland's mansion at Charing-cross, to the bend in the Westminster-road forming the premises of Messrs. Atkinson.

ST. MARY'S CHURCH, BRIDGEWATER.

The corporation have determined to commence the repair of this church, to the condition of which we drew attention some time since, by removing the rough-cast with which the walls have been covered. When this was first put on, much of the ornamental stone-work (as in too many other instances) was cut away to form a flat surface, and save trouble; niches were filled up with brickwork, and other abominations committed. We trust the committee appointed to consider the subject will go into the matter thoroughly, and effect the complete restoration of the building. Our hint to the *Bridgewater Times* on the matter* was not lost sight of, but was ably urged in a leading article the following week.

Relative to our remark on the necessity of taking the advice of competent professional men in such cases, the *Bridgewater Times* says, of that which is wrongly called "the economical system,"—"it gives rise to the veriest empiricism in architecture; being as dangerous to the buildings placed under such a system, and to the pockets of the public, as it is to the deluded individuals who place themselves under the care of the ignorant pretender of the healing art, and sacrifice their health and their money to the mistaken notion that they are doing the best for the one, and "in avoiding professional assistance," saving the other. Every day's experience proves this to be the case, and also that empirics are to be found as universally in every science or profession, under some form or other, as in the popular line of quackery in medicine; we would point to this extract from The Builder, as offering a salutary warning to public bodies, who, collectively, are so liable to fall victims to jobbing, which, as individuals, a lively regard for their own interests does in most cases prevent."

PROVINCIAL NOTES.

The coast defences have been of late engaging the attention of government, and orders have been given for the preparation of thirty-three towers between Hastings and Seaford. The tops of these towers were cemented over in dome-form up to the top of the spindle on which the swivel gun was fixed. The whole of that covering is to be forthwith taken off, and a new traversing course of stone to be laid down.——On the recommendation of the Southampton Water Committee, a sum not exceeding 150*l.* is to be advanced for the purpose of trying the Chinese system of boring at the artesian well, that system having been found to be so effectual, as well as economical, when tried in the south of France. The cost of the necessary machinery will not exceed 20*l.*, and the cost of working, 2s. 6d. a foot. Mr. Lankester's offer of gratuitous superintendence, too, has been accepted.——A part of the Weymouth esplanade has been so much injured by the lash of the sea, during a late gale, that the whole must be taken down and rebuilt, at a probable expense of nearly 1,000*l.*——The stone pier between the Bill of Portland and Cave's hole, used for the shipment of Portland blocks, was also washed away, with a great quantity of large stones, working gear, &c.—— Steeple Ashton Church was consecrated on the 1st instant, by the bishop and a corps of 40 of his clergy.——The Waterworks at Chepstow are in course of improvement, at considerable expense, in order to provide a regular supply of water to the town.—— Queen Adelaide has contributed 20*l.* towards the erection of the national school and schoolmaster's house at Stratton, Cornwall, and Carteret has presented 100*l.* towards the same commendable purpose. ——The new church of St. Mary Magdalene, Barnstaple, is to be consecrated on the 21st instant.——The Hereford Improvement Act, which, it is said, cost about 1,500*l.*, must have nevertheless been a very careless concoction, if we may judge from one stupid blunder, which provides against the *making* of gentlemen's carriages *in the public streets*. The marginal title-note, or explication of the clause, while it left the graver error uncorrected, incidentally betrayed the intended meaning to have been directed against the much more likely nuisance of *washing* such vehicles in the public streets, a nuisance which there has happened lately to be occasion to put down, but which, of course, this much more costly than correct production gives no power at all to do.—— Messrs. Travis and Mangnall have prepared plans, and are now getting in the foundations for a warehouse for Robert Gardner in Cooper-street and Bond-street, Manchester, opposite the Athenæum.——The church in Springfield-lane, Salford, Manchester, is now nearly finished, in the early English style; Mr. Lane is the architect. Mr. Lane is also erecting a church at Finwalds Mount, near Castleton, Isle of Man.——A church is proposed to be built at Moss Side, near Manchester.——A new "Institution of Mechanical Engineers" was formed at Birmingham on Wednesday last, to enable mechanics and engineers engaged in the different manufactories, railways, and other establishments in the kingdom, to meet and correspond, and by a mutual interchange of ideas respecting improvements in the various branches of mechanical science, to increase their knowledge, and give an impulse to inventions likely to be useful to the world. The present Institution of Civil Engineers it was thought, from the multiplicity of other pursuits legitimately belonging to it, left ample field for the operations of such an assistant Institution for Practical Engineering without prejudice to either.——The estimate for the church at Balby cum Hexthorpe, proposed to be erected and endowed by the liberal aid of Miss Banks, is 1,000*l.*; value of endowment 5,000*l.*; probable expense of parsonage-house and schools 1,000*l.* more. The council, who possess 798 acres of land, yielding an annual rent of 1,577*l.*, are expected to meet the proposed boon in a liberal manner.——The proposed joint parochial cemetery at Cambridge, will be for behoof of thirteen parishes; nine acres of land have been selected for purchase, and a good understanding come to as to the allotment to the several parishes. The sanction of the bishop has been obtained, and the consent of the Church Building Commissioners in course of next month is confidently anticipated.——The Cambridge Gas Company have reduced the price of gas to 8s. per 1,000 feet from Michaelmas last.

* See p. 421, "Why Employ an Architect?"

OLD QUARRIES FOR NEW ANTIQUARIES.

> "Glimpses of glory ne'er forgot
> That tell like gleams on a sunset sea,
> What once hath been—what now is not,
> But, oh! what again shall brightly be."
> *Moore's Epicurean.*

Sir,—It has been often said, that "there is nothing new but what has been forgotten." Yet the present generation is one which not only has forgotten what of old has been, but, full of conceit in its own occasional revivals of ancient discoveries, is ever boasting of them as original, while it turns away with ridicule and contempt from ancient quarries, in which the petrified vestigia of still more ancient lore turn up in abundance, and in fragmentary integrity and perfection; though, undoubtedly, amongst the most heterogeneous and useless rubbish, which alone, however, have our modern Cognoscenti been as yet, in general, able to discover in such treasure heaps.

In truth, like Æsop's cock, they turn tail upon the dung-heap; and, while scraping and scattering it to the winds with claw and spur, they recognise neither the value nor even the very existence of the gems which it contains. Yet here, I venture to say, we have, in many an old quaint author, quarries—of rubbish and of something else, which will be, ere long, ransacked by a new order of antiquaries, or archæologists; and much that is not only new, but astonishing in the scientific history of our globe, in more or less remotely ancient times, at length be fully elicited. And not only in the written records of antiquity, amongst all civilized nations, shall we dig in and work out such quarries of interest and curiosity, but we shall find materials of inestimable value even to us, already stereotyped in the traditionary though unwritten usages of many nations, both civilized and savage; and especially in the knick-knack knowledge of those stagnant and eternal remnants of ancient life and lore, the ultra-civilized and antique occupants of the "flowery land;" and even in many of those other "tribes and tongues," more usually deemed to be uncivilized, unripened, germs of never yet full-blown humanity, than melancholy relics of a long departed glory, as these antiquarian researches will most likely prove them to be.

I have been led into the present somewhat discursive train of remarks by the perusal of more than one incidental communication in recent Builders; but more particularly by the intimation, that an intelligent operative had wandered forth amongst foreign tribes, and gathered up a few of those stray fragments—a few of those probably traditional stereotypes or petrifactions—of what may eventually be proved to be the remnants of what was once one grand and universal system of most ancient enlightenment, practised, perhaps, by those very workers in stone, and iron, and brass, and wood, of whom we read in that unquestionably most ancient book of all books, the Bible.

The circumstance reminds me of another source of valuable hints, derived from some obscure and mysterious origin in traditionary usage, pointed out in one instance by a talented friend of my own, Mr. Robert Chambers, in his well known journal, about the time that the daguerreotype first began to excite an interest amongst the men of science and art in this country. This was the fact, that in the far northern county of Aberdeen, when he himself was a youth, he remembered that the boys at school had *a knack* of doing something precisely similar, derived, traditionally, from other boys, just as the juvenile games have been handed down amongst this numerous, knowing, and ancient tribe of little Pictish men, from time immemorial, with little of the more worldly-wise and time-learned intervention of their adult "governors,"

My desire in this, as in a previous communication, incidentally called forth on the subject of the distillation of ammonia from pure rain water, known of old, though regarded as a modern discovery, is, I confess, to turn the pointed attention of your readers to the occasional gems of ancient art and science that lie profusely scattered, though obscured and hid amongst much rubbish of a less ancient, but not, for all that, of a modern description; and to induce them, by curiosity and interest, to bestir themselves actively in the more general working of this no less valuable than curious quarry of aboriginal lore, whether as it exists in ancient books, in antiquated nations, in savage tribes, or even in boyish sports of the hopeful progeny "of savage or of sage."

Only let this novel order of antiquaries, while they may treat *the rubbish* with as mighty and supreme contempt as they may choose, take just such care as our geologists now do to discriminate and separate the gems of petrifaction, which are covered and hidden under the rubbish, not confounding the one with the other, like the ignorant and conceited dung-hill bird of Æsop.

I cannot conclude without again alluding to the Chinese Quarry now being opened to the discriminating eyes of our new order of antiquaries. The Chinese are a most wonderful people, and I do believe, that after all, we know comparatively little of all their traditional possessions of science and of art. Every year some new discovery of this order is being made, and the observations on Artesian Wells in the Builder, reminds me, that it now appears, that the Chinese mode of boring these very wells is as much superior to the old established European mode, as the splendid Chinese pigeon, and other animals from the flowery land in the British Museum, are superior to those we have.

China, then, is a quarry which ought to be most diligently and perseveringly dug, for its valuable petrifactions of aboriginal or primitive science and art,—*not its own, but only embodied in its stagnant mud*, and treasured there, and handed down to a more enlightened generation, who shall understand their *full* significance, and be able to read therefrom the scientific pages of the past; gathering from such isolated yet connected hieroglyphics, a meaning no more limited to the mere sense of each little hieroglyph so recorded and observed, than is the sense of a whole sentence embodied in each of the alphabetic characters in the current of which it is borne along.

J. E. D.

Save-all.—Mr. Budd, of Swansea, has taken out a patent for the application, in the manufacture of iron, of clinkers produced in the combustion of coal, and heretofore regarded as useless.

THE QUARRIES, NEAR ROCHESTER.



STATE OF THE GAS MAINS.

LOSS AND DANGER THROUGH BAD WORKMANSHIP.

We are desired to direct the attention of the gas companies, to the very defective state of the gas mains running along High-street, St. Giles's, and also along Tottenham-court-road. The escape and waste of gas must be alarming. Some time ago the electric fluid ignited the gas in the gully drain by Meux's brewhouse, and blew up the paving for several yards around it. Upon opening the sewer in High-street, by Denmark-street, on Monday last, the issue of gas from it was so great as to prevent any one from approaching within some yards of it for nearly two hours. It was very fortunate the workmen had no light with them at the time of opening the sewer, otherwise a fearful accident would have been the result. The escape of gas by the gully holes at times, is very annoying to passengers and the inhabitants.

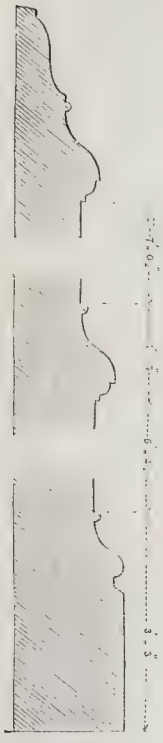
THE QUARRIES, NEAR ROCHESTER, KENT.

There is some probability in supposing that the curious building represented in the print, known as "The Quarries," near Rochester, was erected by Thomas Lord Cromwell, in the reign of Henry VIII., as it is on ground which, with the adjoining manor of Æslingham, in the parish of Frindsbury, was granted to him by his capricious master. The building stands on the summit of a hill, which stretches out a considerable distance into the Medway, between the towns of Chatham and Rochester. The house commands therefore a fine and extensive view, but the situation is so bleak and cold during the winter months, that it is at that period of the year hardly habitable. The house is very small, and could only have been intended as a place of occasional retirement for a person of distinction. Besides the carefully designed front, it bears considerable marks of state and quality about it: there is a large court-yard in front, the entrance to which immediately opposite the door of the building, is a handsome archway, enriched with pilasters, entablature, &c.

The interior of the building possesses very few of its original fittings—one large fire-place, with the ancient woodwork, alone remains. The exterior has undergone considerable change; and the side front, which is a prominent object to a spectator on Rochester Bridge, has been entirely rebuilt.

The ancient portion of the building is carefully constructed in red brick; the whole of the string courses, the parapets, the sides of the windows, and the curious circular buttresses are covered with compo. The latter, from the exposed situation of the building and the utter state of neglect to which it has been doomed, has nearly disappeared. It will be seen, that the two small gables over the windows have been rebuilt in a plain style; there can be little doubt that they had originally the

QUARRIES—DETAILS.



½ IN. TO THE FT.

same moulded parapet which the centre gable has.

The whole character of the building, the details of the window frames, and other appearances, would denote the period of its erection to be in the reign of Henry VIII. There is no shield of arms or initials of any kind upon it, neither is there any reference or allusion to it in any published history of the county. Whether it is, or is not, the erection of the Lord Cromwell must remain uncertain. After the degradation and death of that nobleman the property was devised by the crown to other parties. C. J. R.

*** As part of our series illustrative of the progress of domestic architecture, to which general reference will be made hereafter, this and preceding engravings will be seen to have a purpose beyond that of recording the structures themselves.

CONSTRUCTION OF PAVEMENTS.

Sir,—One of the recent numbers of your highly esteemed journal, contains some very reflective comments upon the architects of the present day, in reference to the construction of pavements; and in such direct accordance with my own opinion upon the subject, that I venture to submit, for the perusal of your readers, a few remarks claiming its importance, and to address you in behalf of an almost hidden discovery, that may tend to remedy the errors to which you refer. It must be obvious to all, that the first and most essential element of a good pavement is its facility to preserve the uniform surface in which it is laid, whether inclined or horizontal, to secure which no artificer up to the present day has succeeded, in connection with public advantage.

Even the Romans, who constructed pavements many centuries ago, of all the diversity of form and assemblage of colour that human art could devise, either representing their trigonometric prowess, or illustrating the poetic fancies of their renowned writers, and although these same pavements lie hidden in numbers beneath the cultivated surface of many parts of our island (but little injured by the lapse of time and its attendant effects), yet none were constructed upon a principle from which it would be consistent either with our means or advancement in mechanical science, to derive a precedent. To what, then, can we attribute the perfect state of preservation in which these pavements are found? Not from a knowledge of the superior means known now (though not generally), but doubtless it was the result of great labour, which would at the present day incur an expense at once dissipating the means of ever equalling an age that we ought to surpass. It will generally be found, that these pavements were laid on a surface of well-composed concrete, having for its bed layers of well rammed clay, in such a high state of compression, that it is evident very much labour and attention must have been bestowed upon this their most important foundation. In some cases it resembles the shale found immediately under and above the beds of blue lias limestone; and when we reflect upon the enormous expense that such labour would involve at the rate of our workmens' wages, we should be clearly convinced of the futility of an attempt to follow the system of the Romans in constructing tesselated pavements.

Many of these highly interesting specimens have occasionally been discovered in England, of which those at Woodchester and Cirencester (named in the paragraph), are well worthy of attention, but that from which I derived much knowledge of their construction was found at Newton St. Loe, in the neighbourhood of Bath, in the course of excavation for the formation of the Great Western Railway; and as the circumstances of its discovery proved also the necessity of its removal, a better opportunity of examining the subs-urfaces could not be wished for. Being then engaged in that district of the line, I had frequent opportunities of witnessing the disclosure; and was, subsequent to the entire openiug, employed in making full-size drawings of each pavement, and in superintending their removal to the company's offices. Hence I derived an intimate knowledge of the substructure; and my impressions were confirmed by the fact, that where the pavement (evidently of inferior apartments) was not in the highest state of preservation, its construction differed only from the others in the absence of the first layers of clay, avoided no doubt from (even then) the attendant expense.

It is evident from the frequent attempts that have lately been made to introduce tesselated pavements, that a consciousness exists of the claims that one of the most important surfaces in a building holds on the decorative artist.

We all agree that it is not sufficient to build plain walls, and construct flat ceilings, without breaking the monotony of their surface with the well-known parts that make up an architectural composition; why then should we forget that the floors offer a wide field for the display of genius or taste, producing those highly pleasing and moral effects upon the mind, that necessarily attend the judicious co-operation of the fine arts with artifice.

We have unnumbered instances of the importance attached to this subject by people who must have devoted much time, and the great study in designing and arranging the various devices, forms and illustrations, that are found in the specimens before alluded to, when the decorative arts were deemed as essential as the mechanical ones, to respond to the wants of mankind, at once illustrative of the genius and artistic feeling co-existent with that great age, that we, in our darkness, but imaginative greatness, vainly endeavour to imitate. It was with the most praiseworthy feeling that the most important public building of our metropolis was deemed worthy of all the architectural aid which our advancement in the science could afford, and, consequently, the floors of the Royal Exchange were doomed to be carpetted with an Anglo-Roman tessellated pavement. Much praise did this excite from the worthy inhabitants and visitors of this our renowned city; but, alas! that praise was transient as the smiles of an April sun, and the shower of ridicule burst on the failure that ensued; and as your paragraph states (which, or its import, was quoted in the following day's *Times*, and many other papers), the asphalte which succeeded the tesselated pavement "was cleared away to let in the old stone again."

Yet the reintroduction of a pavement formed of tesseræ, subservient to the will of the artist, is highly praiseworthy, and it only remains for others to supply the means of a cheap and substantial construction.

About three years ago a patent was granted for the discovery of a form of block suitable to the formation of pavements, roadways, &c., of which I herewith send explanatory diagrams. It will be seen that the form exhibited (fig. 1) is of a peculiar though extremely simple character, and consists of an amalgam of two three-sided wedges, one acting upwards, and the other downwards, so that a combination of these, as shewn in fig. 2, resting with a nine-inch bed on walls at each extremity, would form a solid floor equal to the effect of all proportionate weight or pressure whatever. It will be perceived, that in a floor so constructed, if a weight be imposed upon any one of the blocks, it would be distributed or communicated by the three sides acting as the downward wedge, to the sides of three of the surrounding blocks (one to each), and so communicated to the abutment or extreme bearing points; thus a mutual support being established, for three sides of the hexagonal block give, whilst the other three receive, support. In such case it would differ from a solid mass in one particular only, which proves one of its great advantages. In all large slabs of stone or other material, where there is a bad vein or other defect in any part, there is always either a continuation of that defect, or a tendency, in

BLOCKS FOR PAVING.

Fig. 1

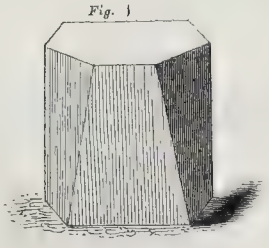
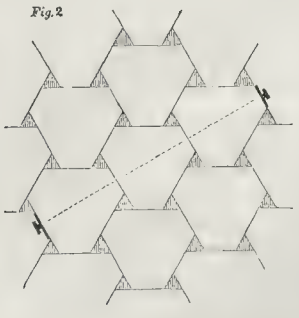


Fig. 2



case of fracture, to continue from one end to the other; whereas in small blocks, should any such imperfection exist, it cannot extend beyond the limits of its own size: and it will be further seen, that if every other block in every other row was totally destroyed, it would not in any way deteriorate the general support.

Now, supposing these blocks were manufactured by a saw machine, they could be cut with such beautiful accuracy, that no cement would be required to adjust each joint upon an uniform bearing to the other; but as this would incur great expense, it would be doubtless better to set them in Roman cement; and then a well-made brick of the required shape (allowing for shrinking, warping, &c.) would be sufficiently correct, and the cement would in a very great degree counteract the lateral thrust consequent upon the superincumbent weight, which would be further aided, if necessary, by a wrought-iron tie, three-quarters of an inch in diameter, passing through the entire floor, as shewn in the diagram No. 2, at intervals of every 6 or 8 feet. I do not presume to say that a pavement so formed could accommodate itself to the numerous devices of a tesselated pavement, but it would prove an everlasting foundation to one—as lasting, of course, as the walls on which it would rest. Adapted to an area of any extent, either on roadway or in houses, floors may, by the aid of this simple invention, claim a superiority in durability to any that has ever yet been constructed, whilst its predominant advantage may be set forth in an assertion that they would be fire-proof. Not only could each floor of a building avail itself of this mode, but the roof also could, by a slight convexity of the upper surface, and totally supersede the necessity of all that cumbrous and expensive covering that has been in vain modified to the aid of architectural beauty.

To all the advantage of an arch it would add the property of being flat, consequently a gain in height, and a capability of resisting the same pressure upwards as downwards, that is to say in exactly opposite directions. From the last-named quality it will be obvious that a wall or partition so formed would well supply the place of the present dangerous wooden partitions, and being supported on an iron girder would, with the previous suggestions, go very far to make our modern buildings fire-proof, a desideratum too universally admitted to require any comment. I acknowledge this last remark is somewhat irrelevant to the subject upon which I first took the liberty of addressing you, but as the means of effecting each are so intimately connected with one another, I feel assured you will excuse the slight digression, if you but favour me with space in your columns for that which may be deemed interesting to the profession. I also beg leave to send you a model of the blocks, which will more clearly elucidate my remarks.

I am, Sir, &c., R. C. Saunders.

EXPERIMENTAL MODELS.

"Parvis componere magna."

The strength and weight of the building materials at our command being known, the proportions of the parts of a proposed structure, necessary to ensure its stability under the greatest probable stress to which at any time it may be liable, as with regard to a bridge, from a load upon it, may be calculated, sometimes with mathematical nicety.*

If the design be unusual and complicated, and change of form or motion is likely to take place from causes extraneous of the structure, as in a suspension-bridge from the action of a load passing over it, or of the wind, it is well to use a model, as by its means the changes and vibrations of the proposed structure may be more satisfactorily inferred than from the most laborious calculations.

The model may be made of materials the same as—or different from, if more convenient—those intended to be used on the larger scale; but in either case regard must be had to the relative strengths and weights of the materials when put together in the proposed manner, if we wish to make a just comparison of the little with the great structure.

In masses of similar forms and materials, but of dissimilar dimensions, the strengths are as the squares, but the weights (and of course the strains depending upon the weights) are as the cubes of the respective dimensions. For instance, with respect to two rectangular beams laid horizontally, the first 1 foot deep, 1 foot wide, and 20 feet long between the supports, the other 2 feet deep, 2 feet broad, and 40 feet long, the dimensions are as 1 to 2; the strengths as the number of parts in the cross sections which oppose extension, that is, as the areas which are as the squares of 1 and 2 or 1 to 4; the cubical contents, and, therefore, the weights are to each other as the cubes of 1 and 2 or 1 to 8. It thus appears, that while the resisting power and weight (or straining force) of the smaller beam, are to each other as 1 to 1, the resisting force and weight of the greater beam are to each other as 4 to 8, or as 1 to 2. If we suppose that the latter is just so strong as not to bend with its own weight alone acting upon it, the former would bear a load equal to its own weight, uniformly distributed over it, without bending; for then the resisting power and straining force of each would have the same proportion, viz., 1 to 2. In experimenting with a model, care must be taken that this condition is fulfilled.

If we proposed to construct a suspension bridge, or say for the novelty, a tubular bridge, of 450 feet span, with 500 tons of iron, and an experimental model of 45 feet span, the dimensions being as 1 to 10, the cross sections of the great tube would be 100 times greater than those of the model; its weight would be 1,000 times greater, which numbers also are as 1 to 10. To put the model, therefore, upon equal terms with the projected bridge, it would have to be loaded with 9 times its own weight, or with $\frac{5}{000} \times 9 = 4\frac{1}{2}$ tons; and the same allowance would have to be made for all external disturbing causes, as the weight of carriages, &c.

If we were to form our model of tin, as more manageable on a small scale, we must proceed in the same way to reduce the strengths and strains to the same ratio. The relative strengths of tin and iron to resist extension, are nearly as 1 to 4, and their specific gravities nearly equal. Making the respective dimensions as 1 to x, the strengths are as 1^2 to $4x^2$, and the strains as 1^3 to x^3.

$$1^2 : 1^3 :: 4x^2 : x^3.$$
$$x^3 = 4x^2.$$
$$x = 4.$$

Whence it appears that if the dimensions were as 1 to 4, a bridge of tin of $\frac{459}{4}$, or 112·5 feet span, would be nearly upon the same terms with regard to strength and strain as an iron one of 450 feet span. If we were to make our model of $\frac{112{\cdot}5}{3}$, or 37·5 feet span, we should have to add in our trials only twice its own weight, &c.

If we were to construct the model of lead, the strengths of lead and iron to resist extension being nearly as 1 to 10, and their specific gravities as 11 to 7.

$$1^2 : 11 \times 1^3 :: 10x^2 : 7x^3.$$
$$7x^3 = 11 \times 10x^2.$$
$$x = \frac{110}{7} = 15{\cdot}7.$$

The dimensions in this case are as 1 to 15·7. The span of the model being made $\frac{450}{15{\cdot}7}$, or 29 feet nearly, no extra loading would be required.

The resistance which bodies offer to extension has been alone referred to; the same reasoning, however, applies to the resistance which they offer to compression. A bridge built of chalk might be made to indicate the strength of one built of granite, if the qualities of the two materials were taken into account.

W.

* A practical illustration of this is, that an arch constructed of loose cards, packed vertically between upright abutments, may be *just* made to stand without any change of form taking place when the centre is removed. This occurs when the curve of equilibrium cuts the middle of the depth of the arch at the vertex, and the extrados at the abutments. The force by which the arch is sustained is the elasticity of the cards producing sufficient pressure against the abutments to prevent the arch from sliding down them. The amount of force necessary to effect this must be first ascertained by finding the co-efficient of friction of the cards, and the rise and span of the arch must be adjusted accordingly. The resistance of the cards is just equal to the elastic force by which they are compressed; the friction generated prevents their slipping. If an arch constructed with the same span but greater rise than this will stand, nevertheless, as soon as the centre is removed, it will change form; the cards will be compressed at the extrados, loose at the intrados towards the abutments, and the reverse at the crown; thus showing partial strains, which in construction should be avoided as much as possible.

PEDIMENTAL SCULPTURE, ST. GEORGE'S HALL, LIVERPOOL.

Several letters have reached us, relative to the intended enrichment of the pediment of St. George's Hall. Mr. Cockerell, it seems, offered to present his design for this purpose (which appeared in the last exhibition at the Royal Academy), on the condition that it should be executed in proper proportion; and the council have accepted the offer, and appointed a sculptor of Mr. Cockerell's nomination. The letters urge that the design was originally made for the Liverpool Custom House, and that its commercial character unfits it for St. George's Hall; further, and this is more particularly dwelt on, they complain that the Liverpool sculptors have not been allowed to compete for the honour of executing Mr. Cockerell's design. As, however, they are anonymous, *ex parte*, and not written with good feeling, we decline publishing them. The cost of the sculpture in question is stated at more than 3,000*l.*

A writer in the *Liverpool Mail*, wherein much correspondence on the subject has appeared, says, when advocating the claims of the local artists,—"It may not be out of place to add, that the gold medal first given by the Royal Academy of London, was awarded to a Liverpool sculptor (Deare). It is well known that *Mr. Gibson* received his education and produced some of his best works in Liverpool*; and, within the last few weeks, a Liverpool sculptor carried away a prize medal and a sum of money, publicly advertised at the Manchester Royal Institution Exhibition of 1846.

RAILWAY JOTTINGS.

We are much pleased to observe, that Mr. Thomas Gray, the interesting author of the Railway System, is now likely to receive a share of the honour and the more substantial benefits due to him, inasmuch as a subscription for a befitting testimonal has been fairly set afloat in the city where he dwells, and where he must be therefore best known, namely Exeter. It is to be hoped that this will be but the central nucleus of a wide-spread recognition of his services——A correspondent of the *Railway Times* suggests the adoption of a hydraulic safeguard against collision, which will operate on the truck or other moveable obstacle on the rails in front, on the principle of Savery's engine, or the syringe, through a small tube in front of the boiler, and passing into it, and fitted with a valve or cock to be opened at the last moment before the anticipated collision. The force applied, it is calculated, would operate retroversively on the engine and train themselves, as well as on the obstacle.——The London and South Western Company are now in possession of nearly all the property necessary for the extension of their line to Hungerford Bridge, and preparations are in progress for the immediate commencement of the works. ——"A huge pile of bricks," by some strange oversight, placed right above the tunnel cutting at the Marlands, on the Southampton and Dorchester Railway, and which had taken weeks to convey there, sunk, of course, into the cutting below, and completely blocked up the burrow. "The inclemency of the night" has much blame attached to it; and "the enormous weight," we should think, much more; but most of all, the still more enormous stupidity of loading an incipient tunnel with such a weight. It will cost some time to clear it out for further progress.—— The wind and tide have done considerable damage to the sea wall on the South Devon Railway, between Dawlish and Teignmouth, near what is called the Parson Tunnel, where there is no solid masonry, but a mere dry wall.——It is intended to concentrate several lines of railway in one extensive station at Carlisle. Mr. Tite's estimate of the cost of the erection is 37,982*l.*; and Mr. Errington, the engineer, intimated that to save time and prevent the confusion of two sets of workmen employed by different contractors, it was desirable to avoid competition in the present instance, and make use of the great resources at the command of Messrs. Brassey

* We take this opportunity of mentioning, with much commendation, an excellent engraving, by Mr. Wagstaff, of our eminent countryman, Mr. Gibson, which was published a short time ago.

and Stephenson as the contractors. In less than a year, therefore, four great railway lines, diverging nearly to the cardinal points of the compass, will be united in a central station, at Carlisle, where other important lines, such as the Dumfries and Carlisle, will be also connected with these.——The South Junction Railway, connecting the Manchester and Liverpool Railway at Water-street, with the Manchester and Birmingham, at Fairfield-street, is in course of execution by Mr. David Bellhouse. The line is only one mile and three-quarters in length, but it is carried on a continuous viaduct of brick and stone arches, and iron bridges. Many of the iron bridges are of the trussed beam construction, and there is an arched iron bridge of 105 feet span over the canal.——The first stone of the Huddersfield station was laid by Earl Fitzwilliam on the 9th inst. Messrs. Pritchett and Son are the architects; Mr. Joseph Kaye, the builder.——The *Pictorial Times* has been amusing its readers by weaving an ideal tissue out of the wiry realities of the electric telegraph, in announcing the speedy formation of a metropolitan "Public Message Delivery Company," which is to have stations in every populous neighbourhood—and wires communicating with every other, we presume, in order that the whole of the cursory and floating converse of the metropolis may be caught in the telegraphic network—whence an organized corps of message boys will issue forth with the substance of each haul, as it is caught, for disposal, "at low rates of charge," at its own proper destination. "The utility of the proposed scheme must be obvious. The Horse Guards could have a line direct to the Tower, and an order from Government be delivered and acted upon in a few moments. It is impossible, in fact, to say any limits could be placed upon the useful operation of such an establishment as the Public Message Delivery Company promises to be."

SOUTH WEALD CHURCH, ESSEX.

South Weald is situated about two miles south-west from Brentwood, in Essex. The latter hamlet is 18 miles from London, and may be reached by the Eastern Counties Railway. Soon after the train emerges from the cutting which begins near Romford, South Weald church is a conspicuous and picturesque object, nestling among the trees, which nearly surround it. The walk to it from Brentwood through the green lanes is most delightful.

It consists of western tower, nave, and chancel; south aisle nearly as wide as the nave, and standing under a distinct roof; a south chapel, being a continuation of the south aisle, and standing flush with the east end of the chancel; and a south porch composed entirely of timber.

The chancel steps alone remain to mark the separation of that part of the church from the nave. There is no vestige of a screen, and, apparently, the church never possessed a chancel arch: this supposition is confirmed by there being no external division between nave and chancel. The chapel is also separated from the south aisle by two steps.

The arrangement of this church is curious. The body is in the form of a parallelogram, divided nearly up the centre by six perpendicular arches (resting on five late Norman pillars, and two responds) extending the whole length of the church. Three of the pillars are circular, and two octagonal, but they have all the same suits of mouldings for abaci. The mouldings of the arches are poor perpendicular, consisting of shallow cavettos. Three of them separate the nave from the south aisle, and two the chancel from the chapel; the latter now belongs to the family of Towers. There are altar steps in the chancel and in the chapel.

All the windows are perpendicular, and with the exception of those in the tower, very meagre. The most easterly, on the north side of the chancel, contain some ancient stained glass; the subjects are scriptural; one is, the offering up of Isaac.

There is nothing in either of the roofs worthy of notice; they are very late, and white-washed. A number of stones in different parts of the church bear testimony that it was formerly rich in monumental brasses; but very few remain, and not one perfect.

The most important tomb is in the chapel, and contains the remains of Sir Anthony Brown, Lord Chief Justice of the Common Pleas. He had the manor of Caldecot, in the parish of South Weald, conferred upon him by Edward VI. Henry VIII. gave him extensive lands for his assistance in robbing ecclesiastical establishments, by giving the weight of the law to the king's sacrilege. He died in the reign of Queen Elizabeth. It is an altar tomb, and originally bore the figures of Sir Antony and his wife, a Latin inscription, four coats of arms, and an English inscription round the rim, all in brass.

Of these the lower half of the figure of Sir Antony, the Latin inscription (given below), a part of the English one, and one coat of arms, are all that remain.

Anthonius Brownus, miles, unus justiciarion̄ dnæ Reginæ de Commu̅ Banco, obiit 16 die mensis May, an° regni Reginæ Elizabethæ 9° et anno dni 1567,—ætatis vero suæ 57—Et Johan̅a—uxor eius, quæ fuit filia unica et hæres Willi Farinto, armigeri, filii et hæredis Henrici Farinton, militis, obiit octavo die Novebris an° reginæ, et dni pdicto, et ætatis suæ 52. Which may be thus translated:—

Anthony Brown, knt., one of the justices of the Common Pleas and the Queen's Bench, who died the 16th day of the month of May, in the 9th year of the reign of Queen Elizabeth, and the year of our Lord, 1567—of his age, 57—And Jane, his wife, who was the only daughter and heiress of William Faryinton, Esq., son and heir of Henry Faryinton, Knt. She died the 8th day of November, in the year of the queen and our Lord aforesaid, and of her age 52.

There were also eight coats of arms on the sides in brass, but they have all been torn away! Close to this tomb are brasses of two children, about six inches by four each. All that is intelligible of the inscription is—

Roberto Picakis 7 yeares, died 10th day of September: Ellen Talbott 5 yeares and three quarters, she died: : : September, 1634.

The most perfect brass in the church is that of a man and two wives (there is the mark of a third), with the children of each wife placed under her. The figures are about a foot long. The date is about the middle of the sixteenth century. Two of the plates of children, one wife, and the inscription are gone.

The font is modern. The church is pewed and boarded over, with the exception of the chapel, and has a small gallery at the west end. The principal external feature is the embattled tower, with its massive turret, standing at the west end of the south aisle. It consists of three stages, the highest of which alone contains windows; they are all alike, three light perpendicular pointed, with tracery. Upon the highest string, and on the turret, are some good gurgoyles. It is roofed with lead; the ascent to the belfry and roof is by a spiral staircase in the turret. The tower is all Perpendicular, and is of richer workmanship than any other part of the church.

The south porch is all timber, and very late; but the south door of the church, inside the porch, is Norman work; the archivolt mouldings consist of three chevrons, and the pillars are cut with the same ornament from capital to base. The capitals are carved. On the right hand side of this door is the lower portion of a perpendicular Benatura.

The east window of the chancel is large, five-light, pointed perpendicular, with tracery; but the effect is not good, as it is nearly flush with the wall. The south chapel has at the east end a square-headed, five-light, transomed window, with no foliations. It is, apparently, of the same date as the interior of the porch. The church is tiled, and all but the tower is plastered.

The Norman pillars and the south door are the only remains of a much earlier church. Over one of the entrances to the churchyard is a good lich-gate.

HISTORICAL NOTICE.

South Weald is styled in ancient records Walda, Waude, and Walde. To this parish belong the hamlets of Brentwood and Brook-street. Earl Harold endowed the seculars of Waltham Abbey with seventeen manors, of which South Weald was one. Edward the Confessor granted the charter, and Henry II. confirmed it, when he changed the secular into regular canons. It was then valued at 6*l.* per annum.

The manor of Cocksted, or Caldecot, in this parish, after the dissolution, was given to Thomas Cromwell, Earl of Essex, by Henry VIII., but reverting to the crown by Cromwell's treason, King Edward VI. granted it to Sir Anthony Brown, whose heirs sold it to Sir William Scroggs, Lord Chief Justice of the King's Bench. Sir Anthony Brown founded a free grammar school at Brentwood in 1556, which is open to all boys residing in the parish of South Weald; and almshouses at South Weald for five poor persons.

Brook-street formerly possessed a hospital for lepers, dedicated to St. John the Baptist: the founder is unknown. Here was also a free-chapel, founded in the reign of Edward I., granted by Edward VI. to Sir Anthony Brown and Richard Weston.

These historical particulars are principally from "Hughson's Perambulations," vol. vi.

Sept. 1846. Amateur.

MANCHESTER PUBLIC BATHS AND WASH-HOUSES.

Some time ago a fancy ball was given in Manchester on a magnificent scale, for raising a fund to be devoted to the providing of public baths and wash-houses for the people. Subscriptions were collected, and a committee was appointed to carry out the object so fraught with benefit to the working classes, with a spirit worthy of its importance. The committee selected a large house in Miller's-street, near the Rochdale-road, which they engaged for a term of years, and which they have fitted up in the most economical manner, according to the plans of Mr. F. T. Bellhouse, architect.

The building consists of a cellar, and three stories above; and has a spacious yard behind. The cellars are devoted to the washing department, and give accommodation to twenty-six washers at one time, and contain two large boilers for boiling the clothes. There is also a drying-stove, and all these advantages are afforded, for a space of time not exceeding four hours, for the sum of one penny.

The first-floor contains a spacious waiting-room for males, in which *a few books are provided;* apartments for the superintendent and matron; and a room containing six baths for females, with separate entrance and waiting-room. The second-floor is devoted to baths for males; two rooms containing six baths each. For the use of each of the twelve baths for males, and the six for females before mentioned, the charge, including hot and cold water, and the use of a towel, is twopence.

The water for supplying the establishment is contained in two cisterns at the upper part of the premises, which are kept filled by the water from the Water-works Company's main. One of these cisterns contains water heated by steam, which is admitted into it from a steam-boiler. The other contains cold water. From these cisterns each of the washing-tubs and each of the baths are supplied with hot and cold water, which may be turned on at pleasure.

The drying stove contains a number of "horses" which run upon pullies, and are, when filled with clothes, pushed into a chamber containing a great number of steam-pipes.

We are glad to learn that the people avail themselves eagerly of the benefits of the establishment, as is shewn by the following statement:

Number of persons who have made use of the Baths and Wash-houses in Manchester, between Sept. 7th, 1846 (when they were first opened to the public) and Oct. 6th inst.

Number of Male Baths at 2d.	1,967
Number of Male Baths at 6d.	144
Number of Female Baths at 2d. ..	189
Number of Washers at 1d.	396
Number of Manglers at ½d.	247

Cellars in Liverpool.—*The Globe* says, that no less than 300 informations were laid last week against the owners of tenements in Liverpool, for cellars which were either defective as respects ventilation or were of insufficient size for human dwellings. It was proposed to dispose of this formidable array by hearing 50 summonses per *diem*.

FLOORS OF GAS-TAR AND GRAVEL.

We were asked a fortnight ago to state the best mode of paving with gas-tar and gravel. The following method and proportions, as used by an esteemed correspondent, have answered the purpose well. Two bushels of gravel, or broken stones, sifted through half-inch gauge; one-third of a bushel of slaked and sifted lime; one-third of a bushel of sharp sand or road-stuff; and two gallons of coal gas tar. The gravel or broken stone, and the tar, should be mixed gradually by spades, on a large mortar-board with ledges round it, till every stone is wetted, and then sift over it and well mix the lime and the sand. Then spread the concrete thus formed, three inches thick evenly over the space to be covered, which should be previously levelled. When the space is covered, or the day's work done, roll it (as soon as it will bear) with an iron roller, and sift sand and lime after the roller where tar squeezes out. It should not be used for a week at least; and the more frequently it is rolled the better it will be. Brick-rubbish, or burnt earth may be used instead of gravel. When properly executed, a floor of this description is impermeable by wet, and will resist rats and the hoofs of horses. It might be used advantageously for stables, and is inexpensive.

New Books.

The Journal of the Archæological Institute of Great Britain and Ireland. No. 11. London, Longman; Oxford, Parker.

The September number of this work contains several of the papers read at the meetings of the Institute in Winchester and in York,—namely, Sir Richard Westmacott's essay on the progress of sculpture in England (of which we gave an abstract at the time*); notices of the priory of Southwick, in Southampton, by the Rev. Mr. Gunner; Towyn-y-Capel, Holyhead, by the Hon. Mr. Stanley, M.P.; and others. Mr. Way contributes a paper on ancient chess-men, as illustrative of mediæval costume; but the paper which would most immediately interest our readers is "On some arrangements for the hanging of bells in churches without towers," by Mr. Parker. This is illustrated by sixteen admirable wood engravings of bell-cots and gables, and will be found useful.

We make the following extracts from the miscellaneous intelligence.

Mural Decorations in Churches.—The frequent discoveries of mural decorations in colour, recently made even in small parish churches, on the removal of the thick coats of whitewash with which their walls for many successive years had been beautified, appear to establish the fact, that all churches, from the Norman times until the reformation, were decorated with colour in a greater or less degree, both on the plane surfaces and the mouldings. Mr. Charles Dorrien has forwarded to the committee sketches of subjects brought to light during the restoration of the church of Mid-Lavant, Sussex; these paintings, apparently of the latter part of the 15th century, are arranged in compartments, and seem to have formed a series representing the sacraments and services of the church. One of them exhibited the rite of interment; the priest, vested in an alb, touches with the processional cross the corpse wrapped in the shroud, marked upon the breast with a large cross patée. On the south wall of the nave appeared a large figure of St. George, date, about t. Hen. VII. Mr. Dorrien remarked that indications were discernible of three successive decorations; the earliest being coeval with the fabric, and consisting of designs in outline in coarse red paint. Many traces of mural paintings have been found in the churches of that part of Sussex, but mostly foliated ornaments and zig-zag patterns.

A notice and representation of similar paintings, recently uncovered on the north side of the nave in Melcombe-Horsey Church, Dorset, has been communicated by the Rev. Charles Bingham. They are in very imperfect condition, the design apparently of the earliest part of the 15th century.

Manor House, Crewkerne.—The attention of the central committee has been called, by Mr. Richard Hussey, to the existence of a good example of the domestic arrangements of the 14th century, in Somersetshire. The rectorial manor-house at Crewkerne, consists of the original buildings, apparently in the style of the reign of Edward II., with an addition in the perpendicular style. It is in a very dilapidated condition, and will, probably, be soon pulled down to make way for a modern dwelling-house. The original features are in part concealed by ivy, but some of them are perfectly visible: a window in one of the gables is of two lights, and, as is not uncommon in *domestic* buildings of that age, has a transom. There is a projection on the eastern side of the house, possibly intended as a chapel. This building appeared to be a valuable specimen of domestic architecture, during a period of which few similar works exist, and it deserves to be carefully planned and drawn. The original part seems to have been but little altered; the general composition is very picturesque, and the site, adjoining to the western side of the church-yard, was well chosen. Mr. Hussey expressed the hope that some member of the institute might be disposed to examine this fabric without delay, and preserve memorials of its character and details.

Market Place, Ashburton.— The market-place of the town of Ashburton, Devon, a curious timbered fabric of considerable antiquity, consists of an open arcade, formed with pointed arches of wood, supporting a lean-to roof, on either side, and a single upper story. Its dimensions are about 150 feet in length, by 10 or 12 feet in width, the upper part of the building being considerably less wide, on account of the pentise roof on each side. This ancient structure has fallen into decay, and, according to the report of the Rev. Arthur Hussey, it will inevitably, unless some steps be taken to prevent its removal, be demolished on the expiration of an existing lease, terminating at the death of a person above eighty years of age. He suggested that, at least, some examination of its construction should be made by a competent person, and a representation, plan, or section, preserved, as a memorial of an interesting specimen of a class of buildings of which few now remain.

* See page 377, *ante*.

Correspondence.

ANTS IN DWELLING HOUSES.

Sir,—Knowing your desire to contribute to the comfort and convenience of our dwellings, I presume to address you on a subject that somewhat differs from those generally treated of in your excellent journal. Some of the houses in Pall Mall are infested by *ants*, similar in form to those we see in the country, but much smaller and of a reddish colour; they swarm in such multitudes, as to become an intolerable nuisance, generally frequenting the warmest parts of the house, and finding their way into sugar-canisters, bread-cupboards, &c., and covering all that is succulent and edible. The unwelcome intruders do not confine themselves to inanimate substances, but introduce themselves into wearing apparel, crawling about the body, thereby producing a titillation far from agreeable.

You will greatly oblige me and other sufferers from these tormenting insects, by the insertion of this letter in your next number. Some one of your correspondents may have the charity to suggest the means of extirpation. Camphor has been tried; they evidently dislike it, for they avoid its proximity. Fumigation has been recommended, but I imagine it would be inefficacious in a large house. Beetles that abounded previously to their appearance, have nearly disappeared. I am, Sir, &c.,

W. C.

*** Cajeput oil has been found effectual for destroying the red ant in timber.

NEW TRAP FOR HOUSE DRAINS.

Sir,—My attention having been directed to a letter at p. 477 in your journal, from Mr. Lamb, respecting the improved drain-trap at p. 463, I have to state in reply thereto, that I cannot acknowledge having formed the trap in question from any description of his, for the following reasons:—first, because I have built and recommended others to build, for several years past, traps of the same form in brick-work; and secondly, because I have never seen the description alluded to, signed Z. Z.

A hint for the formation of this trap was given by me in The Builder some time last year.—I am, Sir, &c. John Phillips.

London, Oct. 13th, 1846.

Miscellanea.

Haarlem Lake to be Drained in Thirteen Months.—The *Leeghwater* engine, made by the Cornish manufacturers, Messrs. Harvey, of Hayle, and Fox, of Perran, from the design by Messrs. Gibbs and Dean, of Westminster, the engineers to the Haarlemmeer Commissioners, has given so much satisfaction since its erection last year, that two other engines, equalled in dimensions by none in the world besides the gigantic *Leeghwater—par excellence* "the drier up of water"—are in course of formation by the same parties. These are not so immense in power and dimensions as the first, which discharges nearly 1,000,000 tons of water in the twenty-four hours, from eleven pumps, 63 inches in diameter. But though only provided with eight pumps each, the diameter is greater, namely, 73 inches; and when all three are at work they will discharge 2,800,000 tons of water every twenty-four hours; or, since the lake covers an area of seventy square miles, and is estimated to contain 1,000,000,000 tons of water, the whole quantity will be discharged in about thirteen months! The expenditure of fuel by the Leeghwater is found in practice to be extremely small, being reduced to 2¼ pounds per net horse-power per hour, instead of the usual average of fifteen pounds, and even twenty to twenty-five pounds. The cost of engines, fuel, buildings, and workmen will be 140,000*l.*, while, as shewn by the *Mining Journal*, the cost by the old system of engines would have exceeded 240,000*l.*, and the work have taken four years to complete.

Artists' Studies in British Museum.—The *Westminster Review* says, when inquiring into the efficiency of certain commissions—"we would not lose this opportunity of drawing the attention of the Commissioners of the Fine Arts to the new regulations at the British Museum, by which artists are now forbidden to copy in chalk or colours effects of light and shade, for the study of which in the works of Rembrandt, &c., they were formerly in the habit of resorting to the print room. Whether this prohibition arises out of economy on the part of the trustees in not providing a sufficient number of superintendents to prevent the works being damaged, or from somebody's friend being put into office who may care nothing for the progress of art, but much about saving himself the trouble, the fact that such a prohibition exists says but little for high patronage, or for the public spirit of the guardians of a national institution.

Purification of Gas.—Mr. Johnston's patent for the absorption of the ammoniacal, hydro-sulphuric, and hydro-cyanic vapours, by means of sulphate of iron, in the dry way, or with barely sufficient moisture for the water of crystallization necessary in the interchange and formation of the salts, has been tried at the Horseferry-road station of the Chartered Gas Company. Besides the purification, and the saving of 30 per cent. of lime (at the greater, though redeemed expense, of sulphate of iron, we presume), by this new mode of treatment, other alleged advantages, consequent on its adoption, are the reduction of the gross pressure of the liquid mode by 40 to 50 per cent., and the equivalent diminution of the consequent loss; besides the acquisition of the valuable products.

Oak.—The largest piece of oak timber ever seen in Brecon passed through the town to the canal on Monday last. It was cut in the woods of the late W. Vaughan, Esq., of Penymaes, and contained 230 feet of timber; two carriages broke under its weight, and it was at length conveyed on rollers over the pitching of the streets, by the united efforts of sixteen horses and a number of men.—*Silurian.*

The *Journal du Havre* states that, on the night of Monday last, the greatest part of the wall of the quay of the new dock at Honfleur, which has not yet been opened, was forced down by the water getting in between the wall and the earth.

SYSTEMATIC DRAINAGE OF TOWNS.—The want of proper drainage in Leamington having become apparent, Professor Hosking was requested to advise as to the best means of providing it, and has accordingly submitted a report on the subject. We shall probably refer to it.

TENDER.

For building two houses in the Fulham-road, Mr. Wallen, Architect.

John Jay	£2,779
Rd. Ashby	2,732
Symes and Son	2,300
Fredk. Faulkner	2,236
John Glen	2,197
Saml. Cundy	2,181
Rd. Dean	2,100
J. and W. Hawke	2,087
John Wilson	1,993

NOTICES OF CONTRACTS, &c.

THE authorities of the Stamp Office having given us notice to discontinue the insertion of our list of contracts, &c., excepting as advertisements, we have in deference to their wishes, omitted them for the present, but have taken steps to place the facts of the case properly before them, and, as we hope, remove their objections. In the meantime a list may be seen at our office.

When it is understood by the Board that our list is simply an index to advertisements, which, having appeared in other papers, have paid duty, and are inserted solely for the convenience of our readers, and not for the benefit of advertisers, or for our own profit, excepting so far as results from increasing the usefulness of our paper, we are disposed to think the objection, even if it can be legally maintained, will be withdrawn. We hope that the question will be settled before the appearance of our next number.

TO CORRESPONDENTS.

"*Club Chambers for the Married.*"—Is the writer of the article under this head willing to be put in communication with one interested in the subject?

"*St. Giles's, Camberwell.*"—Fresh complaints have reached us against the removal of paintings and the attempt to take out one of the stained-glass windows. We are not yet in possession of the facts of the case.

"*Wood Carving Works.*"—We will endeavour to call.

"*Bond Timber Jack.*"—We cannot invite any assistance to a scheme anonymously recommended.

"*C. D.*"—We must know something of the material before quoting any praise of it.

"*Market Cross, Glastonbury.*"—We shall be glad to see a view of the new cross.

"*J. R. N.*"—The historical notes should be pithy. Churches possessing architectural peculiarities or beauties should be chosen.

"*O.V.*"—A drawing of the Gates of Somnauth with ample details by Mr. C. J. Richardson, is given in the "Archæologia," Vol. XXX., p. 174. They do not seem to present any symbols, and are, in truth, much more modern in appearance than their asserted date.

"*Col. M.*" next week.

Received.—"A Citizen," "H. J.," "A Subscriber to the Builder," "F. T.," "W. J. V.," "H. P.," "Honesty," "H. W. Y.," "Inquisitor."

"*Books and Addresses.*"—We have not time to point out books or find addresses.

NOTICE.—Our next number will contain an elaborate view and ample details of the "Taylor and Randolf Buildings" in Oxford. Early orders should be given to prevent disappointment.

ADVERTISEMENTS.

A NUMBER of MARBLE CHIMNEY PIECES, consisting of Statuary and Vein, some of which are suitable for Drawing-rooms, &c., and some of moderate dimensions, suitable for second and third-rate houses; also two Monumental Tablets, TO BE SOLD CHEAP, under peculiar circumstances.—Apply, 34, Chichester-place, King's Cross.

N.B. Approved bills at three or six months, according to the amount.

TO ARCHITECTS, BUILDERS, & BRICK MAKERS.

PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Roads, Gardens, and for Liquid Manure. BRICKMAKERS' PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to 12-inch bore, kept for Hire.

BENJ. FOWLER, 63, Dorset-street, Fleet-street.

TO BUILDERS, CONTRACTORS, AND OTHERS.

MERIONETHSHIRE SLATE AND SLATE SLAB COMPANY (Provisionally Registered pursuant to Act of Parliament 7 & 8 Vict. chap. 110). Capital 50,000*l.* in 5,000 shares of 10*l.*

A Company has been formed for the purpose of supplying, at greatly reduced prices, a sufficient quantity of Slate Slab of the very best description to meet the daily increasing demand. The objects of the company are fully detailed in the prospectuses, applications for which and for the remaining shares may be made to the manager at the Temporary Offices of the Company, 7, Copthall-court, London, or to Mr. THOMAS, Mining Agent, 81, Old Broad-street.

R. GOODLAD and Co., Paper-hanging Manufacturers, 1, Southampton-street, two doors from the Strand, London. R. G. and Co. beg respectfully to express their thanks for past favours, and solicit their friends, and the Trade generally, to inspect their extensive assortment of the choicest Patterns, which they can vouch ranks second to none in the metropolis, either as regards extent of stock, variety, or moderate charges. A liberal allowance to Builders and the Trade. For cash only.

GAS LIGHTING.—Churches, Factories, Railway-stations, Offices, &c., &c., fitted up for Gas with the very best materials and workmanship. Every description of Gas-lamp Furniture Manufactured on the Premises. Estimates given, and Suitable Patterns, or Drawings submitted.

JOHNSON, Brothers, Gas Apparatus Manufacturers, 9, Curzetor-street, London.

TO ARCHITECTS, BUILDERS, &c.

GAS LAMPS, GAS BRACKETS, GAS PILLARS, BURNERS, &c. &c. In calling the attention of architects, builders, &c., to their assortment of Gas Furniture in general, C. DEBAUFER and SON respectfully announce they continue to fit up premises of every description on the most approved and newest system of gas fitting. An experience of forty years justifies us in making the above assertion.—P.S. Country orders attended to with dispatch.—10 and 11, Creed-lane, St. Paul's.

TO ENGINEERS AND BOILER MAKERS.
LAP-WELDED IRON TUBES FOR STEAM BOILERS.

THE BIRMINGHAM PATENT IRON TUBE COMPANY, 42, Cambridge-street, Birmingham, and Smethwick, Staffordshire, manufacture Tubes under an exclusive License from Mr. Richard Prosser, the Patentee. These Tubes are now very extensively used in the Boilers of Marine and Locomotive Steam Engines in England and on the continent, are stronger, lighter, cheaper, and more durable than brass or copper Tubes, and warranted not to open in the Weld. They may be fixed in the Boilers without Ferules, and can be taken out and refixed without additional trouble or expense.—Address, 42, Cambridge-street, Crescent, Birmingham; London Warehouse, 68, Upper Thames-street.

TODD'S PATENT PROTOXIDE PAINT, manufactured by CHAS. FRANCIS and SONS, CEMENT WORKS, NINE ELMS, LONDON.

The properties of this Paint are peculiar for preventing iron from oxidation, wood from decay, and masonry from damp; it neither cracks nor blisters with the hottest sun, and is therefore most valuable for Railways, Boilers, Steam, Gas, and Water-pipes; Hothouses, Forcing-houses, and for Shipping. Its adhesion is so great to iron and wood, that the hardest friction will scarcely remove it. It prevents vegetation on stuccoed buildings, and is not affected by spray of sea-water.

PROTOXIDE PAINT is sold ground in oil, and, compared with white-lead, its property of concealing is as 75 to 50, so that one hundred weight is equal to one and a half of lead. It works well under the brush, and forms with oil an unctuous and cohesive mixture. If blended with other paints it has a softer tone than white-lead. For houses painted during occupation it is most preferable, being perfectly innoxious.

VARNISH, COLOURS, WHITE LEAD.

Genuine White Lead	per cwt.	27s.	0d.
Seconds	,,	25	0
Thirds	,,	23	0
Linseed Oil	per gallon	2	3
Turpentine	,,	4	6
Putty	per cwt.	7	6
Patent Dryers	,,	36	0
Oxford Oker	,,	36	0
Varnishes equalled by none:			
Fine Oak	per gallon	10s.	
,, Carriage	,,	12	
,, Copal	,,	18	
,, Body Copal	,,	24	
,, Gold Size	,,	10	
,, Black Japan	,,	10	

Painters' Brushes, and every article in this branch, at the Manufactory, 87, Bishopsgate-street, Without, London.—THOMAS MILLINGTON, Proprietor.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering it to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 16s. per gallon.

STEPHENS'S PROCESS for DYEING or STAINING WOOD, as a substitute for Paint. The natural grain of wood is imitated by art, but the most successful imitation has a sameness of appearance when compared with the continual variety which different woods present in their natural grain. To give an ornamental colour to the wood without obscuring the grain, is the object of this process, which surpasses paint in appearance, while at the same time it is so economical that the whole interior of a house, which would take a month or six weeks to paint in the usual manner, may be finished in one week by the process above named, and be more pleasing when finished. The dyes or stains are prepared and sold by HENRY STEPHENS, 54, Stamford-street, Blackfriars-road; sold also at the Office of "THE BUILDER," 2, York-street, Covent Garden, London; Hodkinson, Widemarsh-street, Hereford; R. Sutton, "Review Office," Nottingham; H. Wills, 39, High-street, Lynn; and in Manchester, at Crake's Marble Works, Garratt-bridge. In bottles of 6d. and 1s. each, and at 10s. per gallon. The oak colour may be obtained in powder at 8s. per pound, which dissolves in water to form the liquid, and one pound will make one gallon of stain.—N.B. The Trade supplied.

PREPARED FLOORING BOARDS.

AT REDUCED PRICES.

ALWAYS ON SALE, a Large Assortment of DRY PREPARED FLOORING BOARDS, and MATCHED BOARDING of all sorts, planed to a paralled width and thickness, from ½ inch to 1½ inch thick.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Wilton-road, Pimlico (late C. Moore and Son), and Great Smith-street, Westminster.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, at Old-Barge-Wharf, Upper Ground-street, Blackfriars, and at Hy. Castle's, Ship-yard, Millbank-street, Westminster, a large, very general, and well-seasoned stock of all kinds of Prepared Floor and Match Boarding, planed to a parallel breadth and thickness, fit for immediate use; also a great variety of machine-prepared mouldings, very accurately finished.

A. R., in calling the attention of builderr and consumers, confidently presumes on being able to supply them on such terms as will ensure and merit their favours, &c.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Pantiles.

T. ADAMS (from Byron and Co.), late S. Dare, Mahogany, Timber, and Deal Yard, New-road, Bermondsey, near Bricklayers' Arms, has always in stock mahogany, cedar, wainscot, elm, beech, oak, &c. Pantile oak and fir laths, scaffold poles, putlogs, &c. Wheelwright's goods, veneers, cut deals and scantling of every dimension. Also a large assortment of SEASONED FLOORING, MATCH BOARDING FIT FOR immediate use, and MOULDINGS prepared by machinery, all at reduced prices.

Advantageous to Timber Merchants, Builders, Coopers, and others, who may require Timber to be sawn.

THE PATENT SAWING COMPANY beg to call the attention of parties in the above trades to the advantages which their Mills offer as regards charges, and the saving of expense in carriage, being situate close to the Grand Surrey Canal Docks, in Rotherhithe. They solicit a trial, and hope to obtain a share of patronage by a strict attention to all orders intrusted to their care. Letters addressed to the office, No. 5, Church-court, Clement's-lane, City, will be promptly attended to.

MUIR'S PATENT PLANING MACHINERY.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.

TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.

THE GENERAL WOOD CUTTING COMPANY continue to receive the most satisfactory assurances from all who have given their improved machinery a trial, that there is no method of preparing floor-boards, matched linings, skirtings, &c., by which accuracy, dispatch, and economy of material are so certainly obtained. In shooting, or grooving and tongueing a board (although curved), the machine follows the edge, removing no more than the skin of the wood, and by the use of a peculiar saw for deep cutting, the board comes off with a perfect surface, thus obviating the necessity of reducing its thickness in order to plane out the hollows. The Company being neither builders nor timber merchants, unconnected with any trade but that of sawing and planing, and depending solely on the public for a moderate interest on their capital, are determined, by an assiduous attention to the interests of their customers, both as regards workmanship and general business arrangements, to merit a continuance of their support.

TEMPLETON'S IRON GAUNTLET.

TO all who use the Hammer and Chisel, as Sculptors, Masons, Wood-carvers, Engravers, for clean and finished cutting in marble or stone, use TEMPLETON'S IRON GAUNTLET, now used by some of the best artists and tradesmen in London. Price Three Shillings.—Apply to R. TEMPLETON, 16, Wellesley-street, Seymour-street, Euston-square.

Carved-work, in Stone or Marble, contracted for.

PATENT GALVANISED TINNED IRON.
(MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and water-closets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 90s. to any required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quick-set-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

TO ARCHITECTS, BUILDERS, AND THE PUBLIC IN GENERAL.

GEORGE JENNINGS, of 29, GREAT CHARLOTTE STREET, BLACKFRIARS ROAD, begs to call the attention of Architects, Builders, &c., to his REGISTERED FASTENING for SHOP SHUTTERS, &c., which entirely supersedes the use of shutter-bars. Thereby effecting a great saving of labour, as by the old method, the bar has to pass through the hands of some one method, the bar has to pass through the hands of some one upwards of six hundred times in twelve months, which tends to deface the whole front more or less every time the bar is put up or removed. The fastening is secret, simple, and sure, in its action, and can be affixed to any shop-front in two hours, without any alteration to the shutters. New fronts fitted at a less expense than a shutter-bar would amount to. A liberal allowance to the trade, and any further information may be obtained by inclosing a postage stamp to the above address.—A Model may be seen at the office of "The Builder."

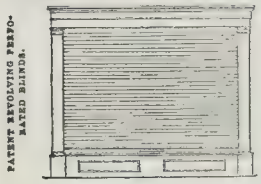
SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

Manufactory, 95, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters for both security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.

PATENT SAFETY IRON SLIDING SHUTTERS.





The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 115, Old Street, London; or at the Licensees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using SUCH LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licenses Granted.

INJUNCTION.

BUNNETT and CORPE'S Patent REVOLVING IRON SHUTTERS.—Since the verdict found in favour of the Patentees, in the Court of Exchequer, in the action tried by order of the Court of Chancery, that Court has granted a perpetual Injunction for restraining all infringements of this Patent, and therefore all parties are hereby cautioned against infringing the same.

THE PRICES ARE GREATLY REDUCED, and BUNNETT AND CORPE'S PATENT IRON SHUTTERS ARE THE CHEAPEST AS WELL AS THE BEST. They are made with convex laths, if required. The worm and wheel motion for raising and lowering revolving iron shutters (as secured by this Patent) is the only safe and durable mode of effecting that object. In large shutters it is indispensable.

Some thousands of Bunnett and Corpe's Shutters have now been put up, without a single complaint of their want of strength or security; and nine years' practical experience (during which they have adopted every real improvement) enables the Patentees to challenge comparison with any others. They will guarantee all Shutters put up by them to keep in order, and last twice as long as any with thin convex laths.

B. and C. also manufacture REVOLVING WOOD SHUTTERS (the Patent for which has expired), at the same prices as other makers, but greatly superior, being fitted with their patent raising gear, and proper metallic hinges, without which no shutter can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop-fronts fitted with Iron Shutters, Patent Brass or Zinc Sashes, Plain or ornamental, handsomely Engraved, Moulded, Stall-board Plates, best Plate Glass, and Internal Brass Fittings of all kinds, superior in quality and workmanship, and lower in price than any other house.

Contracts taken in Town or Country.

Metal Drawing and Stamping for the Trade.

Office at No. 26, Lombard-street, London; Works, at Deptford, Kent.

Steam-engines, Sawing, Planing, and Moulding, Cutting-machines on Improved Plans, especially adapted for Builders' purposes, may be seen in operation at the Works.

BRICKS.—Superior White Facing Bricks (called Suffolk Bricks), and hard Stable Paviors, &c., may be had at W. and S. WRIGHT'S Brick and Tile Manufactory, Hanwell, Middlesex. Moulded Bricks and Tiles made to order on the shortest notice, and on liberal terms.

FIRE BRICKS, Stourbridge, Welsh, and Newcastle; also Lumps, Tiles, and Clays, a large Stock of the best made Goods are selling at very reduced prices (a great reduction having taken place in freights) at WARD'S Honduras Wharf, Bankside. Windsor Nonsuch, and Town-made Oven Tiles, PP.N. and Circular Red Fire Bricks, Country Pan, Plain and Ridge Tiles, Paving Bricks, Corn Drying and Patent Malting Tiles.—Country Builders promptly supplied. Rough River Ballast for Concrete and Thames Sand, above and below bridge, by freights or loads. Prepared Sand for Plastering.

ARCHITECTS and SURVEYORS will find by making their selection of MARBLE CHIMNEY-PIECES at the Westminster Marble Company's Show Rooms, containing a great variety of elegant drawing and dining-room chimney-pieces, executed in a superior manner, and sold at such reduced prices to enable the public to realize a great saving, by their patent machinery. An unabated zeal will be maintained to continue the patronage so liberally shown to this establishment.

Address, Earl-street, Millbank.

N.B. Country Orders promptly attended to.

CAEN STONE.

TUCKWELL'S Norway Sufferance Wharf, Greenwich.—Architects and Stone Merchants are informed, that this stone may be procured at the above Wharf in any quantity, in blocks up to 12 tons. The stone, which is exclusively the product of the Allemagne Quarries, and of the very finest quality, is consigned solely to W. TUCKWELL, who is prepared to execute orders to any extent, having a Large Stock always on the Wharf.— Orders received by, and further information with samples may be obtained of Mr. R. A. WITHALL, Surveyor, 89, Cheapside, and of Mr. W. TUCKWELL, at the Wharf.

N.B. Cargoes shipped direct to any Port.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

SAMUEL CUNDY begs to inform Architects and others that every description of Stone, Marble, and Granite work is executed at the cheapest possible rate.

MARBLE WORK for Halls, Dairies, Tables, Columns, Vases, at most reasonable prices.

A large collection of Designs for Memorial Crosses, Mural and other Monuments.

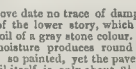
BOX CHIMNEY PIECES from Twelve Shillings upwards. Depôt for Caen and other Stones

N.B. Mason's Work in all its branches prepared at the works, ready for fixing to drawings and dimensions sent, and fixed if required, including York paving squared, jambs, mantles, sills, slate shelves, &c. &c.—Estimates given for new buildings and repairs generally.

BARRETT, STONE MERCHANT, 24, Wharf, Harrow Road, Paddington, respectfully informs Builders, Stone Masons, and others, that he has opened a Depôt at the Great Western Terminus for the sale of Wall's Quarry Stone. Having been established at the above place for the last twelve months, and the sale of the stone increasing so much, the Great Western Company has had the kindness to favour me with a Depôt at their Terminus. The Wall's Quarry Stone is equal to Portland for Staircases, Hall Floors, Porticoes, Balconies, Chimney-pieces, Coping, Window Sills, &c. The same stone being used in Gloucestershire for all the above purposes. The stone is sawn to all sizes while in the Quarry to save expense of waste and sawing in London, on which account can be rendered much cheaper, and is free from all flints, shells, and holes.—List of prices and samples sent to any part of London, carriage free, by directing all letters to No. 24, Wharf, Paddington.

P.S. Nailsworth and Paniswick Stone in Block.

PAVING, 2s. 9d. PER SQUARE YARD. Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27s. 6d. per ton.



COMMISSIONERS OF FINE ARTS' REPORT ON THE MEANS OF PREVENTING DAMP IN WALLS.

THE DIRECTORS of the SEYSSEL ASPHALTE COMPANY have much pleasure in recommending to the notice of Architects, Builders, and others, the application of the ASPHALTE of SEYSSEL as the only effectual means of preventing DAMP rising in WALLS.

J. FARRELL, Secretary.

Seyssel Asphalte Company's Works,
"Claridge's Patent."
Stangate Depôt, London.

The following account of its application is extracted from "The Appendix to the Commissioners of Fine Arts' Report," page 18:—

"In 1839 I superintended the construction of a house of three stories on the Lac d'Enghien. The foundation of the house is constantly in water, about 19½ inches below the level of the ground-floor. The entire horizontal surface of the external and internal walls was covered, at the level of the internal ground-floor, with a layer of SEYSSEL ASPHALTE, less than half an inch thick, over which coarse sand was spread.

"Since the above date no trace of damp has shewn itself round the walls of the lower story, which are for the most part painted in oil of a gray stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so painted, yet the pavement of the floor, resting on the soil itself, is only about 2½ inches above the external surface of the soil, and only 19½, at the utmost, above that of the sheet of water.

"The layer of Asphalte having been broken and removed, for the purpose of inserting the sills of two doors, spots indicating the presence of damp have been since remarked at the base of the door-posts."

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery

Best Patent Cut Clasp.

3d.	4d.	6d.	8d.	10d.	20d.
6d.	7d.	9d.	1s. 6d.	2s.	per 1000.

Best Sheet Floor Brads 15s. 6d. per cwt.

Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6½d., 7d., 8d. per inch.

Self-acting Kitchen Ranges with Oven and Back Boiler. Wrought Bars and Bright Fittings.

3 ft., 3l. 3s. 3 ft. 6 in., 3l. 12s. 6d. 4 ft., 4l.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3l. 6s.	3l. 13s.	3l. 16s.	4l.	4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5l.	5l. 15s.	6l. 5s.	6l. 10s.	7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.

Do. Elliptic do., at 3½d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 166, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

TO ARCHITECTS AND BUILDERS.

DOOR SPRINGS AND HINGES.—GERISH'S PATENT DOOR SPRINGS, for CLOSING every description of DOOR, consists of Single and DOUBLE-ACTION BUTT HINGES in Brass and Iron for Doors to open one or both ways, and Rising Hinges for the convenience of Doors opening on uneven Floors. Likewise Swing Centres, which consist of a combination of power unequalled by any made at present. Manufactured by R. W. Gerish, East-road, City-road; and sold by all respectable Ironmongers in the United Kingdom.

RIVER SAND AND GRAVEL SUPPLIED IN BARGE.

R. DOWNEY and SON, Licensed Lightermen and Pile Drivers, of No. 11, Millbank-row, Westminster, beg respectfully to inform Builders, Contractors, Lime-merchants, and others, that they have added to their before considerable stock of Barges, other two large Sand-getting Craft. They have now every facility to execute large Sand orders, and solicit patronage, promising to give due attention to punctuality and quality of material.

It is intended this advertisement appear four times from Oct. 10th.

CHEAP ROMAN CEMENT is sold in Casks that will not contain five bushels, even by some manufacturers of a respectable name. Consumers should see that the standard size cask is 29 inches long by 17½ across the head, outside measure. Any workman with a rule in his pocket can ascertain this.

PATENT METALLIC SAND CEMENT, requiring no colour or paint, and free from cracks and blisters, mixed ready for use at 8s. per cask; 2s. 6d. allowed for each cask returned in good order. 3½ bushels common sand to be added to each cask of Metallic Cement, which will float 14 square yards of stucco.—Apply at the Metallic Cement Wharf, King's-road, Camden New Town.

THE PROJECTED RAILWAYS.

PATENT METALLIC SAND, or ENGLISH POZZOLANO.—The Proprietors of the Metallic Sand, after many years' experience of its merits, confidently recommend it to the attention of Engineers, Architects, Builders, and the public generally, as an invaluable article for Hydraulic and other Works requiring great strength and durability.

In analysis, the metallic sand is very similar to the Italian Pozzolano, the value of which in all subaqueous works is so well known to engineers and architects; but from its granular form, and the sharpness of its angles, and the increased quantity of iron it contains, the metallic sand has been found more durable, and much cheaper than any other similar material at present in use.

From its chemical qualities it forms, in admixture with lime and common sand, a cement, mortar, or concrete, of flinty hardness, and almost entire incompressibility; and from its adhesive and impervious qualities, it completely and for ever excludes water. The more it is exposed to the atmosphere, and to wet and damp, the harder and more durable it becomes. In the formation of mortar and concrete, it has been extensively used in the great tunnels on the London and Birmingham Railway, in the foundations of the New Houses of Parliament, sea walls on the North Devon Railway, Clifton Reservoirs, and other works of importance.

As an external stucco, the metallic sand cement is unaffected by frost or wet; in appearance it resembles the best Portland stone; requires, therefore, neither colour nor paint, and is entirely free from vegetative cracks and blisters, to which Roman cement is liable.

Further information will be given, and specimens shewn, on application to Mr. C. K. DYER, 4, New Broad-street; and at the Metallic Cement Wharf, King's Road (opposite Pratt-street), Camden New Town, London.

Analysis of the Patent Metallic Sand.

Silica	49	Lime	6
Oxide of iron	32	Magnesia	2
Alumina	6	Zinc	3
Arsenic and carbonate of copper	2		

The Builder.
No. CXCIV.
SATURDAY, OCTOBER 24, 1846.

ROBERT TAYLOR, born 1714, was the son of a mason, and received but an ordinary school education. In due time his father placed him under Sir Henry Cheere, the sculptor, and after a certain number of years gave him a small sum of money, and sent him to Rome to study his art. Hardly, however, had he settled himself to work before he was recalled to see his father die; and, travelling then not being quite so easy a matter as it is now, when men can as safely and pleasantly journey to Rome as into their next county, and a visit to the Pyramids may be paid before your friends know that you are out of town,—was compelled to disguise himself, according to Milizia, as a Franciscan friar to avoid detention. When he arrived, however, his father was dead, and had left no provision for his family: like too many in our time, more even than then, he had lived much beyond his income, and so died a beggar. Our hero, therefore, was compelled to strive for himself, and began the world as a statuary with eighteen pence in his pocket. Being assiduous and energetic, he appears soon to have got into notice, and executed, amongst other works, the figure of Britannia at the Bank of England, and the bas relief in the pediment of the Mansion House, London.

Circumstances then led him to abandon sculpture for architecture, and his course became a prosperous one in a remarkable degree: he erected many buildings, and was appointed successively surveyor to the Admiralty, Foundling Hospital, Greenwich Hospital, and the Bank of England.*

In 1783, when sheriff of London, he was knighted,† and five years afterwards died at his house in Spring-gardens, and left 180,000*l.* behind him.

This house, now No. 34, occupied as the private residence of Mr. Barrack, the owner of the adjoining hotel, remains for the most part as Sir Robert left it, and within-side displays an artistical feeling, exhibited by a greater sacrifice of room and convenience than we should now be willing to make. The principal apartments are octagonal or circular in plan; the staircase is also of the latter form, and is adorned with heads from the antique on brackets.

Sir Robert left the bulk of his property to his only son, Michael Angelo Taylor, whose name attaches to a well known Act of Parliament, to be applied, after accumulating for a period of time, in founding a college in Oxford for the study of modern languages,—in consequence of which it is, that we have been led to introduce the foregoing sketch of his progress.

Other bequests having been made by Dr. Randolph for a picture-gallery, and Mr. Shalmondeley for the preservation of the Arundel and Pomphret marbles, the University contributed a considerable sum, and in 1840, invited designs for the erection of a building to meet these various intentions.

From the projects then submitted, thirty-four in number, that by Professor Cockerell, of which we now place before our readers an engraved view from the architect's own drawings, and a plan of the ground-floor,* was selected, and has since been completed by Messrs. Baker, the contractors, in a sound and admirable manner. The amount of the contract was 49,373*l.* It was commenced in April 1841, and completed in the same month of 1845.

The site, as shewn on the plan, wherein the northern boundary is marked by a dotted line, is extremely limited, and with other circumstances afterwards to be mentioned, called for considerable study in the arrangement of the building,—the whole extent we may remark, was 240 feet by 102 feet; the main front is in Beaumont-street, the east end is in St. Giles's, the leading approach to Oxford.

This end of the building is appropriated to the Taylor Institute, and comprises five good lecture-rooms, and a fine library on the first floor,—the latter is a cube of nearly 40 feet.

The party-wall which divides this part of the building from the University galleries, is at A, on the plan. The entrance to the Institute is in St. Giles's where there are four detached Ionic columns with a block of the entablature over each, bearing sculptured figures emblematical of Italy, France, Germany, and Spain.

The centre portico opens into an extensive sculpture gallery, the sides of which are formed into a series of recesses, by Doric antæ, projecting from the wall; the mode of lighting these, as well as the recesses B, (appropriated for statues of the nine muses) C, and D, is worthy of remark.

The walls of the gallery are coloured pale green, and the pilasters in imitation of red granite, at variance with the wishes of the architect. Irish green marble is extensively used in the floor, as a decoration. Amongst the works deposited here, is a collection of casts from the works of Chantrey, presented by Lady Chantrey. Above are spacious galleries for paintings; the principal of them is in the west wing, and is 96 feet long, 28 feet wide, and 34 feet high, lighted by six hexagonal lights in the ceiling, and two large windows at the end.

The walls are boarded and painted red, and have an inartificial and unfinished appearance, which will be removed when the number of pictures increases. This gallery already contains some very interesting works; amongst which may be mentioned a series of portraits of painters, by themselves; copies of Raffaelle's cartoons, by Cook; and Giulio Romano's copy of that wonderful picture, the School of Athens.

An adjacent gallery contains the celebrated collection of drawings by Michael Angelo.

To give elevation to the structure, the whole of it, together with the fore-court, is raised upon a terrace, faced with Witby stone. The spacious basement, or crypt, thus obtained light and airy, is appropriated for sculptural fragments, and already holds, amongst much that is worthless, some valuable relics of ancient art.

The accompanying engraving of the principal front, aided by the plan, renders verbal description almost unnecessary. On the side front of each wing, facing the fore-court, are four attached Grecian Ionic columns, carrying blocks of entablature and vases, shewn in profile, similar to those on the front of each wing, with corresponding semi-circular openings in the face of the wall, terminating the windows, which occur between each column.

A figure of Apollo surmounts the pediment of the portico. This and the other sculpture, including the figures on the St. Giles's front, already mentioned, was executed under the direction of the architect by Mr. G. W. Nicholl.

It has been objected to this edifice, that the wings unduly preponderate over the centre building; and when seen at a little distance, where the roof of the wings, omitted in the drawing, comes into sight, this is certainly the case. The motive which led to this, however, is apparent enough, and should be taken into consideration when estimating the ability with which the architect has executed his task. At the western extremity, the building is attached to some ordinary dwelling-houses, and it was necessary therefore to render that portion of it conspicuous, for the purpose of separating it from them, and pointing it out unmistakeably as a public building. At the eastern end standing in a leading thoroughfare, the same predominance was required, and thence the result which has been questioned.

The central portico, of the same order as is adopted in the wings, connects the two parts, and marks the whole as one building. Although the order is Greek, taken from the Temple of Apollo Epicurius, at Bassæ, near Phigalia—a very singular and little-used example—the building must be considered as Italian in disposition, and claims for its architect great praise for originality and elegance.

In our general view of the building, the peculiarities of the order are not observable; and as it is little known and has been worked out with great pains by Mr. Cockerell, we shall next week give the details of it at large, with some particulars of the temple in question; in the discovery of which the accomplished professor, whose work in Oxford we have here illustrated, was mainly concerned.

MATTER FOR THE ATTENTION OF THE LEGISLATURE

IN THE APPROACHING SESSION.

LESS attentive observers of the aspect of the political world than we are, have not failed to remark the decreasing interest of questions which once absorbed the attention of the legislature. A fusion of parties, to use a common phrase, is in progress, and questions are now debated in St. Stephen's, which have some interest for others besides the friends and opponents of ministers. Even matters of art are sometimes the subjects of discussion, and legislative enactments have been made with a main view to the benefit of the industrious classes. Seated by our first fire, our thoughts naturally run into the current which the season of the year induces. Abbot Boniface could trace out towers, and steeples, and fret-work in the embers, and the contemplative mood yields us suggestions of deeper moment to ruminate upon.

With the lighting of the first fire, post-horses are turned homewards, steam-boats bear a returning cargo of tourists, and the thoughts of men come back to the business of life. A kind of new year it is, a more decided commencement than the actual first of January. Societies are re-organised, cabinet councils are more frequently mentioned, and members of Parliament begin to talk of "next session." It is the moment for plans to be matured, and measures to be commenced, and we should be early to move in matters about which we have so deep an interest. For what can be of greater moment to all, than that which may occupy the attention of the government in the next session of Parliament. The comfort and health, and the intellectual improvement of the people are now to become the objects of state attention. The delay has been long and culpable; but all are at length convinced of the immense magnitude of the evils which must be removed.

It is the *immediate* benefit of the people, which should be always the most important object of the legislature; for this, questions of temporary importance should be terminated

* Stone-buildings, Lincoln's-inn; Six clerks' office, Chancery-lane; a villa at Richmond for Sir Charles Asgill; Ely House, Dover-street; and Lord Grimston's seat at Gorhambury, the Duke of Newcastle's house at Clumber, and great part of the Bank of England, are amongst his works.

† See Knight's "Cyclopædia." The writer of the notice of Taylor in that work, says he was rarely in bed after four in the morning.

* See p. 511.

and party animosities allowed to sleep. Is it in Austria, or Prussia, or not in a despotic country, that a true paternal government can be found? The education, health, and recreation of the people, their condition and comfort, should be held paramount. Why might not departments of education, and of health, be deemed to require separate secretaryships of state?—Such benefits would be fitting subjects for the attention of the higher estate of Parliament, and would make the influence of its members depend upon other grounds than hereditary rank.

The legislature must not only make enactments, but watch over their results; opportunities of improvement should be sought out, and this care should be extended to all classes, for it is a mistake to suppose that "the poor" alone require these benefits. The means of obtaining such ends must be made the subject of systematic study; every assistance should be afforded to associations for the health of towns; cheap publications explanatory of the different subjects should be extensively disseminated, and depôts opened, where approved inventions calculated to facilitate any of the objects could be easily obtained. When such subjects have been urged upon the attention of governments, or the example of some continental nations alluded to, the answer has always been, that it is the custom in England to leave all these questions, and improvements, to private enterprise, or to associations. Alas! the result of such specious but convenient reasoning. Public health, national education, the promotion of cleanliness, the comfort and convenience of dwellings, the condition of those who labour, and the nature of their employments, the endeavour to make exertion more generally lead to success in life, the recreation of the people, and the improvement of towns, architecturally,—all these, which are the elements of a nation's welfare, the first minister of the crown has already admitted are in a state "lamentably imperfect," or have "been grossly neglected." Additional powers should be given to local bodies, for the judicious enforcement of sanatory measures, and loans should be ready for them, and for individuals, on sufficient security. Exertion should not relax, until it can be said universally, "now there is no excuse for ignorance, for filth, for disease, for want of comfort, for ill success, for misery, and for crime; the individual alone is to blame."

As the public health will probably be the earliest measure that will occupy the attention of government, we may say something respecting it, although we have so frequently brought the subject before the notice of our readers. The facts connected with the health of towns, and the improvement of the dwellings of the poor, which have of late been assiduously collected and published, require no further addition.* They present the most complete evidence that could be adduced, of evils, whose influence extends in every direction, is not confined to one class of society, and demands the adoption of prompt and vigorous remedies. Yet, with the knowledge of the malady, the curative treatment seemed to have ended. A few sanatory measures talked of in Parliament, and the rumoured introduction of clauses in certain local acts, constituted every thing that it had been thought worth while to do for objects, important not only as concerns health, but in a multitude of considerations of a social, moral, and economical nature. The trite saying, that the full knowledge of the evil is the main step towards the remedy, might here have been of no value whatever: with that knowledge ended all endeavours; and for any present or immediate results, the report of the Health of Towns Commission might only yesterday have been issued. A continuance of such a state is now impossible, and could not exist at this moment, had the report of the commission been read, as it ought to be, by every one. The startling facts which it discloses, would ere this have determined every municipal body in the kingdom, to do what is now being projected in a few towns.

It has been shewn, that the principal causes of disease are defective sewerage, and a supply of water far beneath what is absolutely necessary for personal cleanliness and domestic purposes alone, without reference to that much larger quantity, which is imperatively demanded by the requirements of public health. One of the first objects which should occupy attention, should be the placing the paving, the sewerage, the supply of water, and of gas, under one management, so that the present most inconvenient disturbance of the pavement, by which great damage results in every single department, might be avoided. In order that these necessary measures may be carried out efficiently, and in the least expensive manner, perfect maps and levels should be at once commenced. Thus a body of information would be always obtainable, for want of which much useless expense is continually incurred. Such an undertaking, if completed on a large scale, would pay its own expenses, not only in the positive saving which it would effect to local bodies, but from the assistance it would render to architects, or to agents in the disposal of land, who would often obtain such certified information at any consideration. Judicious measures being so far insured, the opinions of scientific and practical men should be taken on the best forms of sewers and drains, the mode of cleansing, and the method of preventing the escape of poisonous gases from the gully-holes. These subjects merit the closest attention; they have till lately been entirely neglected.—It has been proposed to reduce the size of the sewers, substituting pipes of earthenware glazed inside, in order that there might be a constant current of water, so that no other cleansing would be required. A similar method for house drains, where it would be most efficient, has been already explained in these pages; but in the sewerage of a large district, we think there would be practical difficulties in the use of pipes of such small diameter. It must be recollected, that the sewers, which run into each other, must increase in size as they near the outlet, and must provide not only for the constant drainage from houses, but also for the occasional rain which falls on the streets and roofs. Much smaller sewers, perfectly free, would of course be more efficient than larger sewers partly choked.—The necessity for an ample supply of water is great, for domestic purposes, but is required far more for cleansing sewers and drains, for water-closets, and for aids to cleanliness. The former source of demand, in the words of Mr. Grainger, "although, of course, the most pressing, is, in reality, the one which would, under a proper system, cause the smallest consumption." "The domestic supply must *also* be increased to an amount, of which those who have been in the habit of selling and buying water in pints and gallons have no adequate conception." The supply should be carried to the top stories of every house, as, indeed, it is at present in some parts of London. We need not remind our readers that this is perfectly feasible, and an immense saving would at once result.* Indeed, the labours of the Health of Towns Commission have shewn, not only that there would be a very great saving, by increased advantages, from the institution of remedial measures, but that there would be an immediate saving of considerable amount, whilst the actual cost is probably not beyond the reach of any municipal body.

We need not, however, enter into a complete detail of all the preventible evils, as our readers are probably in possession of the information which is accessible to all, but we deem it necessary to press upon the attention of the Government the immediate necessity for undertaking a line of policy, such as the premier has already indicated, which would eminently distinguish his administration as one that sought the people's good, and would raise this country to a proud eminence amongst the nations of Europe. The questions which enter into the consideration of the public health are numerous; the suspension of all interments in towns, and the removal of slaughter-houses and similar disgusting nuisances, must have that attention which they have so long needed. It is not only a matter of health, but is one deeply affecting the morals of society, and every other question which concerns popular and public improvement.

Health being the most important consideration, it is to be hoped that education will be made a national measure.—Every facility must be afforded for the acquirement, not only of the simple elements of education, but also of the means of gaining a livelihood. Schools there must be in every street, and for all classes, not for the very poor only, for there are many among a higher class, who are greatly inconvenienced by the want of a good school that is easily accessible. Infant schools are more important than any, seeing that so large a proportion of the youthful population are led to embark in a course of crime, solely from the absence of their parents from home, and the want of a sufficient number of these schools, where children could be sent to play, instead of finding temptation in the streets. Infant schools, also, should be established for other classes, who are often compelled to suffer inconveniences of a somewhat similar kind. Libraries and museums should be established in every considerable town, in which every person should have the opportunity of making any particular inquiry, or supplying a want of information. Museums should be devoted not only to antiquities and art, but to natural productions, and to articles of manufacture in the different stages of their progress. The removal of restrictions from the universities, the extension of the advantages of collegiate education, the establishment of schools of art and design, are all so many elements in what we hope may be the future glory of England.

Habits of cleanliness would be fostered by the improved supply of water to the poor, who are often quite without the means of getting it. The establishment of baths and wash-houses in every street, as we have already pointed out, should be encouraged. Institutions of so desirable a nature should not be placed in jeopardy for want of loans, the absence of which from the public purse for a year would be of trifling importance.

The comfort of the dwellings of all classes is susceptible of great advancement, but care must be taken that house rent, already making too large a proportion of every one's expenditure, be not increased, as whatever the advantages in health, and convenience, these *would* not be held sufficient, and the object would be defeated. It should be made imperative, that no house should be let, which had not been rendered habitable, that is to say, provided with water-closets, proper drains, and an ample supply of water. And, whenever the legislature do become the proprietors of railways, a plan for building residences of each class, in the country, the inhabitants being carried backwards and forwards by railway, which has been proposed in several places, should not be lost sight of.

Few people are aware of the small number of houses in London, which are inhabited by only one family. Whole streets of large mansions give the stranger the idea, that everybody must be in comfortable circumstances, for nowhere can he discover a small house. The result of this is, that the Londoner knows not what it is to have a home to himself, and he must either live in lodgings, or trust to letting them. If he have no means of support but daily labour at a trade, it is the general practice for his whole family to occupy the cellar, whilst the remainder of the house is let out to as many persons, as can be crammed into it. It is stated, that in Birmingham not a single cellar is occupied as a residence. In Manchester and Liverpool, it is only the most wretched of the poor who are domiciled in cellars, whilst in London it is ordinarily the only room of one claiming to rank much higher in the social scale. In Marylebone, the average rent of a second floor back room, twelve feet square, unfurnished, is 3s., a week, and the space has generally to suffice for two or three individuals. There is little doubt that under a better system, such accommodation could be had for 2s. or less.

The journal of the Statistical Society* shews that out of 5,113 families in St. Margaret's and St. John's parishes, Westminster, 3,852, or more than three-fourths had only one room, and in St. George's, Hanover-square, nearly two-thirds of the families visited had but one room. Now, the obvious remedy for an inconvenience such as this, which is felt in some degree by persons of every class, would be to build structures which may be occupied by a number of persons without that enormous expense, that great inconvenience, and those fatal influences in public morals, of which so

* The Health of Towns Association have published in a cheap form, Mr. Grainger's lecture, in which the causes of the unhealthiness, and their remedies, are clearly stated.

* It was stated, some time ago, that a company was in course of formation, for the supply of water on such a system as we have mentioned, at a rate very much below that at present charged.

* April 1840, and February 1843.

lamentable a picture is in several forms before the public. But, if this inconvenience exists amongst a class which we define as that of working tradesmen, the evils are a hundred fold greater amongst a still lower and poorer class. Many most industrious men find themselves quite unable to pay the rent of a room, and keep themselves from starving, so that they are compelled to live in lodging-houses which are the constant resorts of the most abandoned characters.* Now, there is no doubt that by a combination, the industrious working man might at all times have some settled abode, however humble, whilst very great advantage would result to all classes, had they the opportunity of benefitting by the system. Two societies are already in existence, established for the removal of these evils, by the construction of proper places of residence. But though one of them has published an excellent prospectus, we believe it has not commenced a single building, whilst the other society has done little, except by example, for the removal of evils of such immense magnitude.† This is therefore a matter for the attention of the legislature, and we hope that after this winter, another will not be allowed to arrive, ere a considerable number of lodging-houses on an improved plan, and of club chambers of various kinds, for single and married people of all classes, are ready for occupation. The suggestion contained in the report of the Health of Towns Commission, of having outside balconies of access to the different stories, might be made available, so that each set of rooms would be in all respects like a distinct house.

In connection with this subject, the legislature will probably pursue the inquiry into the nature of different employments, and the condition of workpeople. The construction of workrooms, with every attention to warming and ventilation, will be an object of the utmost importance.

Other more immediately important questions being considered, it will not be a profitless inquiry, whether some endeavour could not be made, by which it would result that exertion and labour would lead more generally to success in life. The promotion of habits of economy, by an examination into the system of saving's-banks, which might be placed on better regulations, and made useful to a larger class of persons than now deposit in them; the affording an opportunity to young beginners in life of avoiding those heavy rents which now cripple the incomes of the most frugal, and in like manner providing a greater number of business chambers than are now to be had except at a very high rent, would be amongst the means of obtaining an end not unbecoming the notice of a government.

Lastly, it will be requisite to provide suitable places of recreation, either by establishment of public parks and gymnasia, or by the extension of the benefits of libraries and literary institutions, which should have every facility afforded them by reduced rates and taxes, and when necessary, by providing them suitable places, free of rent. And could all these subjects engage the attention of the Government, as it is to be hoped they will, it would be a favourable opportunity for the architectural improvement of towns, not, perhaps, by the erection of elaborate works of architecture, but for the removal of obstructions, and the improvement of taste, which the most ordinary opportunity is in some degree capable of effecting.

Bristol Architectural Society.—A general meeting of the Bristol and West of England Architectural Society, took place in the theatre of the Philosophical Institution, Park-street, on the 12th inst., at which the Rev. the Canon Harvey presided, when the secretary read the report of the committee for the past year, and two or three resolutions were passed. Two papers were read to the meeting, the one by the Rev. Eccles Carter, hon. sec., "On the influence of architectural societies," the other by Mr. Hope, "On the present state of ecclesiastical architecture."

* *Vide* The Lodging Houses of London, extracted from *The London City Mission Magazine* of August 1845. Seely, Burnside, and Co., Fleet-street.

† We have already noticed the model houses in the Bagnigge-wells-road, in a former volume, and to the defects there pointed out, we regret to add a great want of good drainage. Still we hope the committee will continue their endeavours. We shall shortly examine the model lodging-house which they are building in St. Giles's.

A PALACE IN THE GARDENS.

Sir,—I am truly happy that your correspondent, Mr. French, puts the "Royal Palace Question" in the right light. Except Windsor and Hampton Court, the nation has no palace worthy its name and place in the civilized world, and her Majesty has good right to complain of her domicile in Pimlico, brother Louis Philippe eclipsing her so entirely in his palace at Paris. The idea of throwing away money on such a smoky, gimcrack palace as that of Pimlico is an affront to the nation, and savours of that pitiful economy with which public money, "in such matters," is doled out where the national honour and reputation is concerned. Witness the plain pikestaff sort of fountains in Trafalgar-square, where sculpture ought to have lavished its riches for the eye of taste to feast on; and the hesitation that exists on forming a grand line of communication by a noble quay from Westminster to the City; whilst the National Gallery, made up of second-hand pillars, &c., from a quondam royal residence, continues a standing reproach to our national taste, and a prominent instance of the manner in which architects of celebrity are restricted, in this country, by aristocratic influence.

Now as touching a town residence for the sovereign of these realms, I think it is a happy circumstance that so many point out to one locality of all others—"Kensington Palace." This is without question the very spot for a royal residence.

It is submitted as an axiom, that all places for *state* should always be accompanied by adjuncts of a geometric character.

In Kensington Gardens we should have this character ready to our hands, and now, therefore, permit me as one of your constant readers to throw out a suggestion on this subject, proceeding thus:—

Imprimis.—I should remove the marble arch from Pimlico Palace to the south end of the grand avenue at Kensington, putting gilt palisades and guard houses on each side. This should serve for a grand portal for the sovereign to pass under when moving in state to Parliament, to the City, to St. Paul's, or to Westminster Abbey.

At the north end of the grand avenue, I should build "a Grecian temple," to be called "the Temple of Concord," the front elevation to have an open portico of lofty dimensions, and the structure to serve for promenaders to sit or gain shelter in from heat or rain. Statues in niches should form its internal decoration, and the whole be open to view.

The grand vistas, i.e. the one diverging south-east, and the other north-east, should be opened to their original width, and be fresh planted with elms, properly trained for vistas, so as to make good all deficiencies; and the trees planted ignorantly so as to *narrow* these vistas, sent back to "the Woods and Forests."

Next, a fine architectural tower should be built in the wood, north of the present basin of water. In this should be constructed a powerful steam-engine to serve the purpose of throwing a continuous stream of water into a reservoir on the top of the tower. This reservoir, if thought expedient, should answer the twofold purpose of supplying the palace reservoirs and the jets of *the grand Fountain of Neptune*, which fountain should be placed in the centre of the basin of water.

The present basin might be made to take a geometric and finished character, by having its sides coped with granite chiselled into a bold moulding; its form made *square*, with *semi-circular bays* on each of the four sides, and the four angles hollowed out and made concave to the walk. Granite seats to be placed at the four concave corners.

Rock should be elevated in the centre of the basin, on the summit of which a colossal statue of Neptune sitting should be placed, with a colossal fish circling beneath his feet, from whose mouth the principal jet should rise, and cast its waters, as it were, at the bidding of Neptune, on statues of Europe, Asia, Africa, and America, of heroic size, below; statues of tritons playing in the waters at the base of the rock, should throw up water from conchs in honour of Neptune,—and the rock, the statues, and the jets, be made to form a splendid harmonious whole.

This fountain would be a fine feature from the state apartments of the east front of the new palace, and also of the public promenade of the grand avenue.

A group of statuary should be placed near the angle of the wood and avenue on each side, and statuary also on lofty pedestals at equal distances along the grand avenue.

In planting these *pleasaunces*, recourse must be had to the skilled in horticulture, so as not only to have every species of tree, shrub, and flower that would add grace to such a locality, but to place each in its proper position (as to size when grown), aspect, and effect. A French gardener of eminence should share in this council, and so also the painter of landscape scenery: a mere rotative gardener by profession will not prove effective in the geometric style, as the contrast of colours, the repetition of similar objects without tedium, and the air *riante*, is known best how to be imparted by French taste; and light and shadow, to prove effective, by that of the landscape painter.

In a climate like England, we must, of all places in the world, endeavour in our habitations—whether palace, hall, or cottage—to throw on as much of a sunny, smiling aspect as is possible.

I have, therefore, proposed herein to make the living apartments all *south*. There are few years, and few days in a year, in which sun is embarrassing in Great Britain; and if so, loftiness of apartment, blinds, and good ventilation will easily rid us of such inconvenience; whilst, the greater part of the year, sun is the source of the greatest animation and comfort. I cannot help saying, that I yet know of no palace in Europe, where a more truly effective scene would be presented to the eye of a congregated court, than would be viewed by it in these said apartments.

Branch spacious gravel ways should be made from the fountain of Neptune down each of the vistas, having connection with the gravel walks in other parts of the gardens.

And now as to the new palace.—I should, perhaps, take the exact site of the old palace; but make the east front the principal one, the south front the living apartments, the north front the chapel front, the west front the grand entrance front, and the court of the interior for domestic quarters. The palace should stand on a rustic basement, which basement should form the offices, cellars, &c., and part of which should form the terraces for the three principal fronts. Each terrace to be 40 feet wide at least, having stone balustrades, and wide steps of descent in the centre of each terrace, in order to go down to the three "pleasaunces" below. At the foot of the terraces would be the parterres for exotics. The pleasaunces should be laid out in the Italian style, with statues, vases, fountains, high and low parterres bordered with stone, exotic trees in vases (in cases), and sunk in the ground sometimes to look as if growing there. Here and there, should be some topiary work and clipped evergreen divisional screens; also plenty of mowed lawn, for dry weather, and gravel walks for damp weather.

Neiton. W. M., Lieut. Col.

THE PROPER FORM OF FLUES

The greater number of chimnies, as at present found in dwelling-houses, are more or less crooked. The openings into the rooms are comparatively large, and the external endings generally contracted.

To any one who will take the trouble of lighting a fire in the open air, on a calm day, when there is scarcely a breath of air stirring, or can remember having seen such a thing done, the following facts will recur immediately. The form assumed by the flame is pyramidal, while that of the products of combustion is an elongated and inverted cone, spreading afterwards into a flattened cloud, in its returning progress towards the earth.

Looking, then, at the form assumed by nature in the phenomena of combustion, and its consequences, and afterwards at the ordinary shape of the tubes in our houses for the removal of smoke, it will be seen there is an anomaly.

Upon examining the phenomena of combustion in the open air, it is found, that the form of the elongated and inverted cone of smoke is produced by the resistance of the air at every point of ascent, until the heat which

caused that ascent becomes dispersed. Having no longer an ascensive power, it spreads laterally and downwards by the force of the gravity possessed by the unconsumed particles of carbon, or soot.

Where the ascent of the products of combustion is most rapid, and occupies in that ascent the smallest space, our chimnies are largest, and where, from the gradual dissipation of heat and partial resistance of the air, the smoke assumes a larger form, our chimnies are smallest.

The difference of combustion in the open air, and the same process in chimnies is, that in the former each particular column of rarefied air is replaced by the adjacent strata of a denser nature, thereby soon overcoming the ultimate ascent; while in the latter the column of heated air, having to pass up an air-tight chimney, is conserved for a greater length of time in its intensity, a longer column of warm air produced thereby possessing a superior power to set in motion the strata of neighbouring columns of a denser quality, and constituting what is called chimney draft.

It being a law, that *heat not radiant ascends in straight lines, a tube which departs from that form offers so many points of resistance to the ascending products.* If, therefore, rarefied air ascend in straight lines, the products of combustion ascend in like manner; and it is found that a chimney of equal diameter offers fewest points of resistance.

But, although it has been shewn that the forms of the greater number of chimnies, compared with the form of the ascending bodies, are anomalous, they are, nevertheless, when not contracted to an extreme, well adapted to the economy of dwelling houses. As apartments are warmed principally by the radiation of the fire and surrounding metal, the greater proportion of heat consequent upon combustion passes up the chimney; a slow drawing fire, therefore, answers the purpose, at a lower cost of fuel than if the tubes were normal or natural. As tubes in the natural form would produce a furnace. Nevertheless it is evident nature points out one means, at least, of improving the draft.

It is unnecessary to call attention to the condition of the external openings of chimnies in our best neighbourhoods, as it must have struck many, that something wrong in the arrangements for combustion was the cause.

Badly finished houses seldom smoke, while houses that are of superior construction do so frequently. If greater provision were made for internal ventilation, it is presumed one-half of the monstrous chimney endings might be taken down to-morrow; and if any person who has an appreciation of the beautiful or ornamental would design a chimney termination which should prevent down draft in tempestuous weather, whether the external opening be large or less large, it would confer a boon upon the architectural world, and then the other half of those unsightly objects might be removed as soon as convenient.

Chelsea. C. F.

EXPOSITION OF THE RULES FOR CALCULATING EQUILIBRATED ARCHES IN THE LINE OF A RAILWAY,

SUGGESTED BY THE NUMEROUS INSTANCES OF FAILURE WHICH HAVE LATELY BEEN RECORDED IN THE PAGES OF THE PUBLIC JOURNALS.

The numerous accidents that are daily occurring in consequence of the failure of railway bridges, viaducts, tunnels, &c., are truly alarming, and demonstrate to a certainty that there is something radically wrong, either in the principles upon which those structures are reared, or in the manner of their execution. But why should this be? seeing that theory has investigated the correct principles of construction for arches of every form, whatever may be the nature of the curves on which they are raised. There can surely be no sufficient reason adduced, why those who are intrusted with the formation of railways should not avail themselves of the rules and maxims thus gratuitously supplied to them, and thereby avoid many of those contingencies by which the public mind is agitated. The prejudice entertained by the chief engineers, architects, and builders, against the equilibrated arch with a horizontal extrados, is the more to be wondered at, that it is the very form which is best adapted for the purposes of a railway, being n reality the simplest of all the equilibrated curves, and requiring very little more labour in its construction than even the circular or elliptical forms, and others arising from the sections of a cone; it is moreover not ungraceful or inelegant in its appearance, and the circumstance of its ensuring the requisites of strength, stability, and safety, ought to speak volumes in favour of its general adoption.

There is one thing which operates powerfully against the introduction of this form in ordinary constructions, and that is the circumstance of its being a mechanical or transcendental curve; for, in consequence of this, it cannot be constructed directly from the data, as there are no means of delineating the curve by continued motion; the only method of describing it being by means of a series of co-ordinates, computed from an equation of a very complex form, and requiring the application of logarithms in its reduction—numbers of which the nature and appliances are but very little understood by the generality of practical men; and for this reason, every operation into which they enter is less or more involved in obscurity and mystery, and it is but seldom that the practical calculator can be induced to place implicit reliance on the results obtained by a process that he does not clearly comprehend, and which he cannot apply with readiness and ease.

It is not our intention in the present instance to investigate the formulæ on which the calculations depend; this has already been done, in a very elegant manner, by numerous writers on the subject of the arch, and consequently a repetition of the process is quite unnecessary in this place; we shall therefore adopt the formulæ as they have been supplied to us, and endeavour so to modify and arrange them, as to render them easily applicable by practical men in the various cases that come under their consideration.

It is a necessary condition of a railway arch, that the extrados should be a straight line parallel to the horizon, and the curve of equilibration having this condition involves two parameters, one of them entering as a co-efficient, and the other as an exponent; this circumstance tends in no small degree to perplex the general theorem; and it is probably for this reason that the application of this species of the arch is so seldom to be met with, because the exponential parameter must always be determined by an independent process before the theorem for the co-ordinates can be applied; and this constitutes the chief difficulty of the operation.

In all cases where an arch has to be constructed, the data are, the span of the arch, the rise or height, and the thickness at the crown, or the depth of the key stone; the last of which, in the case of the equilibrated arch with a horizontal extrados, is the parameter which enters the equation by way of a co-efficient; this, therefore, is always given *à priori*, and the other parameter is determined by computation from the three quantities here specified. The theorem for determining the exponential parameter or *modulus* of the curve, is *modulus* =

$$\frac{\text{semi-span}}{2{\cdot}3025851 \times com.\,log.\left\{\frac{\sqrt{(r+t)^2-t^2}+r+t}{t}\right\}} \quad \text{(A)}$$

where r denotes the rise or height of the arch, t the thickness at the crown, or depth of the key-stone, and 2·3025851 the hyperbolic logarithm of the number 10 in the decimal scale of notation, the semi-span denoting half the distance between the imposts or springings of the arch. The practical rule for reducing the equation marked (A) may be expressed in words at length as follows:—

Rule.—To the rise or height of the arch, add the thickness at the crown, or the depth of the keystone, and call this sum the greatest or extreme ordinate.

From the square of the greatest or extreme ordinate, subtract the square of the thickness at the crown, and extract the square root of the remainder.

To the square root of the remainder thus found, add the greatest or extreme ordinate, and divide the sum by the thickness at the crown, or the depth of the keystone.

Take out the common logarithm of the quotient, and to the logarithm of this logarithm, add the constant quantity 0·3622157 (which is also the logarithm of 2·3025851), and subtract the sum from the logarithm of the semi-span; then, the number corresponding to the remainder will be the exponental parameter, or the modulus of the equilibrated curve.

Example.—The span of an arch is 96 feet, the height or rise 42 feet, and the thickness at the crown or the depth of the keystone 4 feet; it is required to determine the exponental parameter or modulus, on the supposition that it is an arch of equilibration, with a horizontal extrados corresponding to the line of railway.

Here by the rule we have, rise plus the thickness = 42 + 4 = 46 feet for the greatest or extreme ordinate, indicating the vertical distance between the impost, or springing of the arch and the roadway. The square of this is 46 × 46 = 2116, and the square of the thickness at the crown is 4 × 4 = 16; the difference of these is 2116 — 16 = 2100, and the square root of the remainder is $\sqrt{2100} = 10\sqrt{21} = 45{\cdot}82575$. To this add the extreme or greatest ordinate, and divide by the thickness at the crown, and we obtain (45·82575 + 46) ÷ 4 = 22·95644.

The log. of 22·95644 is 1·3609046, and the logarithm of this again, is 0·1338277; to which add the constant logarithm 0·3622157, and we get 0·1338277 + 0·3622157 = 0·4960434. Now half the span of the arch is 48 feet, and its logarithm is 1·6812412; the difference between these two logarithms, is 1·6812412 — 0·4960434 = 1·1851978, and the tabular number corresponding to the remainder, is 15·31785, which is the exponental parameter, or modulus of the equilibrated curve. It is in fact, the parameter of a catenary having the same horizontal axis or base, and its vertical axis in the same straight line with the proposed arch. The conditions of equilibrium of these two curves, are deduced directly the one from the other; the curve of equilibration and the catenary are therefore very nearly allied and may be referred to the same root; for when the two parameters of the equilibrated curve are equal between themselves, the general equation by which its nature is defined becomes the equation of the catenary.

The several steps of the preceding example have been drawn out in detail, in order the more clearly to shew the application of the rule as deduced from the equation involving the value of the modulus; but in that which follows we shall shew the several steps in combination, for the purpose of exhibiting how it is necessary to perform it in any particular case.

Example.—The span of an equilibrated arch with a horizontal extrados is 62 feet; the rise or height 42 feet, and the parameter or thickness at the crown 5 feet; it is required from these data to determine the modulus of the curve.

The greatest ordinate squared, is $(42+5)^2 = 47 \times 47 = 2209$

The least ordinate or parameter squared is ..... $5 \times 5 = 25$

difference = 2184

the square root of which is,

$\sqrt{2184} = 46{\cdot}73328$

Greatest ordinate = 47

Sum = 93·73328, and divided by the least ordinate or parameter, it is

93·73328 ÷ 5 = 18·74666 .... log. 1·2729239

and of this the log. 0·1048024 } add

constant log. 0·3622157 }

log. 0·4670181 subtract

semi-span = 31 .... log. 1·4913617

Natural number or modulus = 10·57654 ft. ... log. 1·0243436

This, therefore, is the process which has to be performed in every case, where an arch is proposed to be constructed on the principles of equilibration; it is sufficiently easy in its application, and in order that the reader may become familiar with its use, he ought to resolve consecutively a number of examples proposed at random, as, by so doing, the mode of procedure would not only be firmly rooted in the mind, but the operator would become dextrous in applying the rule, and in consequence of such dexterity, would steer clear of errors, and acquire confidence in the result of his operations,—a very necessary condition when any thing of importance is dependent on his labours.

(*To be concluded in our next.*)

FLOORS OF GAS-TAR AND GRAVEL.

In addition to what appeared in our journal on this subject last week, the following description of a second mode, which requires no lime, may be useful:—

Sir,—In answer to the inquiries in The Builder a week or two ago, respecting the best method of forming pavements with gas-tar, roads, and covering arches of bridges and cellars, to prevent the penetration of wet, I send you the following formula as used under my direction in various parts of the country, and found to answer the purposes intended:—ten gallons of gas-tar, two bushels of pounded brick-dust or rubbish, two bushels of gravel, sifted through a half-inch sieve, and two bushels of sharp washed sand;—the whole of this composition to be heated in an iron furnace, and kept stirring until it is found to set quickly; after which it is taken out and spread upon the surface intended to be covered about two inches thick, with a wooden hand-float, such as is used by plasterers for stucco work. A heated iron or spatula is passed over it, which brings the tar to the face; after this sift over it some smith's ashes—refuse from the forge. In a short time it will set, and appear like cast iron, and resist all impressions and wet.

Gutters may be formed in a similar manner. Care should be taken the materials are dry before added to the tar; for this purpose I have used an old hot-plate, and dried them at the same time and expense as heating the tar. All can be done by labourers, excepting one man handy with a trowel; and the material will cover a large surface, at a comparatively small expense. I have used it for the covering of arches, bridges, terraces, stables, and sheds for feeding cattle; I have used it on an area of 300 yards, covering basement rooms to a nobleman's mansion in the north of England; no wet has penetrated.

I have seen it used in roads, as your correspondent describes, with the exception of the tar being heated, and the materials of a much heavier metal. The best road that I know of is out of Nottingham to Lincoln, for about two miles, and *is of this kind*.

Dorking. Wm. Shearburn.

RESTORATION OF THE GIBBON CARVINGS IN ST. JAMES'S, WESTMINSTER.

REMOVAL OF THE RECTORY-HOUSE.

A few mornings ago, looking into St. James's Church, Piccadilly, which is now being painted and decorated, we found two young men engaged in the restoration of those extraordinary carvings, probably by Grinling Gibbons, which adorn the altar piece there. Chiefly through the wanton carelessness of preceding painters, these fine works had become greatly dilapidated, and the authorities are to be praised for giving timely attention to them.

The carvers in question, by name George Lock, and Kent, working on their own judgment and without drawings, were supplying all the missing parts in the character of the original, and were displaying sufficient skill to entitle them, at a time when we are supposed to have few able operatives in this department of art, to considerable commendation. Mr. E. Wyatt, of Oxford-street, is the contractor.

The following letter deserves consideration:

Sir,—With many fellow parishioners in St. James's, Westminster, I regret very much to hear that the rectory-house, which stood in the church-yard in Piccadilly, and which has lately been pulled down, is to be rebuilt upon the same site, thereby very materially obstructing a view of the church from Piccadilly (one of the most important thoroughfares in London). Can it be possible in this age of improvement such an error should be permitted in the parish of St. James? Our rector has, in the most gentlemanly and handsome manner, offered to relinquish his claim to the ground, upon condition of his being provided by the parish with a suitable residence elsewhere; and if the offer had been responded to in the way it should have been, numbers would have been spared a feeling of considerable regret at hearing that the rectory-house is to be rebuilt on the old spot.

I am, Sir, &c., J. A.

23, Great Pulteney-street, 20th Oct. 1846.

THE IRON TRADE.

The result of the late quarterly meetings is so similar to that of those immediately previous, that we might almost refer to what was then said as still applicable to the state of the trade. The previous expectations of an advance, however, have not been fulfilled. The nominal or quarterly meeting price of bars and rails has even been brought a shade beneath 10*l.*; sheets and plates 12*l.* to 13*l.*; nail rods 9*l.* 15*s.* The Welsh and Scots iron differ very little in price from the English. But these quarterly meeting prices need be held as no criterion of the rate of private sales. We even observe a somewhat lackadaisical admission in one of party papers, that the quarterly list of prices instead of being held as a criterion to be sustained, is actually viewed by many masters more in the light of a beacon to be avoided, so that "one will fix his price at ten shillings, another at twenty shillings, and some even occasionally at thirty or forty shillings less, offering as an excuse, their inability to obtain customers at the same figure" as some houses of high standing. Thus "a serious interference with the customers of those who wish to uphold the prospects of the trade will be experienced," although "the *nuisance* is on the decline," which, in this era of "universal cheapness," we are very much inclined to doubt.

NOTES IN THE PROVINCES.

The scheme for erecting four churches in the poorer districts of Gosport, by means of a subscription to the amount of 20,000*l.*, has been so far successful, that 10,500*l.* of the necessary sum have been already subscribed.——The proposed bridge, on Dredge's patent principle, at Weston-super-Mare, to connect the island of Burnbeck, and the proposed pier at the end of it, with the main land, is to be 1,100 feet long and 17 wide; centre span 550 feet; outside openings 275 feet; estimated cost 10,000*l.*; time, six to eight months, to begin as early as possible. The pier, which will be 700 feet long, is to be begun when the bridge is finished.——The newly consecrated parochial church at West Ashton (parish of Steeple Ashton), consists of a nave and chancel, with 200 sittings. It has a tower and spire. The roofs are open, with stained timbers, and the chancel windows are filled with stained glass. A low parapet wall, coped with stone, surrounds the burial-ground. The site, and 1,000*l.* towards the building of the church, were presented by Mr. Walter Long, with an endowment of 100*l.* per annum, to which the Vicar adds a like sum during his incumbency.——The sum of 16,000*l.* is to be appropriated by the proprietors of the Gloucester and Berkeley Canal to the enlargement of the docks at Gloucester.——The new church and burial-ground for the consolidated chapelry of Melplaish parish, near Beaminster, were to be consecrated on the 20th.——The old parish church of All Saints, Leigh, Staffordshire, has been rebuilt, except the tower, it is said, as far as ascertainable, according to the original proportions and details.——Although the Cambridge Paving Commissioners had not only agreed to repair the old bridge at the back of St. John's College, at their own expense, but to reconstruct it altogether, on an improved principle too, an amended resolution to "request the clerk to ascertain to whom the bridge belongs," is likely to retrograde the whole of this rather ludicrous affair to the old stumbling point, for at least another winter; the clerk having "failed to discover the proprietors of the same."——There appears to be some hope of Lincoln Cathedral being now cleared of the old erections which conceal the greater portion of its outline.——The corporation of Balby have already so far honoured the credit done their liberality by apportioning part of a field for the site of Miss Banks's church. A subscription of 499*l.* has also been secured.—— The Manchester Town Council have been meritoriously engaged of late, as pioneers in the good work of sanatory improvement. Cottage owners in the more densely populated localities have been compelled, under the local act, to make better provision for the convenience and decency of their tenants; courts and alleys have been ventilated; and the proprietors of new buildings have been compelled to provide their tenements with all necessary appendages; the town undertaking the due cleansing of outhouses, &c.——The new church of St. Paul, Alnwick, erected by the Duke of Northumberland, was consecrated on Friday, week before last; and the new church of St. Stephen, at the north-east end of South Shields, on Wednesday week; both by the Bishop of Durham.——The Lords of Treasury have agreed to advance 50,000*l.* towards the construction of a floating dock at Limerick.

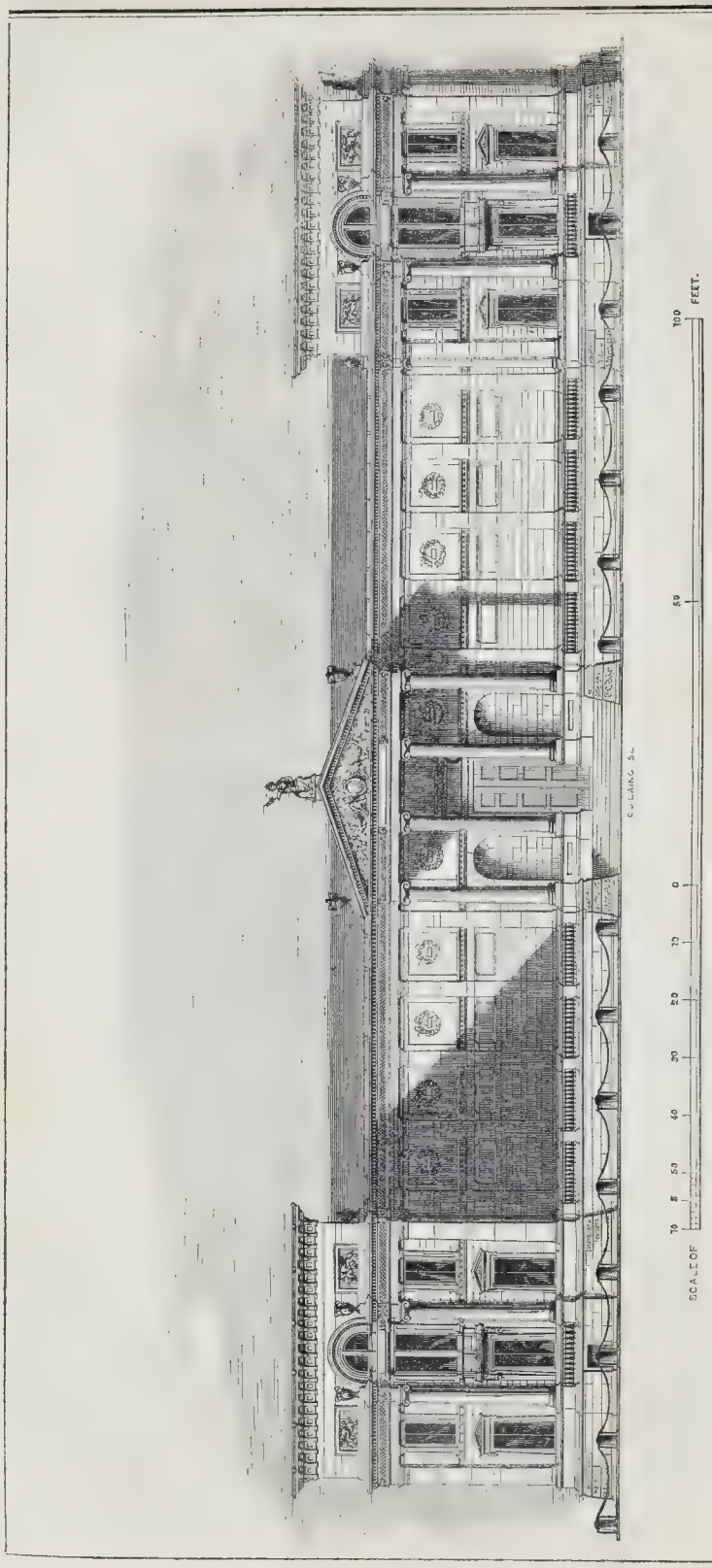
SANATORY STATE OF BUCKINGHAM PALACE.

And is it really true, Mr. Editor (as the hoarding in front of Buckingham Palace so gravely portends), that more public money is to be expended on this thrice-condemned building,—condemned from its *locality*,—condemned from its *architectural feebleness*,—condemned from its want of internal arrangement and accommodation suited to our gracious Queen, and the wants of an increasing royal family?

But it is particularly to the first point of condemnation that I am earnestly anxious to call the attention of your readers, as one of the utmost importance—*i. e.* within a few yards of the palace is a neighbourhood *unlighted*, *unpaved*, and *undrained*, so that the inhabitants are obliged to pump up, or empty into the streets, all the fœtid and noxious contents of their dwellings, to be carried off by surface drainage into the nearest sewer, dragging by slow degrees their pestiferous exhalations through the whole neighbourhood. At times, and often in my professional rounds, at an early hour in the morning, have I been so assailed and upset with the horrid stench, as to be compelled to protect my mouth and nose, though not weak of nerve or fastidiously sensitive. I have often thought, too, that did her Majesty but know of the nuisance that so immediately surrounded her, she would hesitate before she perilled her health, and that of the royal family, by reposing within its influence; for it is well known that the deleterious effects of mephitic and noxious miasma operate more certainly and banefully on the system when reposing in its vicinity. Even could Sir James Clarke indulge his olfactories a few mornings at an early hour in this neighbourhood, I would venture to predict matters would quickly take a right direction.

To make the palace what it ought to be, and what every lover of good taste and judgment would wish it to be, or to make it commodious and healthy, is entirely out of the question: much of the filthy neighbourhood that so closely surrounds it should be got rid of; but then the expense would be great, and it would be far better bestowed upon a new palace at once, and since it requires not the gift of prophecy to foresee that the growing increase of public business in the country will ere long imperatively require more public offices, let me venture to suggest what has already been done before, that instead of adding to an inconvenient, incomplete, and unhealthily located palace, that together with the so-called National Gallery, it be applied to the purposes of the business of Government and learned societies, and that the whole length of the palace gardens up to the triumphal arch, be made the site of a plain sound Grecian edifice, as a national gallery of painting and sculpture, to be erected, decorated, and externally embellished by degrees, as the means and circumstances permitted. There is no such site in the whole metropolis beside, and in place of the mis-named Buckingham *Palace*, let one worthy of the country and the country's means, be forthwith erected on the site of the old Kensington Palace, taking care to keep it well elevated, and out of the ground, not like Buckingham Palace, squatted down, low and mean in appearance, as if half ashamed of the public eye. Indeed, many and great are the improvements I could suggest in this vast metropolis, in which the health and comfort of the people are intimately concerned; and it is the duty, the paramount duty of a good, a wise, and a beneficent Government, to watch every opportunity of carrying out such improvements, and not to keep behind the people in public taste and spirit. I am, Sir, &c.,

Philo Medicus.

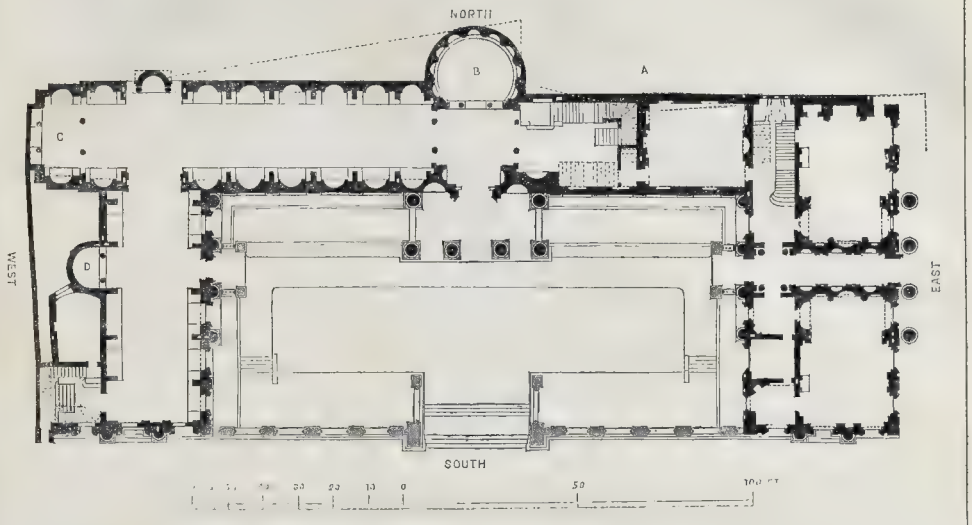


UNIVERSITY GALLERIES AND TAYLOR INSTITUTE, OXFORD.

PROFESSOR COCKERELL, R.A., ARCHITECT.*

* See page 505, in present number.

UNIVERSITY GALLERIES AND TAYLOR INSTITUTE, OXFORD—GROUND PLAN.



HOW TO GET DOWN THE DUKE, AND WHAT TO DO WITH HIM.

SIR,—I should not have set myself thus soon to my theory of how to get down the statue from the Arch, and what to do with it, had I not observed in your last week's leader a tone of despondency, as if the sub-committee seemed really likely to triumph over us. We have, I fear, much to do. Therefore let us begin in good time.

A very valuable fellow-labourer in the good cause of advancing rationality—the widening of men's thoughts,—*Punch*, advises that the statue be taken down in time for being used on the coming 9th of November in the Lord Mayor's show, and stored up for use on succeeding occasions, as a means of reviving the now seedy glories of that important pageant.

That "down, unquestionably, it must come" (as you have it), all good men agree. But the Punchine doctrine of what to do with it is not at all so clear. With all its faults and shortcomings, the statue is by no means a worthless thing; and if properly managed it may be made a very grand and worthy ornament indeed to our great metropolis.

Of how to get him down. Lamentable experience has taught us certain lessons in matters like the present. If it should be an easy thing to get down the Duke (that is, to vanquish the sub-committee), well: but if we be wise we will assume it to be a very difficult thing, and act accordingly,—promptly, earnestly, forcibly, and with a will,—a long pull, a strong pull, and a pull altogether.

First, THE PETITION. Your counsel is good. And might it not be the petition of *Artists?* Thousands of all and sundry would not *tell* so well as hundreds of *Artists alone!* To the Queen's Most Excellent Majesty, the petition of Architects, Sculptors, and other Artists, who have personally examined the matter, and formed a special opinion upon it!

And additionally, as the "competent persons" who are finally to adjudicate, are doubtless out of town at present (enjoying the summer), and likely to continue so till Parliament assembles, it might be wise (in case of need) to have a companion to the memorial to Royalty, in a petition to Parliament itself—the petition of artists like the other.

Grand and glorious for Art! Is there not something grand and glorious in the thought? It were indeed a noble deceit *to counterfeit a pretence* for so valuable a movement! How much the worthier of our noblest energy, then, to grasp this so valuable an opportunity! with the double incentive, that England expects of every man to do his duty, and that so proud a record and acknowledgment of ART would be gained!

Artists thus having done their part—(although, now, I don't mind wagering a farthing you don't get them to do it!) *Architects* at all events. For we are cautious people,—meek, prudent, unpresuming people; we sit us down upon our little stools by the World's ingleside, and O we are good little boys!—you never hear *our* word,—the best of dear little boys! And auld Granny pats us on the head, —gweed gweed bairnies that sit sae couthie, an' sae canty, an' dinna mak' nae din,—gweedy bairnikies, ye'se get sweeties on Sunda',—Artists (if it be *possible*) having done their part, we have in this instance the blessedness of being really able to believe, from what has already passed in Parliament on the matter, that the Legislature will readily do theirs. So far, so well.

The sub-committee must do their part,—and not under compulsion, but cheerfully. And here lies the difficulty of how to get him down: for I strongly suspect that if the sub-committee were to act determinedly,—for all the Queen, the Lords, the Commons, the papers, the Artists, Mr. Editor, Professor Cockerell, and Mr. Newleafe, they would gain their point. But their concession must be had; and, as I say, cheerfully. And to accomplish this—to obtain the submission of the sub-committee, I think we must call in the aid of the living Duke himself! (Hear me out, now, before you cry Nonsense.) The good word of the very Duke himself, I say.

Not that he would be wrought upon by the frothy arguments of false delicacy—a supposititious modesty of his in looking out of his front windows; this man is a greater man—a being of bigger soul. But for a better and a likelier reason.

If the sub-committee were *compelled* to the removal of the statue from the Arch, they would feel it more, it seems to me, as a sort of slight upon the hero than a mere over-ruling of their own opinion in a matter of art. They have set it there proudly—on a grand and haughty seat, and to remove it seems like taking it to a less honourable place. *The monument was never meant to be a decoration to the arch.* TO HAVE A TRIUMPHAL ARCH FOR ITS PEDESTAL was a lofty thought! And now to lower it to the mere ground—it seems to tell as if England refused the hero that proud eminence! In the sub-committee defending the statue on the Arch, high-minded men are defending the honour of their living hero. Their pertinacity is not the perseverance of conviction, nor is it the obstinacy of self-will; it is a noble-minded *etiquette*. And all the while they may scorn to tell us so! But the public do not mean it as a slight upon the Duke. And the Duke is not the man to take it as a slight. There are three parties in the case,—the third is the sub-committee, and to assure them, to free them from the shadow of the thought of having compromised their high trust, it really may be necessary that the Duke himself should just put in the quiet word (no more would be needed), Now, *we must* take it down. And if by any code of honour the removal should be declared unmitigably an indignity, then let us remind them of a nobler etiquette, which tells that, however useful and good in its essence, there are cases when mere etiquette may be made to sacrifice much that is far more valuable and good.

The Duke of Wellington is proverbial for a very noble sentiment, the unhesitating surrender of private opinion before public command,—an elevated philosophical application of the military idea Duty. To use personal influence heartily and earnestly in direct opposition to personal conviction, is a height of manliness seldom attained. If we were to imagine the Duke in this case to be individually desirous of having the statue to look upon (which, of course, is far beneath possibility), or to have formed a personal opinion in favour of the present site artistically (which is exceedingly unlikely), it would be but his own spirit to set himself against his own opinion cheerfully in obedience to the public voice. A step farther, and he will say the influential word against the position of the sub-committee: and the advance is surely counter balanced by the fact (if we may assume it) that that which is opposed to the public voice is not even the opinion of the sub-committee themselves, so much as their jealousy of the semblance of disrespect to him. The sub-committee become identified with him. If they yield, they yield not themselves but him. Therefore, he may speak.

But, says the Duke, in this I am a dead man. Very well; I will bring against the Duke my friend the Doctor. And lest I should be twitted by him (as frequently happens) with the spiritlessness of my translations of his language ("doubtless metaphrastical, dear friend of mine, yet much lacking the vigorousness of mine intentions"), I must give the Dr.'s opinion in the Dr.'s words. "The Duke," says he, "I should engage in this wise. O my friend, Duke Wellington, I am told of thee that thou art an exceeding sensible person. The which, likewise, I am able to believe. (Which is

much.) Wherefore, now that I may judge of thee mainly by myself, and expect expectations regarding thee thereby, I will say that were I the Duke Wellington the image would remove. It is a very beautiful conceit in thee, doubtless, to assume the fiction that thou art dead: but would it not be still more beautiful in thee to own the fact that thou art alive? To own it and to manifest it? Beside a noble self-denial have I not here set a nobler? Posterity would say of thee, And the Duke Wellington did very beautifully say, Lo, I am dead. Until he bethought himself again; (taking counsel of one Dr. Verditurus;) when he did much more beautifully say, I am alive. I am alive, said the Duke Wellington, and did manifest his vitality in this, to wit, that the image did remove."

Of what to do with him. But I must defer for a week. Else I should be forced too much into hastiness and brevity. And it is but too true that after we have got him down we may very possibly (and very much after undoubted *precedent* also) do very badly with him. We have perched statues two hundred English feet up in the air before this.

In fact, I had almost said don't take him down at all, till you decide carefully and well what to do with him. ROBERT KERR.

THOROUGHFARES IN THE CITY.

SIR,—In no city in the world are improvements so necessary as in London. The great and increasing traffic in this vast metropolis demands extensive alterations in the general line of streets. It is therefore with much pleasure that I view the operations (now nearly completed) in forming the new street from Holborn to Oxford-street, known as New Oxford-street; and I trust that the Commissioners for Metropolitan Improvements will not stop their proceedings there, but as quickly as possible remove that abominable nuisance—Middle-row, Holborn, which now obstructs one of the principal thoroughfares, and renders it extremely difficult for those who are driving vehicles to pass without endangering the lives of the public. It is also to be hoped, that the committee will not allow to stand that block of houses in the same line of road, at the bottom of Holborn-hill, at the corner of the new street in continuation of Farringdon-street, which now contracts Holborn-hill, elsewhere a considerable width, to something like 30 feet.

I am aware that the pulling down of houses is an expensive operation; but when we consider the benefit resulting from having wide and commodious roadways in this commercial city, no expense ought to stay the progress of such improvements. Instead of spending money in places where there is little traffic, let them consider the best mode of increasing the convenience of the principal thoroughfares, and thereby gain the approval of the public; and then let them look into the back streets, and increase the comfort of the inhabitants by doing that which is necessary for the free circulation of air.

Having said thus much, let us glance at Cheapside. Here is the channel through which vehicles of all kinds pass from Fleet-street, Holborn, and St. Martin's-le-Grand, together with those from the opposite direction, namely, Whitechapel, King William-street, and the Borough. The scene which presents itself to an observing eye is astonishing, and the inquiry suggests itself to the mind—could not this great thoroughfare be relieved of some of its traffic? This could be done; by increasing the width of Watling-street, Budge-row, and Cannon-street. A commodious roadway would be formed from St. Paul's Churchyard to London-bridge, in the vicinity of King William's Statue, and crossing over into Eastcheap, and increasing the width of Tower-street and its neighbourhood. A complete line of traffic would then be opened to the Tower, St. Catherine's and the London Docks, &c., and thus relieve Cheapside.—I am, Sir, &c.,

A CITIZEN.

DECORATION IN THE ADELPHI.—Decorators, under the direction of Mr. Hay, of Edinburgh, well known by his works on colour, are at work in the large room of the Society of Arts. The entrance-hall is to have a tesselated pavement.

FOREIGN ARCHITECTURAL AND COLLATERAL INTELLIGENCE.

Munich.—The painters of this capital are perfectly right in not depending entirely on the exertions of the brush—and if time and occasion presents itself, to multiply their works by either engravings or lithographs. Even Schnorr, although now fully engaged at the completing of his Niebelungen frescos in the palace, has published several of his works in copper and wood-engraving or on stone, and often has put hand to work himself. The historical painter Schubert also has published some of his own works. We have also to allude to his splendid edition of Raphael's frescos of Amor and Psyche, in the Farnesina at Rome, which have just appeared in twenty-five copper plates, after his designs, made on the spot with great care and accuracy. Mr. Gustaph König is engaged in the engraving of his celebrated compositions of a Luther gallery, and Mr. Strähuber, since his renowned marginal drawings to the Luther songs, has proceeded in similar endeavours. Henry Herz is engraving Kaulbach's Destruction of Jerusalem—and all these productions are ably printed by Mr. Wieck, whose presses vie with any other in Europe.—Steel engraving, especially in the department of architecture and landscape, is mostly undertaken by Mr. J. G. Popel, a pupil of the London school of engravers in that especial branch.—The galvanographic establishment of L. Schöninger is in full activity, and although his procedure of obtaining impressions similar to aqua-tinta style seems complicated, favourable results seem unquestionable.—Lithography progresses vigorously here—its very birthplace; witness the splendid re-productions of the master-pieces of the Pinakothek, and the Schleissheim collection, as well as that of Prince Leuchtenberg. Many plates, also, for Professor Haufstengel's Dresden Gallery work, are here executed.

Laying of the Foundation of the New Pinakothek, at Munich.—This ceremony has been performed by his Majesty the King, and the expenses of the building are to be defrayed out of the private purse of the monarch. One of the stipulations for this new establishment is, that no picture older than the *present* century is to be received. The king spoke on this occasion these memorable words:—"It is for pictures of this and future centuries that the new Pinakothek is destined. The higher art of pictures had faded away; then it rose again in the 19th century, through the exertions of Germans—like a Phœnix soaring above its ashes. Art must not be considered as a luxury (!) it ought to manifest itself everywhere; and *only if it permeates whole life*,* it will be what it ought. *My* great artists are to *me* joy and pride. The deeds of the statesman will be long forgotten, when those of the distinguished artist will rejoice and elate man." This fine speech was received with loud and repeated acclamations by the vast multitude. The persons invited by his Majesty as witnesses of this solemn act, were, the architect of the building, Professor A. Voit, the director of the Royal Academy of Fine Arts, superior buildings councillor Mr. de Gärtner, and a whole galaxy of the painters and artists of Munich. The following objects were deposited by the king in the foundation,—the lithographed plan of the building; the deed of the foundation, burnt in china, &c.

Archæological Regulations in Austria.—This branch of research has hitherto ranged amongst the category of *treasure-seeking*, and Government had to receive one-third of all the art-value in coins, metal works, &c., found under the ground. This privilege is now relinquished, and H. M. the Emperor has issued an order for the preservation and publication of antiquarian relics in the interest of science and art.

Exhibition and Prize-awarding for Industrial Drawings in Vienna (Second notice).—It appears now that this scheme, started by the Industrial Society of the Austrian capital, has proved most beneficial—as it had been undertaken in the liberal spirit, that *foreign* samples were also admitted for competition. Thus, amongst the 300 specimens exhibited, several were by Paris, Mülhausen, and other foreign artisans and artists. A new feature also is, that such specimens becoming extensively known, were sold at high prices to manufacturers and other trade-masters.

Byzantine Frescos in Constantinople.—By the late repairs and restorations of the Mosque Fethie, in the quarters of Dur Aman, the inner part of the Maksure, viz., that part of the edifice where the Emperor performs his prayers, has become for the first time accessible to European eyes. The cupola, which spreads over it, is covered with a very well preserved fresco in gold and rich colours, representing the Saviour, and in the surrounding compartments the figures of twelve persons, clad in wide garments, mostly of dark colours. Whether they represent the Apostles or Prophets has not yet been ascertained, as the names are painted in a very ancient character, difficult to be deciphered.

"Turning out" the Slaughter-houses in Vienna.—It was no less a personage than the Lord Mayor (*Bürgermeister*) of that city, who undertook, last spring, a journey to Paris, for the sake of becoming thoroughly acquainted with the *structurale* and *rationale* of the *abbattoirs*, established there during the French Revolution. On his lordship's return, it was decided, that such should be also established in the environs of Vienna. The master butchers of the Austrian capital, however (kind, charitable souls!), thought that such an abating of a *public* nuisance would possibly encroach on their *private* views and income. They formed themselves into a committee, to protest in the highest quarters against the removal of filth and miasma from the precincts of the very city. They were, however, repulsed quite *sans cérémonie*, and told that private interest can never be made paramount to public good.—[We should be glad to hear of a similar message to the London corporation.]

The House of Science—Dar iil Funun, at Constantinople—College of Medicine.—Their Excellencies, Pashas Reschid and Rifaat, use every exertion for the above establishment, for which the plans have been approved by the Emperor. It will stand near Agia Sofia, on an area of 8,000 square yards, and consist of a main building of three stories, with ten spacious lecture-halls, room for 400 boarding students, and 800 attending the lectures and other studies in the college.

Opening of the First Railway in the Kingdom of Poland.—The line from Warsaw to Petrikau has been opened for public traffic in the presence of the viceroy, Prince Paskewitch. The distance of 19½ Polish miles (109 kilometres), has been performed in four hours, comprising some delays occasioned by the festival occasion. This line will be of great importance to Poland, as it will bring Warsaw within a few miles of the Prussian Silesia, which is already traversed by the Breslau-Berlin line, which, again, passes close to the Austrian frontier.

Architectural Pretenders.—Structural propensities are now so universally prevailing throughout Europe, that whenever real talent is not at hand, it will be supplanted by any sort of pretenders and cobblers. This has been, of late, exhibited in the Danube-principalities, where a set of French dancing and fencing masters have played the part of architects and engineers. At *Bucharest* they have erected buildings, which may be considered libels on all principles of art and beauty; as for instance the Hotel Ottelishan, which bears the shape of a beaver's cave—or that of the Secretary of State, Mr. Stirbei, which resembles the well turned-out bridecake of some refined confectioner. Better, however, are some buildings previously erected by German architects.

"Alternatives."—The strength, and buoyancy, and fire of youth, must be either used—both mentally, but still more bodily; or they will misuse and corrupt themselves, according to that frightful axiom *bona corrupta, pessima*.* There is, therefore, no *alternative* for present mankind—either consummation of putrescence or regeneration. The ancients, without dilating much on these subjects, seem to have known them by intuition. Why, their very religious rites were open-aired, peripatetic, gymnastic, athletic! There is no use any longer in running a muck at the very organization of human nature! The *alternative*, in fine, is this—we must have more public parks and walks, play-grounds, swimming-schools, gymnastic and athletic games; or we *must*

* Viz. of a nation. The original is *lapidary* (German).

* The *worst*—the good spoiled.

have still more and more, and constantly more hospitals, infirmaries, mad and other asylums, almshouses, poorhouses, and all the like. [Isis by Oken.] J. L.

RAILWAY JOTTINGS.

The extraordinary case of delirium in a railway carriage, with which the daily press must have by this time made our readers acquainted, only affords another clear proof of the imminent necessity for what we have often advocated, and had lately fresh occasion to revert to, in a case of sudden illness and death during railway transit,—namely, for the ready means of mutual inter-communication between the carriages in a train and the guards and engine drivers. It is to be hoped that one or other of the simple enough means suggested will be *now* adopted.——It is literally and seriously proposed to charge the tubes of atmospheric railway lines with gunpowder, or explosive cotton, and to shoot the trains along by firing off the tubes thus charged, successively, at short convenient distances, by means of heat externally applied (why not by firelocks or percussion-caps?), or by voltaic agency.——Another new mode of atmospheric railway propulsion, which, however, cannot boast of such entire originality as the preceding, has been suggested by a Mr. W. Nairne, of Milnhaugh, near Perth, who, if we mistake not the *Mining Journal*, has patented his invention. It is, in fact, a decided modification of Mr. Collins's; only the needle, in this case called the keel, threads its way along by impulses communicated from the tube vacuum through a series of common cylinders, to horizontal wheels, with which it is in direct communication.——Some of our readers may require to know that the Railway Department of the Board of Trade have removed their offices to No. 29, Great George-street, Westminster.——It is a singular and interesting fact, that the Surrey and Sussex turnpike-roads have just been leased at 30,250*l.* a year, being the highest amount they ever fetched, even in the palmiest days of the old turnpike system.——About fifty yards of a deep and extensive cutting, through a "soapy soil," in the blue clay and green sand strata, on the Brighton and Hastings line, near Revensey, has sunk, on one side, in a semi-liquid state, into the hollow, carrying the rails up the opposite side of the cutting. It is calculated that 40,000 cubic yards of earth will be the quantity to be removed, and all at the expense of the contractor, who is bound to keep the line in working trim for three years.——The late violent rains, says a Salisbury paper, have induced a bridge recently erected across the railway at Clarendon to come down without the least previous notice. This was scarcely to be expected; but such delicate fabrics ought to be screened from the dangerous effects of wind and rain.——On the South Devon line, a massive stone cemented wall is now being built within the lash of the tide at Holcombe tunnel, where, during the late gale of wind, the bare dry wall which there defended the line from the inroads of the sea, was washed away. A breach made at Langstone Point is also nearly repaired, and the new promenade, which was partially destroyed, is to be founded "on the solid rock." *Experientia docet.*——Contracts have been entered into by the Chester and Holyhead for the construction of the tubular bridge across the river Conway, and also for the greater portion of that across the Menai Straits, which is to be called the Britannia. The Conway bridge is to be finished in eight months. It is 400 feet span; the Britannia being 450, while the greatest span of any rigid bridge hitherto executed is 240.——The citizens of Worcester are following the example of the inhabitants of Doncaster in praying the railway authorities to erect the station of the Oxford, Worcester, and Wolverhampton line in the centre of the town instead of in the suburbs, as proposed.——The contractors on the Trent Valley line have the tempting bonus of 10,000*l.* a month held out to them by the directors for every month saved in the time contracted for the completion of the railway, which is therefore expected to be opened in January next, instead of May. The directors will be much to blame, we should think, for any accident which may ensue from the hasty and imperfect construction of their works. Such greed of gain on both sides is no doubt one of the main causes of so much disturbance in the progress and stability of works.——A viaduct of twenty-eight arches will be required for the Newcastle and Berwick in crossing the Tweed.——The damage done to the North British by the rain is being rapidly repaired. Two temporary bridges have already been erected, and the traffic opened along them in the meantime. The other bridges, including that across the Tyne, together with the gap in the embankment near Cockburnspath, are expected to be entirely replaced in course of a week.——The great viaduct of Dinan, in France, is in rapid progress. A canal has been cut to divert the water from the river, and the foundations have been sunk at least 30 feet down to the solid stratum, at an expense of 30,000 cubic feet of excavation. Five granite quarries have been opened to supply the materials.——The Pope, it is announced, has granted to Messrs. Jackson and Co. the concession of a railway from Rome and Civita Vecchia to Boulogne.——The East-India Company, it is rumoured, have negotiated with the East-India Railway Company, guaranteeing them 4 per cent. upon their outlay.

TENDERS FOR SEWERS.

On the 16th instant, the Commissioners of Sewers for the Westminster division met to open tenders for the following works*:—1,545 feet of sewer to be rebuilt in Stafford-street, Stephen-street, and Great James-street, Lisson-grove; and 505 feet of sewer to be rebuilt in St. Ann's-court, and Edward-street, Wardour-street, Soho. The amounts were as under:—

	Lisson Grove, &c. 1,545 feet.	Soho. 505 feet.
	£ s.	£ s.
Cotsworth	1,428 0	—
Hill and Son	1,392 0	—
Yeoman	1,336 0	—
Dethick	1,270 0	425 0
Aslett	1,250 0	—
Starkey	1,225 17	498 12
Battersbury	1,198 12	—
Jay	1,196 0	—
Watson	1,178 12	—
Bell	1,148 0	—
Williams	1,110 0	—

The lowest of each accepted.

The following tenders where delivered at the Sewers' Office, Tower Hamlets Division, Great Alie-street, on the 13th instant, for building sewers in

	Greenfield-street. 495 ft.	Whitechapel Road and Union-st. 612 ft.	Devonshire-st., Mile End, Old Town. 750 ft.	Plummers-row, Whitechapel. 770 ft.
	£	£ s.	£ s.	£ s.
Cotsworth	250	449 10	527 0	399 10
Stewart	282	478 0	448 0	277 0
Hill and Son	171	383 0	428 0	288 0
Curtiss	208	344 0	482 0	308 0
Yeoman	280	665 0	671 0	455 0
Crook	198	335 0	437 0	357 0
Blackburn	366	—	511 0	385 0
John Hill	255	515 0	618 0	411 0
Dethick	—	385 0	495 0	—
Munday	—	448 0	568 0	—
Threadgold	—	—	420 0	—
Green	—	—	518 10	—
Shoulders	—	—	407 10	—

Difference between highest and lowest in 1st col., 195*l.*; in 2nd col., 330*l.*; in 3rd col., 263*l.* 10s.; in 4th col., 178*l.*

The lowest of each accepted.

ADDITIONS TO ST. GILES'S WORKHOUSE, HOLBORN.

The chief object in the additions to this workhouse, just now commenced under the direction of Mr. George Pownall, is to secure a more complete separation of the sexes, and a better classification of all the inmates, as well as to obtain increased accommodation. The old workhouse was formed, partly of an inn, and partly of dwelling-houses purchased from time to time as necessity obliged, and opportunity occurred; these were laid one to the other, with very inconvenient results; the accommodation for the sick (always a large body in a parish like St. Giles's) was very deficient, both in space and ventilation. In addition, a court of miserable houses, in Short's Gardens, with miserable tenants, ran into the heart of the workhouse buildings. These houses were purchased last year, and the parish then determined, by the intended alterations and additions, to provide in the best way they could for the various requirements that were pressing on them.

The alterations consist chiefly in the removal of all the old buildings, private and public, next Short's Gardens, and the erection in their stead, in the centre of the ground, of an infirmary, about 90 feet by 25, disengaged on the four sides. Above the ground floor, containing six large wards with bath-rooms, are sculleries and water-closets, &c. On the one side is attached the dispensary, consisting of waiting-room, consulting-room, &c.; on the other, corresponding buildings for the relieving and examining officers, together with a large casual ward, and additional sleeping-rooms; and a *small* refractory ward and yard. The airing yards will all be reformed, and separated in a more complete manner, the present privies removed, and new water-closets built.

As regards "the desecration of the dead" on this site, concerning which much has been said, the fact is, the authorities were ignorant of the circumstance of the site having been used for a burial ground; and the moment the discovery was made, distinct directions were given, that as the remains were taken up they should be placed in coffins and reinterred daily in the new burial ground of St. Giles'. In fact these remains were treated after the lapse of eighty years with greater respect than when first committed to the ground, into which they seem to have been thrown in great numbers, without coffin or shroud of any description. It is surprising that so many bodies could have been crammed into a space not more than 100 feet square; still more so that all this decomposition should have been going on within two feet of the surface, in a place so densely populated, without discovering itself, as the whole place was a mass of corruption, and over a considerable part of this mass, was what was considered one of the best wards in the place.

The following is a list of the tenders delivered for the execution of the new works:—

Williams	£8,530
Jeffrey	8,360
Kelk	8,244
Locke and Nesham	8,150
Cooper and Davies	7,985
Curtess and Sons	7,788
Winsland and Holland	7,678
Barr	7,222

* At this meeting considerable surprise was manifested on learning, that the alteration of the sewer near Buckingham Palace, at a contemplated expense of 3,000*l.*, was commenced, notwithstanding the architect had been expressly informed by the court, that such expenditure would probably be thrown away, in consequence of certain important changes in the sewerage of the whole district now under consideration.

WALTHAM ABBEY AND CROSS.

Mr. Editor,—I have recently visited Waltham Abbey, and it is really painful to see the manner in which this interesting specimen of early Norman architecture, has been mutilated and destroyed. If I am correctly informed, there is a reserved fund of 100*l.* a year to be laid out in repairing and keeping the church from dilapidation. If this is correct, the funds have been most wofully mis-applied, or have been appropriated rather in defacing and mutilating than restoring. The whole of the ornaments of the arches are filled up with whitewashing, and unsightly galleries, and the nave with equally unsightly pews. No doubt this was formerly considered by the churchwardens as assisting to beautify the church, although it is not exactly stated so in front of the organ gallery.* My object is to call public attention to this beautiful but neglected specimen of church architecture, and also as regards the appropriation of the funds.

The cross, which was only restored a few years since, is so fast decaying, from the perishable nature of the stone, that in a short time not a vestige of it will be left. The statues are crumbling away.

Let me ask, ere it is too late, whether one or two coats of drying oil might not assist in preserving this monument for a time?

I am, Sir, &c., A Subscriber.

* The early Norman font has been painted over in imitation of marble vein.

Correspondence.

WHO WROTE NICHOLSON'S WORKS?

On the wrapper of the September part of THE BUILDER appears the following advertisement:—"Peter Nicholson's Practical Masonry, Bricklaying, and *Plastering*, revised by Tredgold; both plain and ornamental."

Knowing your willingness at all times to correct error, perhaps you will allow me to state, in reference to the plastering department of the above, that Mr. Peter Nicholson never wrote a single line of the Practical Treatise on plain and ornamental plastering, contained in the above work, it having been supplied by Robert Robson, together with the drawings for the plates, in illustration of the same, under the superintendence of the lamented Tredgold, and certainly in conjunction with Mr. Nicholson, who furnished a portion of the information on the masonry and bricklaying only.

The writer of the present notice does not make this statement with the view of lessening the well-earned fame of the late Mr. Nicholson, who did more for the practical mason, carpenter, and joiner, than any man either before or since his time, as applied to the development of difficult works on constructive architecture; but a love of truth induces the correction of the error, which I think, Sir, you will allow is only fair, as regards the *actual writer* of the section of the work alluded to.—I am yours, &c. X.

Newcastle-upon-Tyne, 12th Oct. 1846.

Mr. Nicholson was a personal friend of the writer, and never possessed a knowledge of ornamental plastering, his forte being the development of lines—geometry and mathematical science. *Mr. Robson* was a *journeyman plasterer*, working at Windsor Castle, when he wrote the treatise, and supplied the drawings for the plates above adverted to; having done it at the request of Mr. Tredgold, who was his intimate friend.

ARCHITECTURAL CHEMISTRY.

SIR,—Will you allow me to point out to you a paragraph in Mr. Bartholomew's specifications, chap. cix., § 895, which, to save you trouble in referring to, I have copied:—"One of the greatest boons that could be bestowed upon us, as a profession, or indeed upon mankind at large, would be a work upon *Architectural Chemistry;* there are not wanting highly-gifted proficients in chemistry, who by a due consideration of the wants, integrity, and beauty of genuine architecture, might furnish us with a complete development of the nature, constituents, affinities, decomposition, oxidation, and other properties of the minerals and other natural productions which are, or ought to be, used in architecture, or which should be excluded from it." Perhaps the publication of this paragraph in your valuable paper, may be a means of calling the attention of some competent person to the subject.—I am, Sir, &c., J. A. BLENKARN.

Wellow, Ollerton, Notts, Oct. 19th, 1846.

*** An able course of lectures on this subject was delivered at the Institute of Architects a few years ago; its importance is great.

STATE OF SUNDERLAND.—Sunderland, according to a writer in *Douglas Jerrold's* weekly paper, deserves the name of the most inconvenient and almost the filthiest collection of human dwellings in the whole empire. From the single main street, innumerable, long, narrow, dingy alleys branch out, most repugnant to look into. The houses of which they are composed are old, and the inhabitants crowd into separate parts of them, scarcely deserving the name of rooms, in many instances. Open sewers and stench offend the senses wherever you go; and the only wonder is, that the public spirit of the borough is not fully roused to remedy the nuisance amidst which thousands of the working-classes thus live. A body of real reformers in the town, it is somewhat satisfactory to state, are earnestly bent on procuring an Act whereby the Corporation shall have the power of supplying the borough with water and gas, and from the profits form a fund for buying up the nuisance-alleys, and constructing wide and healthy streets on the ground occupied by two or three taken together.

Miscellanea.

MONUMENT TO COLUMBUS IN GENOA.—At the end of last month the first stone of an elaborate monument to the great discoverer was placed in the centre of a piazza near the Strada Balbi. A writer in the *Athenæum* gives the following description of it:—"Its form will be square, and the length of each side 12 mètres. On three steps will be placed a basement, bearing on its sides inscriptions in bronze. At the angles, four pedestals will support as many emblematical figures, representing Science, Piety, Prudence, and Constancy. Between each statue, on the four façades, four bas-reliefs will express important incidents in the history of the Genoese hero: Columbus before the Council of Salamanca — planting the cross on the first discovered land — embarking for Europe in chains — and presenting himself at Barcelona before his sovereigns. From the plane of the basement will rise a lofty pedestal, cylindrical in form and highly adorned, bearing aloft a group representing Columbus in the act of discovering America. This design is by Prof. Michele Canzio, and the execution of the principal group is by Bartolini. To Aristodemo Costoli has been assigned the statue of Prudence and the basso-relievo representing Columbus in the act of planting the cross; Luigi Pampaloni will execute the statue of Piety and the dispute at Salamanca; while Guiseppe Gaggini, a Genoese, professor of sculpture in the Royal Academy of Turin, will execute the figure of Science and the presentation of Columbus to the Spanish monarchs in Barcelona; to Emilie Santarelli is allotted the statue of Constancy, and Salvatore Renelli is to execute the basso-relievo representing Columbus in chains."

NEW CHURCH AT BUSSAGE, GLOUCESTERSHIRE.—The foundation of a new church at Bussage, in the parish of Bisley, was laid about a fortnight ago, the origin of which is somewhat peculiar. Twenty students of different colleges in Oxford have subscribed 2,000*l.* for the purpose, and the Diocesan Church Building Society gave 150*l.* Mr. J. P. Harrison, of Christ Church, Oxford, is the architect. The *Gloucestershire Chronicle* gives the following particulars:—"The church is in the decorated style, and consists of a single nave about fifty feet in extent, and a chancel of about thirty; there is a south porch, and a north door in the interior; the roof is oak; and is fitted with oak open sittings. The pulpit is of stone. The stalls extend to the priest's door and sacristy door, on either side of the chancel; the lectern (from which the lessons are read) stands on the south side of the chancel, near the priest's door. The altar screen is of oak, Gothic and massive, and the flooring of the nave of black and red plain encaustic tiles; those of a figured pattern being used in the chancel. The wall at either side of the altar is encrusted with small encaustic tiles also. The east window is of three lights, and glazed with stained glass, by O'Connor, of London. The font stands near the junction of the tower and nave, and the roof of the building is covered outside with the stone slate of the country.

ANTIQUITIES OF NINEVEH.—Mr. Layard's explorations at Nimroud have proved most successful: in addition to buildings and sculptures, some thousands of inscriptions, in a character similar to that of the Babylonian inscriptions, have been discovered, and will probably prove of great historical value. A correspondent of the *Athenæum* contrasts the assistance rendered to M. Botta by the French government with the neglect experienced by Mr. Layard:—"For any thing he can know to the contrary, his civilized countrymen sympathize with his pursuits just as little as the Turks themselves. Such neglect is discreditable to the English ministry." We have already mentioned amongst the discoveries here, a hall above 150 feet long and 30 broad: this is entirely built of slabs of marble, covered with sculptures, and the side walls are ornamented with small bas-reliefs, of battle sieges, lion hunts, &c.; all executed with wonderful spirit.

HOLY ROOD CHURCH, SOUTHAMPTON: COMPETITION.—The design by Messrs. Mee and Webbe has been selected for execution. Mr. Geo. Alexander has the second premium, and Messrs. Johnson and Ordish the third.

PAPER HANGINGS.—The following is from the *Morning Post*:—The mode in which the duty is levied on this description of article has recently been under the consideration of the Customs' authorities, a representation having been made to them on the matter by a party, an importer of this description of merchandise, complaining of the duty being charged by the officers of the revenue on the margin or border of the article. It is known that all paper-hangings, as they are called, used for papering walls and other house purposes, have a border on each side of the design or portion printed with the particular figure, and that it is the custom of the trade, in using the same, to appropriate one border for the purpose of attaching each slip to the other, the remaining border or margin being made available, in addition to the designed portion of the manufacture, in order to give the operation an uniformity throughout. There is an exception to this rule, respecting the more valuable description of paper used for such purposes, including that known as flock paper, in which both borders or margins are used for binding purposes, they being inferior to the design, and are therefore concealed from the view. It appears that in some cases the officers have charged both these borders with duty, on measuring paper-hangings on importation from abroad, considering them to be part and parcel of the whole, and therefore equally liable with the remaider, and in others on one border only; and it having appeared expedient to have a uniformity of practice in the matter, and the authorities being of opinion, on taking the application alluded to into their consideration, that these borders are not strictly liable to, and should not properly be charged with the duty leviable upon paper-hangings, inasmuch as never more than one border is made available for actual use, and frequently neither of them, as before stated. Orders have been issued that in future the admeasurement be taken and the duty charged only on the portion of the paper which bears the printed figure or design. This mode of taking the revenue account for the duty is to be observed with regard to similar importations of the article, and will therefore be of interest and importance to the trade.

REWARD SKILFUL INDUSTRY.—Reflecting on a recent notice, in our own pages, of the establishment of an industrial exhibition, and the award of prizes in Vienna, *The Patent Journal* says, "We were led into a train of thought on the little encouragement given in England to art and science. With mingled feelings of shame and sorrow were we obliged to confess that Austria—even Austria, upon whose skill and talent, especially in mechanics, we were accustomed to look with contempt rather than envy—here sets before us an example, at once worthy of our imitation and condemnatory of our past neglect. Yes, it is true, that England, the mother of manufactures, the seat of arts, the workshop of the world, the creator of machinery, offers no rewards to genius, no prizes to skill, no distinctions to learning. She confers no titles on her engineers and chemists; she places no stars on the breasts of her sculptors and painters; she calls not to her councils the men of literary merit. This is not the case abroad. France makes peers of writers, and enrols in the Legion of Honour engineers and architects, manufacturers, and men of merit in all ranks; Bavaria makes a chemist a baron, and grants him a pension; Prussia is profuse in honours and benefits to science; even Russia is not unmindful of the duty and advantages of patronising genius. England cannot yet boast of so much as an exhibition of her varied talents and capabilities. Her real wealth is concealed in the warehouses of Manchester; and what should be her pride and glory, performs unnoticed its useful labours in every factory in the kingdom. No exhibition, no collection, no museum of mechanics and manufactures have we; the foreigner must make a pilgrimage ere he can learn what we have done, or what we are."

THE ANT NUISANCE.—A correspondent says, that if jalap be mixed with sugar and placed where the ants can get at it, they will eat it with great eagerness, and will be destroyed.

THE WIGAN CHIMNEY.—The chimney lately erected by a chemist at Wigan is 420 feet high, and contains 3,000,000 bricks.

RESIDENCE CHAMBERS.—We observe that the advantages of combination in residences, which have been remarked upon in various numbers of THE BUILDER, have been in contemplation in Manchester, under the form of "Bachelors' Chambers." The number of young men, who resort to that town from all parts, and who are at once debarred from the comforts of a home, and obliged to resort to solitary and expensive lodgings, renders this kind of arrangement desirable there, as in the metropolis. The *Manchester Guardian* states, that extensive ranges of healthy sleeping-rooms, a general breakfast-room, baths, &c., on reasonable terms, form the main feature in the scheme. "To ensure somewhat of the order and regularity of a family home, it is proposed to appoint a superintendent, and a general committee of management, and to have a code of rules and regulations. An eligible site has been proposed at the corner of Booth-street and York-street, Chorlton on-Medlock, which is sufficiently near to the Athenæum and other public institutions; and an elevation of the building is now in exhibition of water-colour drawings, in the Hall of the Manchester Royal Institution. We have seen the plans of the building which, with the elevation, are from designs by Mr. Edward Hall, Architect of London.

KENSINGTON WORKHOUSE COMPETITION.—After our paper was made up, we received a letter from Mr. Blore, denying the truth of the statement made last week, and asserting with singular temerity, that so far from the guardians having revoked their decision, he "declined proceeding, for reasons explained to the board, and well understood in the parish, and *having no reference to the estimate*, or the practicability of the design." We shall take the liberty of making a few more inquiries into the matter.

NOTICES OF CONTRACTS, &c.

THE authorities of the Stamp Office having given us notice to discontinue the insertion of our list of contracts, &c., excepting as advertisements, we have in deference to their wishes, omitted them for the present, but have taken steps to place the facts of the case properly before them, and, as we hope, remove their objections. In the meantime a list may be seen at our office.

When it is understood by the Board that our list is simply an index to advertisements, which, having appeared in other papers, have paid duty, and are inserted solely for the convenience of our readers, and not for the benefit of advertisers, or for our own profit, excepting so far as results from increasing the usefulness of our paper, we are disposed to think the objection, even if it can be legally maintained, will be withdrawn.

TO CORRESPONDENTS.

"*Club Chambers for families.*"—In reply to several inquirers, we do not know that any steps have yet been taken to put the suggestion into practice.

"*Young Beginner.*"—Unless under special covenant, a yearly tenant could not, we think, be compelled to make good, glass broken by the storm.

"*T. O.*"—Notice should have been given to the surveyor.

"*Four Inquirers.*"—We cannot call "Windsor Castle the largest and handsomest palace in Europe."

"*Mr. Buss on Fresco.*"—A detailed report of Mr. Buss's lectures will be given in our next number.

"*H. B.*"—For seven windows no tax is paid; for eight it is 16s. 6d.

"*Enquirer.*"—In strictness, a license is necessary.

"*C. B.*"—Apply to Mr. Sylvester, Great Russell-street, Bloomsbury.

"*G. H. T.*"—If the attendances were through the surveyor's own mistakes, he can have no right to charge for them.

"*G. J. J.*"—We have not overlooked the drawing, and will determine shortly.

"*S. E. B.*"—Mr. Parry's address is 25, Blackmore-street, Drury-lane. The work is out of print.

Next week.—"Messrs. B.," "An Old Subscriber," "Wine Cellars."

Received.—"R. B.," "B. & R.," "Quære," "Competitor," "E. B.," "R. H.," "J. L. C.," "Amicus," "Artist," Bradshaw's excellent "Railway and Steam Navigation Guide," for October.

"*Books and Addresses.*"—We have not time to point out books or find addresses.

CHARGE FOR ADVERTISEMENTS IN "THE BUILDER."

	£.	s.	d.
For Sixty Words or less	0	5	0
Every additional Thirty Words	0	1	0
One Column	2	2	0
One entire Page	5	5	0

For a series of advertisements above 5s. a reduction will be made.

ADVERTISEMENTS.

HOWARD'S TRANSPARENT TRACING PAPER.—The many very high encomiums which have been passed on this article by those who have made trial of it, induces Mr. Howard to give it greater publicity. Sample books, containing seven different qualities, with prices, &c., can be sent by post to any part of the kingdom.—Orders directed to Mr. HOWARD, 23, Great Russell-street, Bloomsbury, will receive immediate attention.

WORCESTER ENCAUSTIC TILES

Specimens of these beautiful Tiles in all their Varieties, may be seen and information obtained at the London Agents, Messrs. GRIEVE and GRELLIER, Marble-wharf, Belvidere-road, Waterloo-bridge, or at the Encaustic Tile Works, of Messrs. F. ST. JOHN G. BARR, and Co., Worcester.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—J. M. BLASHFIELD, Agent. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

STRONG GLASS TILES AND SLATES.

HETLEY and Co. are now prepared to supply the above useful article in any quantity. The slates are kept in stock of the different usual sizes, but can be made to any given pattern. They are well adapted for any roofing purpose where light is required. Horticultural sheet glass, 16 oz., from 20s. 10d. per 100 feet.

Wholesale sheet, crown, and patent plate glass warehouse. 35, Soho-square, London.

TO BRICK AND TILE MAKERS.

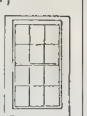
THE AINSLIE PATENT TILE MACHINE COMPANY (James Smith, Esq., of Deanstone, Chairman,) invite attention to their improved Tile Machine, and to their new improved Patent Kilns for drying and burning Bricks and Tiles, by which a saving of from two-thirds to three-fourths of the fuel is effected, and all the articles are burnt equally without loss or damage. The Machines at work, and a model of the Kilns, to be seen, and all particulars to be obtained from Mr. JOHN PATON, Secretary, 193A, Piccadilly, London.—Agents wanted.

HERRING'S PATENT SAFETY WINDOWS.—No invention ever offered the advantages to builders and the public; it will positively add 5 to 10 per cent. to all houses having it, repay the cost every two years, abolish all danger to life and limb, cleaning and repairing. It is in full operation (four different ways), forms a complete ventilator and sun-blind, all simple, cheap, and effective.—Apply for licenses and to inspect its real merits, to Herring's Patent Steam Bed-feather Factory, 14, Kingsgate-street, London.

CHAS. WM. WATERLOW,



Manufacturer of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square. Well-seasoned materials, superior workmanship, lowest prices. Upwards of 400 Doors and a large variety of Sashes and Frames always on Sale. Glazed goods securely packed for the country.



Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

TO THE PLATE GLASS TRADE.

THE BIRMINGHAM PLATE AND CROWN GLASS COMPANY, "Registered," beg to inform the Trade and Public, that the extension of their Works at Smethwick, near Birmingham, being now completed, their Warehouse, 141, Fleet-street, London, is now open for the Sale of their Crystal Plate Glass, which will be found to stand unrivalled by that of any other manufactory. They are also in a position to supply Rough Plate of any substance for Skylights or Floorings on the shortest notice.—Orders addressed to B. MOSS, Company's Warehouse, 141, Fleet-street, London, will be promptly attended to.

WINDOW GLASS, Crown Squares, in 100 feet Boxes, per foot:—

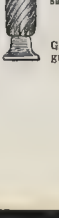
4 by 3	and under	5 by 3	.....	1d.
5 .. 3	,,	6 .. 4	.....	1½
6 .. 4	,,	7 .. 5	.....	1¾
7 .. 5	,,	9 .. 7	.....	2
9 .. 7	,,	10 .. 8	.....	2½
10 .. 8	,,	14 .. 10	.....	2¾
14 .. 10	and under 2 feet		.....	3

Crates averaging 50 inches:—

ccc	12 table	each 40s.
cc	18	47
Fourths	18 table	65
Thirds	18 table	78

Foreign Sheet Glass, 3rds, superior to English, in 200 feet boxes, about 16 oz. 3d. per foot; best quality, Sheet Glass, about 16 to 18 oz., in 100 feet cases, 8d. per foot: this is a most superior article, nearly approaching to plate glass.

Water-closets, Pumps, and all kinds of brass work. Sash glazing, 4½d. per foot.—Address THOMAS MILLINGTON, 8, Bishopsgate-street, Without, London.



STEDALL'S
PATENT SCOLECOTHIC VENTILATOR,
AND CURE FOR SMOKY CHIMNEYS.

The most effectual and most ornamental Chimney-pot yet invented, entirely obviating the objection to which all others are open, namely, that of soon becoming clogged with soot, and, consequently, useless.

A large quantity has been made in various parts of the kingdom, which have given the greatest satisfaction.

Price, Strong Painted Iron..... 32s.
,, Strong Galvanized Iron .. 40s.

To be had of R. STEDALL, 13, Nelson-street, Greenwich.—The Trade supplied, and also licences granted to Manufacturers.

LANDLORDS' and TENANTS' BUILDING and INVESTMENT SOCIETY. Enrolled pursuant to Act of Parliament, 6 & 7 Wm. 4, c. 32.

Shares, 120*l*. Monthly Subscription, 10s. per share. Present Entrance Fee, 2s. 6d. Half Shares may be taken. No Redemption Fees.

The First Monthly Subscription will be payable on Monday, November 2nd, 1846, at the Marylebone Literary Institution, 17, Edwards-street, Portman-square; and on Friday, November 6th, at the Southwark Literary Institution, Borough-road, from half-past 6 till half-past 8 o'clock, each evening. Attendance will be given on Monday evenings, at the Marylebone Institution, and on Friday evenings at the Southwark Institution, from 7 to 9 each evening, to enrol Shareholders and answer inquiries.

The number of shares already enrolled induces the Directors to announce, that on Friday evening, November 6, ONE THOUSAND POUNDS will be offered to Competition at the Southwark Institution. Persons taking shares previously to that time, will be eligible to bid for the same, or any portion they may require.

For List of Directors, &c., see prospectus, which may be obtained by remitting a postage stamp to the Manager, Mr. W. LAWLEY, 6, Red Lion-street, Borough, or of the Secretary, Mr. JAMES SEARS, 17, Trafalgar-street, Walworth.

HOLBORN AND FINSBURY SEWERS, MIDDLESEX.

THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persons about to Purchase or Rent Houses or Property, or take Land for Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Persons to apply for at the above Office.

By the Court,
STABLE and LUSH, Clerks.

Sewers' Office for Holborn and Finsbury Divisions, &c., No. 7, Hatton-garden.

TO BUILDERS AND OTHERS

Interested in buildings, or in ground for building upon, within the district of Holborn and Finsbury Divisions, the Parish of St. Leonard, Shoreditch, and the Liberty of Norton Folgate, in the County of Middlesex, and the borders and confines of the same.

THE Commissioners of Sewers for the above limits DO HEREBY GIVE NOTICE, that previous to making any new sewer in any street, lane, or public way, or in any part intended to become a street, lane, or public way, or to carry or drain off water from any house, building, yard, or ground, into any sewer under their management, or within their jurisdiction, application must be made by petition, the form of which may be had at their Office, to which must be attached a plan of the intended line of sewer, and which must be constructed conformably with their regulations.

And, in order to prevent the serious evils and inconveniences that must arise from ground proposed to be built upon being excavated to too great a depth, the Commissioners have directed that, upon application being made at their office, previous to the excavation of such ground, information shall be given as to the lowest depth at which the same can be drained.

And the Commissioners do also give notice, that whenever the lowest floors or pavements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any sewers, or drains into sewers, to be made for the service of such buildings: And further, that no buildings or erections of any kind will be permitted to be made upon or over any sewer.

All communications made with any public sewer, without previous application, as aforesaid, will be stopped out; and the parties making the same will subject themselves to a fine.—*By* the Court,

STABLE and LUSH, Clerks.

*** The public is also informed, that all rates imposed by the said Commissioners are to be paid by the tenant, and allowed by the landlord out of the rent, except where the tenant, by special covenant or agreement, is bound to defray the same.

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDDLESEX, No. 1, Greek-street, Soho-square.

TO BUILDERS and Others interested in buildings or in ground for building upon, within the district under the jurisdiction of this Court, drained by watercourses falling into the river Thames, between the city of London and the parish of Fulham.

The Commissioners hereby give notice, that by an Act of the 47th Geo. III. (chap. 7, local) it is required that, previously to the making of any new sewer in any street, lane, or public way, or in any part intended to become a street, lane, or public way, or to carry or drain off water from any house, building, yard, or ground, into any sewer under their management, or within their jurisdiction, a notice in writing shall be given to them, or to their clerk at their office, and that such new sewer or sewers shall be constructed and made in such manner and form as shall be directed by the said Commissioners, and not otherwise.

And, in order to prevent the serious evils and inconveniences that must arise from ground proposed to be built upon being excavated at too great a depth, the Commissioners have directed that, upon application being made at this office previously to the excavation of such ground, information shall be given as to the lowest depth at which the same can be drained.

And the Commissioners do also give notice that, whenever the lower floors or pavements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any sewers, or drains into sewers, to be made for the service of such buildings.

It is recommended to all persons about to purchase or take houses, or other premises, to ascertain whether such premises have separate and distinct drains into common sewers.

All petitions must be delivered at this office at least three clear days before they are presented to the commissioners; and all such petitions will be called on in the order of their application, and the name of any party not present when called on to support the application will be struck out, and the proceedings must in consequence be commenced de novo.

All communications made with any sewer without leave of the Commissioners will be cut off, and the parties making the same will subject themselves to a fine.

The provisions of the Metropolitan Buildings Act (7 and 8 Victoria, c. 84) do not supersede the authority of the Commissioners of Sewers in the above respects, but their powers are expressly reserved, and their regulations made subservient to the purposes of the Act. The execution of such works, under the superintendence of the district surveyor alone, cannot therefore warrant the making of any sewers or drains within this commission, nor relieve the parties making them from the penalties above mentioned.

By order of the Court,
LEWIS C. HERTSLET, Clerk.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery

Best Patent Cut Clasp.

3d.	4d.	6d.	8d.	10d.	20d.
6d.	7d.	8d.	1s.	1s. 6d.	2s. per 1000.

Best Sheet Floor Brads 15s. 6d. per cwt.
Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6½d., 7d., 9d. per inch.
Self-acting Kitchen Ranges with Oven and Back Boiler.
Wrought Bars and Bright Fittings.
3 ft., 3l. 3s. 3 ft. 6 in., 3l. 12s. 6d. 4 ft., 4l.
Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 195, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3l. 6s.	3l. 13s.	3l. 16s.	4l.	4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5l.	5l. 15s.	6l. 5s.	6l. 10s.	7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 3½d., and 4d. do.
Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.
Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 166, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

HOT WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories, and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises. BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

GREAVE'S LIAS CEMENT, stone-colour, free from vegetation, does not crack, and is well adapted for every description of modelling and casting.
GROUND LIAS LIME, for concrete, or as mortar for sewers, dock-walls, and hydraulic works generally; is superior to any other lime or cement.—Office, 2, South Wharf, Paddington, and Stratford-on-Avon.
Agent for Liverpool—Mr. Wylie, 56, Gloster-street.
Ditto, Manchester—Mr. J. Thompson, Back King-street.
Ditto, Chester—Mr. J. Harrison, Linen Hall-street.
N.B. Marble Floors. A large quantity of Vein and Black Marble on sale at reduced prices.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.
Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.
Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,
JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

PATENT METALLIC SAND CEMENT, requiring no colour or paint, and free from cracks and blisters, mixed ready for use at 8s. per cask; 2s. 6d. allowed for each cask returned in good order. 3½ bushels common sand to be added to each cask of Metallic Cement, which will float 14 square yards of stucco.—Apply at the Metallic Cement Wharf, King's-road, Camden New Town.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.
Manufactured by J. B. WHITE and SONS, of Millbank-street, Westminster; and sold at their warehouses—Earl-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—
1. It rapidly acquires the hardness of stone.
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3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.
It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.
For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.
For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.
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KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and undestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.
It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings in its application, for which purposes it checks the progress of Fire and the attacks of Vermin.
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It is intended this advertisement appear four times from Oct. 10th.



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LAP-WELDED IRON TUBES FOR STEAM BOILERS.

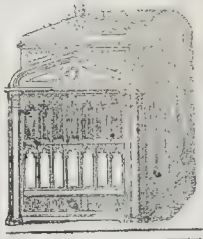
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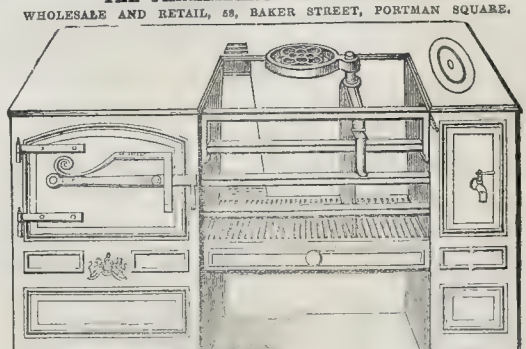
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ARCHITECTS, BUILDERS, and Others, about to supply STOVES and KITCHEN APPENDAGES, will find at this Establishment the most unique and elegant assortment of STOVE-GRATES, FENDERS, and FIRE-IRONS ever offered to the Public, at prices considerably below the usual charges. The Proprietors at the same time beg to invite attention to their extensive Stock of FURNISHING IRONMONGERY, Tinned Copper, Tin an Iron Cooking Vessels, Block Tin Dish-Covers, Japanned Ware, Table Cutlery, and especially their Sheffield Plate and German Silver Wares, embracing every Article suitable for the Table, comprising Dish and Plate Covers, Liquor Frames, Epergnes, &c. &c. The plan adopted by the Proprietors of affixing the price to each article for cash, enables all purchasers to have the same advantage. The Patent Thermio Stove is in daily operation. ALSO CUNDY'S IMPROVED HOT-AIR STOVES, for Heating and Ventilating Rooms.
THORPE, FALLOWS & COMPANY, 58, Baker-street, Portman-square, London.

The Builder.

No. CXCV.

SATURDAY, OCTOBER 31, 1846.

ART, said the King of Bavaria, as we reported last week, art must not be regarded as a *luxury:* it must be seen and felt every where; when it enters into the life of the people, and is their animating spirit, then will it take its proper place. My great artists are my joy and my pride. Long after the works of the statesman are forgotten, those of the real artist will remain, to give joy and elevate man.

We have so often urged these same sentiments, in nearly the same words, and so uniformly advocated all measures tending to produce the important results aimed at, that no expression of concurrence on our parts can be necessary. Again and again, however, will we repeat them, and in good time the seed will produce fruit.

Art must go lower than it now does,—must permeate the mass of the people,—good art must be made cheap; and the profession of artists must be made honourable. "Unless the public at large sympathise in art, and feel it to be an enjoyment, we shall never attain any thing national in art, or have a public to appeal to." Let the affection for art become great, and education in it will speedily follow. Causes are in operation to produce this. A spirit has been evoked which will not soon be laid again; a taste for art, and love of the beautiful are arising, and the national happiness and the national welfare will be greatly, nay, immeasurably advanced. Art as a joy-giver,—art as a great teacher, must be fostered, developed, and honoured.

> "There is in every human heart
> Some not completely barren part,
> Where seeds of truth and love might grow,
> And flowers of generous virtue blow;
> To plant, to watch, to water there,
> This be our duty, this our care."

Some remarks on decorative art, the great ignorance that exists on the subject of art, and the want of artistical operatives, which we made at the beginning of the month, have been quoted throughout the length and the breadth of the kingdom. We have seen them in not less than thirty or forty different shapes and channels,—a striking evidence as it appears to us of the growing interest taken in the subject.

The ignorance which still prevails in matters of art, is indeed as we then said, astounding, and dearly have we paid for it. The most recent evidence of the want of knowledge in England of just principles of art, and proper standards of taste in the mind, is the unlucky statue that o'er-rides the arch.

Every day the absurdity of the conjunction becomes more evident and striking; every succeeding examination shews more forcibly the truth of our often repeated prediction and assertions,—the statue destroys the arch and the arch destroys the statue; like the two Kilkenny cats, they eat up one another, leaving nothing but the tale behind,—and a sad, sad, tale it is. Yet notwithstanding this, journals of high character can be found to praise the monstrous mistake (made through want of consideration, and persisted in through pride), and to lend their aid to make the disgrace permanent. We would fain think that they still, in their heart, hope they may be unsuccessful.

That the statue will remain, great as the difficulty of effecting its removal may be, is scarcely to be believed. A circular has been addressed by Lord Morpeth to the Royal Academicians, to obtain their opinions on the subject, and, we must suppose, that when obtained, some attention will be paid to them. We trust every artist appealed to will look at the question without reference to individuals, and consider that the artistical reputation of the country is in some degree in his hands.

Apart from the overpowering weight of objections urged, there is one glaring incongruity which has not yet been pointed out,—we mean the want of accordance in character. If we were to erect a Corinthian altar-piece in a gothic church, or put crocketted pinnacles on an Italian campanile, or if we were to place on the head of a statue purporting to be of the Greek period, a helmet belonging to that of the Roman, the incongruity would at once be pointed out, and scouted. Yet in the case before us, on the representation of a strictly and peculiarly Roman monument, a figure in the costume of the 19th century is to be permitted! In the glare of the other even more apparent objections, this, which of itself in ordinary circumstances would be fatal, has been overlooked.

A movement has at last been made at the Institute of Architects, to induce the council to consider the matter in question, and come to some resolution upon it. We trust the effort will be successful, and the *vis inertiæ* there be overcome.

EXPERIMENTS ON HYDRAULIC CEMENTS.

EXPERIMENTS on the strength and durability of materials used in building are always interesting; but perhaps in no material more so than in the articles of lime, mortar, and cement, where the nature of the composition and the proportions differ so widely, and in regard to which the principles on which the excellence of the result depends, are by no means yet fully understood.

It is desirable that any experiments having a tendency to this result should be permanently placed on record for future reference and comparison with other efforts having the same tendency. With this view I transmit you a statement of certain experiments on two qualities of hydraulic cements, most carefully conducted.

The Liverpool (old) Gas Company are now erecting very extensive works at the south end of the town, a considerable part of the brickwork of which, consisting of tanks connected with the gasometers, is required to be watertight, and is subject to considerable hydrostatic pressure. The lime generally used in this neighbourhood for works of this nature is procured from Halkin, in Flintshire, but recently the blue lias lime, from Warwickshire, has been introduced, and very highly recommended. Mr. Alfred King, the talented engineer to the company, determined before proceeding, to institute a set of experiments on the relative qualities of the two articles, as applied in various proportions, and under circumstances of different character, and kindly invited a few professional friends to witness the testing of the specimens.

The mode of procedure was as follows:—each specimen consisted of a small pillar of brickwork, one brick square and three courses in height, placed upon a board so that it could be carefully removed without disturbing the joints. The composition of the cement was various: from pure lime up to one-fourth lime and three-fourths sand, the sand being tolerably pure and free from earthy particles, but rather fine and small in the grain. One series of the specimens were immersed in water immediately after being set, where they remained from the 23rd of September to the 22nd of October. Another portion were left to stand twenty-four hours, and then plunged into water, where they remained for the same period. A third portion were left dry without being immersed. The bricks were all well moistened previous to being set. When subjected to the test, each pillar was secured in a strong iron frame. Another frame was dropped over the upper course, and secured to it with screws. This frame was suspended from a lever, at the other extremity of which weights were applied, care being taken, by means of another screw, to keep the lever in all cases perfectly horizontal. The following are some of the most important results.

Specimens immersed in water immediately after being set:—

No. 1. Pure Lias lime. This required a weight of 1655 lbs. to tear it asunder, being a pressure of nearly 20 lbs. to the square inch. The cement extremely hard and solid.

No. 2. Pure Halkin lime. This came asunder with the slightest weight. The cement very soft.

No. 3 One part Lias lime to one part sand. Bore a weight of 825 lbs. before breaking asunder. The cement rather tender.

No. 4. One part Halkin lime to one part sand. Would not bear the slightest weight.

Specimens left twenty-four hours dry, and afterwards immersed in water for one month:—

No. 5. Pure Lias lime. Required 1510 lbs. to tear it asunder. In this case, however, it was not the joint which gave way, but the brick, of which a thin flake adhered to the upper course. Another specimen of the same composition broke with 1,385 lbs., but the adhesion of the cement to the bricks was not perfect.—The cement in these cases perfectly hard.

No. 6. Pure Halkin lime. Would not bear the test at all. The cement quite soft.

No. 7. One part Lias to one sand, broke with 245 lbs. Another specimen of the same composition bore 510 lbs.

No. 8. One part Halkin to one sand. Would not bear the test.

Specimens left dry for one month:—

No. 9. Pure Lias lime. Broke with 1,000 lbs.

No. 10. Pure Halkin ditto. Broke with 350 lbs.

No. 11. One part Lias to one sand. Broke with 645 lbs.

No. 12. One part Halkin to one sand. Would not bear the test.

No. 13. One part Lias to two sand. Broke with 545 lbs.

There was a considerable number of other specimens, but time would not permit us to go into them.

A few inferences may fairly be deduced from the above experiments.

The first is the evident superiority of the lias lime for hydraulic purposes, since it appears to set admirably under water, in which circumstances its greatest strength is evolved.

The second is, that to secure its advantages as a water-cement, it should be used pure, as it is seen that a mixture of equal parts with sand, reduces its strength one-half. When it is recollected, however, that in its pure state, its cost is not more than one-third to one-half that of Roman cement, this cannot be considered a very material objection.

The third inference is, that for purposes not hydraulic, the lias lime does not appear to possess any advantages over common stone lime. The strongest of the dry specimens was the pure lime, contrary to the usual result with ordinary limes, whilst, when mixed in the usual proportions of one part lime to two of sand, it does not seem to possess any peculiar tenacity. I shall be glad if any of your readers will furnish the results of their experience in relation to a subject so interesting and important. J. A. PICTON, Architect.

Liverpool, Oct. 22nd, 1846.

FIREWOOD.—In future, foreign deal batten and board ends are admissible as firewood, in lengths of twelve inches, if split into two nearly equal pieces, instead of into three or four pieces, as hitherto required; and in lengths of eighteen inches if split into three pieces, instead of into four, as hitherto required for deal and board ends, and into two instead of three pieces for batten ends, the previous regulations as to timber ends being still adhered to.

THE PRACTICE OF FRESCO PAINTING.

The following is the substance of the first lecture delivered by Mr. R. W. Buss, at the Western Literary Institution, already mentioned:—

The subject of fresco painting is one of national importance, as may be seen by referring to the treasures of art which still remain as monuments of the departed greatness of Greece, Rome, and Italy. Even the possession of a peculiar excellence in a particular branch of art, will enhance the importance of that particular state or nation so excelling. Such is the case with the modern German school of art, whose professors have taken the works of the early Italian masters as the basis of their practice, and stimulated by the munificence of their sovereign, have acquired for themselves in a few years a character for art which, according to some opinions, places Germany second only to Italy.

To the reflected greatness of the German school we principally owe the present great movement in art in this country, and to his Royal Highness Prince Albert, aided by members of the Royal Commission, eminent for their taste and judgment in art, we are mainly indebted for the great probability which exists, that in England before long, there will be a permanent school of fresco painting, equal at least to the boasted German school.

A most encouraging commencement has been made by the determination of the Royal Commission to adorn with pictures, the interior of our legislative palace at Westminster, which promises not only to be of benefit to the fine arts in this country, but to tend most materially to raise the moral and intellectual standard of the public, by presenting for their emulation, through the medium of the pencil, the acts of patriotism, or the heroic achievements of their illustrious countrymen.

The people at length have become alive to the charms of art, and have proved themselves worthy of the trust reposed in them, that of a free (or comparatively free) admission to our national depositories of the productions of art or of nature; which is sufficiently evinced by the Parliamentary returns made of the numbers of visitors to national exhibitions, and of the absence on the part of the public of any desire to do wilful damage.

The three exhibitions which have taken place at Westminster-hall, under the auspices of her Majesty's Commissioners, have completely set at rest those doubts entertained by our wonder-seeking countrymen, whether England was capable of producing works of art in the historic style—forgetting, as it would seem, that Hogarth, Reynolds, Barry, West, Hilton, Briggs, Haydon, Bacon, Blake, and Flaxman are natives of our United Kingdom, and had never been stimulated either by hopes or rewards on the part of the Government of this country.

This great question has, however, not been brought to so successful a result, without very considerable sacrifices on the part of the artists who have competed—for the cost in time and money expended could not have amounted to less than 18,000*l.* or 20,000*l.*; while in return the Royal Commissioners have only distributed 6,000*l.* in rewards, 4,000*l.* of which were received at the doors by the charge of one shilling for admission! However, the national character has been vindicated, and no reasonable doubt can be entertained, that the gentlemen selected to execute the frescos in the House of Lords will acquit themselves of their arduous task with honour, and supersede the necessity of importing either Italian, French, or German artists to shew us how *English* subjects should be painted.

It is much to be regretted, that while our native artists are thus making great efforts and rapid strides towards excellence, the second building in the metropolis (the Royal Exchange) should have been confided to a German artist to decorate; and in a similar unnational spirit has the commission for the statue of the Duke of Wellington at Glasgow been, by the Committee of Taste, given to Mons. Marochetti.

As the critiques written upon the works in fresco exhibited in Westminster Hall, and the remarks of the visitors generally (including a large portion of artists themselves), were characterised by a want of acquaintance with the capabilities of fresco, its peculiarities, and of the totally different process by which fresco pictures are produced from that of any works in oil or tempera painting, the lecturer stated, that he considered it would add much to the interest and to the clear understanding of the subject, if, in these two lectures on fresco, a slight picture (sufficient to shew the process), were to be painted. He then proceeded to explain the kind of frame-work which it was advisable to adopt for fresco pictures.

A brick wall is not desirable as the recipient of the plaster upon which a fresco is to be executed; as Messrs. C. H. Smith and Dyce are of opinion that the London bricks are highly charged with salts, which exude every time the wall is moistened or damped, and will effloresce upon the surface of the picture—an evil which has been encountered by some artists already. To prevent this, a hydrofuge of wax, resin, and oil, should be spread over the wall previously to laying the grounds for fresco, by which the damp would be intercepted. But the safer plan would be, to use battens and lath instead of the brickwork: this mode receives additional recommendation from the fact, that none of the experimental frescos painted upon such a framework, have shewn any of the defects which would result from salts or from damp.

Where great lightness, or removable frescos, are required, a frame of wood, with wire-work of either iron or copper, could be used, instead of the laths; and the Italians have a method of preparing coarse canvas, protected by laths at the back, which has a great advantage in this respect over the others. If a brick or stone wall be selected to paint upon, it will require to be thoroughly dry before laying the rough coat of plaster. This first layer is composed of river sand and lime, in the proportions of two parts of sand to one of lime, or three parts of sand to one of lime. A wall thus prepared, the old authors and the German artists maintain, should remain in this state, even for a space of two or three years, in order to harden and to ameliorate the causticity of the lime; but on this point our practical men in this country differ. They state, that if the wall be not in a *bad state*, the mortar will dry in the course of a week or two, and after that period the lime undergoes no other change. Also, with respect to the lime, that it need not be so old as required by Professor Cornelius, who, it is stated, kept the lime eight years before he commenced his works in the Ludwig Kirche.

Our plasterers are of opinion, that a few months are amply sufficient to extract the injurious tendencies of lime. The lecturer stated that he had used lime of various degrees of strength and age, and that the lime he had been furnished with by an experienced plasterer, and which had been slacked only a few months, proved quite satisfactory, as it neither blistered, became patchy, nor changed the colours. Upon the whole, therefore, it may be considered, that a greater stress has been laid upon the necessity of keeping the lime a very long time, than there is any real occasion for; and it is highly probable that many of the defects, failures, and mischances attending fresco works, are more attributable to the bad state of the walls than the excess of causticity in the lime.

The second coat should be composed of more lime, two parts or less of sand to one of lime; and when this has set, the *intonaco* may be laid. This is the third layer of plaster, upon which the picture is painted. Some artists substitute marble-dust for the sand, but it does not work so agreeably as the sand, and is to some eyes disagreeably white. It appears to have been the practice of the early Italian masters, to have drawn with charcoal the design upon the dry wall, and then to wash in the outlines with a brush and some ochre, and over these markings to have laid a very thin intonaco, so as to allow them to see the drawing through it, and on the portion of wet plaster to complete the painting.

The colours employed should be almost entirely of mineral origin, carefully selected, well ground, and kept in small pots with covers to them. Ultramarine is a difficult colour to manage, as it is apt to fall off the picture in the form of powder; to remedy this, the Italians usually painted this part in tempera over a ground of *black* or *red*, or a mixture of both. Lake is not available in fresco, and it is supposed that the boasted colour called hæmatite, and by several other names, was in reality no nearer to the quality of lake than Indian red, to judge also from some English specimens which have been procured. Whatever may be the age of the time, those colours which do not quickly change upon a trial slab may be used.

Having a well-dried rough coat of plaster upon a frame work with laths, clean washed river sand, and lime a few months old; distilled or rain water, brushes rather long in the hair, and colours of mineral origin, with a few metallic preparations, all of which have been tested; the grounds may be laid and the picture painted with little or no fears as to the results. In the application of the colours, it is important to remember that no depth beyond the dry state of the colour is available in pure fresco; that a tint compounded of lime dries gradually lighter by three or four degrees, and that a wash, i. e. colour diluted with water without any lime, dries a little lighter, while the ground under it dries three or four degrees lighter, the consequence of which is, that the tint when dry is annoyingly dark, quite out of keeping with the ground.

Of the cartoon sketches for colour, effect, &c., the care is much the same as that required for any work upon which the artist is willing to trust his reputation; every point must be decided before the picture should be commenced, avoiding dark subjects and those requiring transparency and depth, which belong more to oil painting than fresco.

The lecture proved very interesting to a large audience.

AWARDS OF OFFICIAL REFEREES.

DIVISION OF BUILDINGS.

Mr. Staley having converted one house in Sun-row, Islington, into two, "each having a separate entrance and staircase, and not being divided by a proper party-wall, in accordance with the rule headed 'Division of Buildings,' in schedule D, part III., of the said Act," the district surveyor gave him notice of irregularity, and finding the same not amended at the expiration of forty-eight hours, gave information of the same to the referees.

Their award was:—"That inasmuch as the building in question had been divided into two parts, and a separate entrance and staircase has been formed to each part, such building is to be deemed to be two separate houses,—and inasmuch as such houses are not divided the one from the other by a party structure, built in the manner and of the materials required by the Metropolitan Buildings Act, the same are contrary to the said Act, and ought to be altered or amended. And we do hereby direct the said James Staley forthwith to alter and amend the same in conformity with the provisions, rules, and directions of the last-mentioned Act."

PROJECTIONS.—BLINDS.

In the matter of the information of the district surveyor of St. James, Westminster, that Messrs. W. Cubitt and Co. had fixed a blind-box or case made of wood, to the front wall of a house in Regent-street, continuing throughout the greater part of the length of the front, over the one pair windows.

The referees awarded:—"That the work in question is contrary to the Metropolitan Buildings Act, and that any such projection as the one in question, being of wood and standing before the face of the wall, and not within the reveals of the several windows to which the blind therein is intended to apply, is contrary to the said Act, and we do hereby direct that such blind-box be forthwith taken down and removed."

EXTERNAL INCLOSURES.

In the matter of an information from the district surveyor of St. George, Hanover-square, relative to a certain inclosure standing upon the lead flat in the rear of a house in Oxford-street, on and above the level of the one pair floor,—the referees awarded in July last, that the same was an extension of the main building, and inasmuch as it was not "built of sound bricks, or of stone, or of such bricks and stone together, laid in and with mortar or cement," and

of the thickness, &c., required by the Act, must be altered and amended.

This amendment was made by the substitution of bars and plates of iron, for timber quarters and boards. The referees having made a second survey, on the application of the surveyor, have since certified "that such external inclosure has not been made, by such alteration, conformable with the provisions of the said first-mentioned Act."

MATERIALS OF EXTERNAL WALLS.

Mr. Stevens having erected certain buildings of wood in the parish of St. Matthew, Bethnal-green, an information was laid against him by the district surveyor.

When before the referees, Mr. Stevens stated that the buildings in question were for the purpose of a contract to be terminated at Midsummer next, and that he was in treaty for the lease of the ground, upon obtaining which he intended to erect buildings in accordance with the Act.

The referees determined,—"that the buildings in question not being insulated buildings, and being built of wood, are contrary to the said Act, but inasmuch as no other building stands within fifty feet of the said buildings, and having reference to the circumstances stated by the said John Stevens, we defer to make any direction in the matter until the expiration of nine months from the date hereof, unless any building be erected or be begun to be built within thirty feet from the said buildings, within the herein mentioned period of time, in which case we hereby direct that the buildings hereby declared to be contrary to the Metropolitan Buildings Act, be taken down and removed."

NEWLEAFE DISCOURSES ON THE FINE ART ARCHITECTURE.

AN ATTEMPT TO TALK RATIONALLY ON THE SUBJECT.

On the first appearance in our columns of the papers headed "The Young Architects of England, by one of themselves," we received more angry letters respecting them, than have fallen to our lot during the whole of our connection with the public. It is not certain that we did not positively lose subscribers in consequence,—the threats of departure were numerous,—but this in no degree swayed us. We have more dominant motives of action than even the desire to increase the sale of The Builder, and believing conscientiously that these papers, notwithstanding some faults of style, and occasional error of judgment, displayed great ability, and were calculated to effect much good, we did not refrain from publishing them.

For reasons already stated in our pages, the author of them, Mr. Kerr, has been led to place his views before the public in a more complete form, under the title at the head of this notice, and on the same ground on which we printed his first letters, we recommend the work for perusal and careful consideration.

Instead of the letter form in which the first remarks appeared, the author has adopted that of dialogue, by means of which much that would be otherwise obscure is explained and elucidated. The parties to it are thus introduced:—

"Of the very respectable Mr. Heavyith'heel, Fellow of the Institute of British Architects, it is not necessary that I should say one word in addition to the simple mention of his name.

Mr. Newleafe is a gentleman perhaps less known. Being of retired habits and somewhat thoughtful in disposition, it happens that his views on many subjects are considered peculiar.

These gentlemen having met frequently (as I am told) at the residence of my friend the very excellent and learned Dr. Verditurus the librarian, their conversation would turn to the subject of architecture. And here it was soon manifest that their opinions were widely different; Mr. Heavyith'heel claiming that his views were the generally received doctrine. Wherefore it was proposed that a few evenings should be specially devoted to the systematic exposition by Mr. Newleafe of his views."

Mr. Heavyith'heel, it should be said, and indeed it is acknowledged, by no means fully represents the argument on his side of the question.

One great purpose of the writer is to shew to what a small extent architecture as *a fine art* is understood and practised, and to destroy the dominion of precedent.

The following extracts will elucidate this:—

"While, then, I condemn the Authority-system—the All-mannerism—the Rule and regulation doctrine—of our age, in Architecture, (and it happens to be one of the most backward of the Fine Arts with us,) yet I must not foolishly assail the very principles of human nature by censuring the fact Fashion. Were I to expect Mannerism to be overthrown I should but put myself among the ranks of those correctors of fate, whose Harmony Halls and Little Bentleys and Nauvoos are standard jokes for the world. Fashion will rule, must rule: and thus far, manner—regulation—*style*—is a natural human phenomenon.

But this is not at all what I complain of: it is the confounding of mere manner with the fundamental principles of propriety and The Beautiful—your doctrines of the Rules of Art by *models*—infallibles—orthodox sovereigns to rule Design—your putting imagination into leading strings from the Past, orders, styles, precedent, authority—this is what I bear so great a grudge against. I demand a WHY for all your rules and precepts; and somehow (it is perhaps my misfortune) I cannot see a sufficient reason in the mere fact that the "ancients" or the "great masters" did thus and so. If you choose to be a machine wound up by Greek or Goth or Tudor or Italian, am I therefore to be such a machine likewise? I claim *equality* with your authorities as *a man*, to think for myself and to decide against them utterly and fearlessly if I see fit; and if you deny my plea, I ought to claim *superiority* to them as *an older man*; I live in an older world.

Architecture *has laws*; but they are not such as those. They are the abstract laws of Nature and Reason; not the *dicta* of Antiquarians or the Rules of Batty Langleys. The remains of Antiquity are properly subjects for our *criticism* not our *imitation*. Judge them by the laws of Nature and Reason—the laws of Architecture and every thing else, and inquire whether they fulfil their requirements; if they do (and frequently they most eminently do), it is pleasurable to see it; take courage and follow them (their principles of Art—their spirit, not their manner): and if they do not (and frequently they do not), then, whatever be their antiquity, whoever their authors, whatever the associations wrapt around them, they are *bad*; profit by their failure to avoid like errors."

In his desire, however, elsewhere, to change the system and destroy "copyism," Mr. Kerr falls foul of much that is valuable. The history of architecture is the history of progress, and the advances of succeeding nations have been commenced where their predecessors left off.

He is anxious to see Vitruvius put on one side:—

"Now, what is likely to be the next move? For that is, after all, the great end of Philosophy.

We began with the book—the mere dogma: then we cast aside the book for the model—the remains,—we determined to *examine* for ourselves: the next step—will it be to cast aside both book and model, dogma and "remains," and determine to *think* for ourselves—*design* for ourselves? Let me say we are in the transition from Vitruvius to Truth: we have forsaken faith for fact; the natural next step would be to leave fact for Reason. I am glad to think it may be so; it seems to be the tendency. We hear more said of the *principles* followed in the "authorities:" the next step is to discover that true principles are independent of the "authorities;" and then we may hear of Nature and Reason instead of Precedent, and find Art superseding Copyism."

"I shall remark this in conclusion, that there is perhaps no other Fine Art in which so much depends immediately on *study* as in Architecture. The *spirit* at which the Musician (Composer) labours—the *effect* at which the Sculptor or the Painter labours—even that which the poet elaborates in his work—is perhaps less a thing of study, than the Design which the work of the Architect might shew. Not as at present done—not in the "running up of a front," but in a true work of the Fine Art Architecture. Deeply acquired skill—in a thousand ways—careful design—down to the minutest feature—ought to appear. Else the work is a botch—a slovenly mess, unworthy of the name of real Art."

Against one great error in the book, the endeavour to disconnect architecture and construction, we cannot caution our readers too carefully. Architecture is not *appearance* merely, as the Newleafe discourses set forth, but the art and science of building according to certain rules and laws. As this is a matter of considerable moment, we shall return to it when we have more leisure and greater space at disposal.

EXPOSITION OF THE RULES FOR CALCULATING EQUILIBRATED ARCHES IN THE LINE OF A RAILWAY,

SUGGESTED BY THE NUMEROUS INSTANCES OF FAILURE WHICH HAVE LATELY BEEN RECORDED IN THE PAGES OF THE PUBLIC JOURNALS.

In our last number, page 508, we showed in what manner to calculate the modulus of the curve for the particular case proposed; it therefore only now remains to show the method of finding the several ordinates corresponding to the assumed values of the amplitudes; and for that purpose,—

Put m = the modulus of the curve, as represented by equation (A).
n = the value of the series $2 + \frac{1}{2} + \frac{1}{2\cdot3} + \frac{1}{2\cdot3\cdot4} + \frac{1}{2\cdot3\cdot4\cdot5}$ + &c. = 2·7182818;
p = the parameter or thickness at the crown of the arch, which is also the least ordinate,
x = any abscissa or amplitude, estimated on the horizontal axis, and
y = the ordinate corresponding to any value of x.

Then, by the principles of the differential calculus, the general equation which expresses the nature of the curve of equilibration, is found to be $y = \frac{p}{2}\left(n^{\frac{x}{m}} + n^{-\frac{x}{m}}\right)$, and when this equation is expressed in specific terms it becomes *ordinate* $= \frac{parameter}{2} \times$

$$\left\{2{\cdot}718282^{\frac{amp.}{mod.}} + 2{\cdot}718282^{-\frac{amp.}{mod.}}\right\} \quad \text{(B)}$$

In this equation the parameter and the modulus are constant for any particular case, the parameter being always one of the data, and the modulus being calculated from equation (A) and its rule after the manner already exemplified.

If the value of the modulus as expressed in equation (A), were substituted instead of it in equation (B), it would manifestly render the equation for the ordinate very complicated, and particularly so, as it enters in the character of an exponent; it has, therefore, been thought better to separate the modulus from the general formula, and to express its value by an independent equation, for by viewing it in this separate and detached manner, the subject is rendered comparatively simple.—The rule supplied by the above formula, when expressed in words at length, is as follows:—

Rule.—Raise or involve the constant quantity 2·718282, to such a power as is denoted by the fractional exponent $\frac{x}{m}$, or *amplitude* ÷ *modulus*; then multiply the sum of that power of the constant quantity and its reciprocal by half the parameter, and the product will be the ordinate corresponding to any assumed value of the amplitude.

The rule, as it is here expressed, is as simple as can well be desired; but since the exponent is a fractional quantity, having its numerator variable, it cannot be practised otherwise than by logarithms; this, however, creates no difficulty, for since it is only common logarithms that enter the operation, they are found at once from a table of these numbers; and, by taking the amplitude at equal intervals, the results are deduced from each other with the greatest facility.

The common logarithm of the number 2·718282, is 0·4342945; and since this is constant for every case of the equilibrated arch with a horizontal extrados, the rule becomes greatly simplified, and may be expressed as follows.

Rule.—Multiply the constant log. 0·4342945 by the amplitude or abscissa, and divide by

the modulus of the curve, the quotient will be the logarithm of a number, which being added to its reciprocal, and the sum multiplied by half the parameter, the product will be the ordinate corresponding to the assumed value of the amplitude.

Taking for illustration the second of the preceding examples, let it be proposed to determine the ordinate corresponding to an amplitude of 18 feet, the modulus being 10·57654 feet, as calculated in the example here alluded to.

Here, then, by the rule we have $0{\cdot}4342954 \times \frac{18}{10{\cdot}57654} = 0{\cdot}7391170$, which is the logarithm of 5·48425, and the reciprocal of this, is $\frac{1}{5{\cdot}48425} = 0{\cdot}18234$; therefore, by adding and multiplying by half the parameter, we get $(5{\cdot}48425 + 0{\cdot}18224) \times \frac{5}{2} = 14{\cdot}16547$ feet for the ordinate sought.

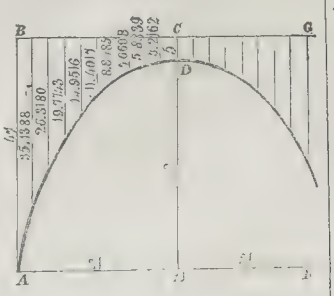
Having thus exemplified the method of calculating an individual ordinate, it now remains for us to shew how the process is to be modified in calculating a series of ordinates for the construction of an arch.

Retaining still the same example, let the semi-span be supposed to be divided into ten intervals of 3·1 feet each, beginning at a point in the horizontal roadway directly over the crown of the arch; then the several amplitudes for which the ordinates have to be calculated, estimated in order from the middle of the arch, are 3·1; 6·2; 9·3; 12·4; 15·5; 18·6; 21·7; 24·8; 27·9, and 31 feet, the ordinate corresponding to the last of these being 47 feet, as we have seen already in calculating the modulus.

Now each of the required ordinates may be calculated independently, after the manner exhibited above, by taking the amplitude corresponding to any required ordinate; but by the application of a certain expedient, the work can be greatly simplified, as the several logarithms and their arithmetical complements can be deduced from each other by the application of a common difference; and this common difference is equal to the constant quantity 0·4342945, multiplied by the common interval 3·1, and divided by the modulus 10·57654; it is therefore in the present case equal to $0{\cdot}4342945 \times 3{\cdot}1 \div 10{\cdot}57654 = {\cdot}1272924$; to this common difference add the logarithm of half the parameter, and the sum will be the first logarithm in the series; then, by adding the common difference as often as there are ordinates to be found, the whole series will thus be obtained. If the numbers corresponding to each of these logarithms and their respective arithmetical complements be added together, the sums will be the values of the corresponding ordinates. All this, however, will be more clearly perceived by the following tabular exhibition.

Common difference to be added. 0·1272924.	Common difference to be added. 9·8727076.	Numbers from the first column.	Numbers from the second column.	Sums from the third and fourth columns.
0·5252324	0·2706476	3·3514	1·8948	5·2162
0·6525248	0·1433552	4·4928	1·3911	5·8839
0·7798172	0·0160628	6·02.1	1·0377	7·0598
0·9071096	9·8887704	8·0744	0·7741	8·8485
1·0344020	9·7614780	10·8243	0·5774	11·4017
1·1616944	9·6341856	14·5109	0·4307	14·9516
1·2889868	9·5068932	19·4530	0·3213	19·7743
1·4162792	9·3796008	26·0783	0·2397	26·3180
1·5435716	9·2523084	34·9600	0·1788	35·1388

Having thus determined the several ordinates of the semi-arch, according to the assumed values of the amplitudes, it now remains to be shown in what manner they are to be applied in the actual delineation of the curve; and for this purpose, draw the straight line, AF, in any direction at pleasure to represent the span of the arch, which make equal to 62 feet, agreeably to the data. Bisect AF in E, and at the point of bisection erect the perpendicular EC, making it equal to 47 feet, which is the given vertical distance between the impost and the roadway, and through the point C draw the straight line BG, equal and parallel to AF, the span of the arch; then is BG the horizontal estrados. On BG, both ways from C, set off the several amplitudes 3·1; 6·2; 9·3, &c., according to the series, and through the several points at which these amplitudes terminate draw vertical lines originating in the roadway or estrados, BG, and set off on these lines the values in the last



column of the preceding table, beginning with 5 feet, the given thickness at the crown on the central line CE; then through the several points where these ordinates terminate, let a curve line be traced, and it will form the arch of equilibration required, or such as will just sustain itself without the re-action of other contiguous arches.

This, therefore, is the method which ought to be adopted in the construction of all railway arches having horizontal extrados; for in all such erections, unless it be in passing through towns or other crowded localities, the appearance of the arch is of no consequence, and ought to have no influence whatever in fixing the choice of form, in comparison to the paramount object of obtaining stability and strength.

The example which we have chosen is rather an extreme one, the rise being considerably greater than half the span; this case has been adopted on purpose, to shew the effect which such unusual proportions have on the appearance of the arch; but even in this extreme case, there is nothing in the configuration that might not be tolerated in constructions where ornament itself is an object of importance. T.

NOTES IN THE PROVINCES.

A new and spacious custom-house is to be erected at Southampton. A site adjoining the docks has been selected by the commissioners. To this, the inhabitants of Holy Rhood Ward have objected, as detrimental to all property at the lower end of the town. ——It is proposed to erect court houses at Dorchester on premises near the jail, at an estimated expense of 12,000*l.* reduced to 9,000*l.*, by value of materials and sale of interest in present property, estimated at 3,000*l.*——The Wesleyans are said to be erecting a school on a magnificent scale, near Taunton.——A donation of 1,000*l.* has been given by Lady Basset towards the rebuilding of the old parish church of Illogan, Cornwall, which was to be reopened at the end of the present month. ——A sum of no less than 100,000*l.* has been expended, it is said, by Lord Ward on the rebuilding and enlarging of the Level Furnaces at Brierley Hill, South Staffordshire. A railway, with locomotive engines, has been formed for the conveyance of coal and iron stone from his lordship's pits at Park Colliery to the furnaces, a length of two miles. The opening of these works will give employment to a vast number of hands at the furnaces and collieries. ——Rapid changes are in progress at Ipswich in connection with the railway, amongst which are what will constitute when finished "a continuous and splendid line of quayage and tramway from Bridge-street round to the gas dock." Houses are being razed also, for the substitution of a new street at the bottom of Friars-street; new steam-mills of white brick are in course of erection, and other works, such as walls, tram-ways, roads, &c., are in simultaneous progress. ——A beneficent but humbly-minded gentleman who will not permit his name to be announced, proposes to appropriate 10,000*l.* towards the erection of a church in Leeds with parsonage and school endowment, &c., which it is thought will cost about 20,000*l.* in all.——The Hull General Cemetery Company are advertising for tenders for works connected with their undertaking. The drains are nearly completed and other works are to be immediately commenced.——A corps of surveyors is now engaged in the trigonometrical survey on Ben Nevis in Scotland, where, according to the *Edinburgh Register*, they have a theodolite constructed by Ramsden, 3 feet in diameter, with eight microscopes, reading to tenths of seconds, and by which, with the aid of sun mirrors on distant mountain tops, it is expected that observations may be taken at a distance of 120 to 150 miles; indeed it is confidently anticipated, that Knocklayde, in Ireland, will be thus observed from Ben Nevis. So correct and elaborate is this ordnance survey, it is said, that in Ireland, where it has been completed, no new survey has been required for railway lines.——The cathedral at Glasgow was lately visited by Lord Morpeth, as Chief Commissioner of the Woods and Forests, who inspected the improvements now in progress there, and also considered the further improvements proposed by the architect, Mr. Blore.——A new water-company has been formed at Dumfermline with a capital of 10,000*l.*, for the supply of the town with abundance of pure water, the quantity at present provided being scarcely one-tenth of the quantity reported by the Parliamentary Commissioners on the Sanatory Condition of Large Towns, as being in general necessary, apart altogether from what should be provided for cleansing streets, scouring drains, extinguishing fires, &c.——A very efficient improvement Bill, to be applied for, is said to be in course of preparation at Aberdeen. Amongst the leading points to be kept in view, a local paper enumerates perfect drainage, regular cleansing of all squares, streets, lanes, closes and courts, an ample supply of water, stringent regulations as to scavenger work, powers for even enforcing some degree of internal cleanliness in dwellings, thorough ventilation, by new thoroughfares, proper width of streets, and plans and alterations of houses, mercantile facilities, exterior adornment, &c., and it is intended to place the gas, provision markets, sewers and their produce, abbatoir and cattle market, along with water, under the management of a public board.——The Irish Board of Works lately issued advertisements, calling for contracts to be sent in by the 30th instant, for supplying some 60,000 or 70,000 wheelbarrows, immense quantities of clay-picks, quarry-picks, and other implements for road labour. The mere manufacture of these articles will no doubt give immense employment; but the importance of the advertisement is in the assumption that the implements are to be supplied gratuitously to the labourers, and that they are to be instructed in a higher class of work than mere digging and shovelling. The Board of Works has now 20,000 men employed.

FREEMASONS OF THE CHURCH.

At a meeting held on the 13th inst., Miss M. Mackenzie, of Winchester, presented a fine specimen of the Acanthus plant, and promised to furnish the college in the proper season, with such flowers and foliage as is known to have been used in architectural decoration.

The Earl of Harrington exhibited five Raphael dishes, rich in design and colour.

Mr. J. W. Archer, exhibited a monumental brass which he had designed and executed. It contained the effigy of a lady standing in meditation at a cross. It was an attempt to effect two original objects, viz., in the first place, the design is produced in relief upon a sunken ground, which saves the necessity for the metal being cut according to the shape of the figures represented upon it; and again, the ordinary method of cutting in stone an exact type of the brass for the purpose of inlaying it, is likewise spared, whereby the monument is preserved entirely in one piece and a considerable moderation of expense is obtained. In the second place, the alloy of tin being extracted from that portion of the metal which constitutes the sunken ground, the effect of two different metals—brass upon copper is produced. The above method of obtaining the effect of relief in metal, is capable of being carried out with great boldness, and the design can be raised upon a depth of half an inch or more if desirable.

Mr. William Cave Thomas then delivered an introductory lecture on "Fresco Painting," which treated of the philosophy of the art and of painting in general.

PENITENTIARIES IN ANCIENT CHURCHES.

SIR,—As considerable attention has lately been bestowed upon the subject of confessionals, and more particularly with respect to that class brought under notice in the volume containing the curious collection of letters relating to the suppression of monasteries, published by the Camden Society, page 49, I venture to intrude on your space with a few remarks, which are not put forward in open contradiction of what has been already advanced, but with deference to other opinions, and the authority by which they are maintained.

Having myself given some attention to this interesting inquiry, I shall perhaps be excused for not readily assenting to the notions generally prevalent on the subject, and more especially to the supposition that the "low-side window" in the chancels of many of our parish churches, is to be regarded as the place for the hearing of "*outward* confession."

Bedyll's recommendation, that the said place should be *walled up, and that use be fordoen for ever*, was made with respect to the church of a religious community, served by friars, to which the public was, by privilege, admitted, and to which resort was more frequent at certain seasons or great festivals, but it is not to be supposed that the same regulation pertained to churches exclusively parochial.

In the early Christian churches, a portion at the *west end* was expressly set apart for penitents, and it is reasonable to suppose that a similar arrangement should occasionally, be retained in the structures of more recent times, and that existing examples would not be sought in vain.

It is singular that, although the feature is not of unfrequent occurrence, it is one which has never yet been considered in reference to this question. I allude to the chamber occasionally found at the west end of ancient churches, which appears to me to bear more directly upon the subject under review than do the arguments referred to.

To illustrate my views, I will notice an example still remaining at Walpole St. Andrews, in Norfolk, which, from the first, I have regarded as a penitentiary of the kind described. It occupies the space between the door of the tower at the west end, and the angle-buttress towards the south, the thickness of which was reduced in the original construction of the building, in order to gain the required width; the remainder forms the side wall, and is pierced with a small window of two compartments, sufficiently large to enable a person to look into the gloomy interior, which, being quite external to the church, was admirably suited for the reception of penitents. The interior, which measures 4 feet 9 inches square, is partly formed in the thickness of the wall of the tower, from the face of which the projection is full three feet and a half, with a doorway in front; but this having been walled up, the recess is inaccessible. Its only internal ornament is a canopied niche, of handsome design on the east side.

In the church at Lower Halling, Kent, is a small apartment, which is walled off from the west end of the north aisle, with which it communicates by an ancient door-way. It is lighted by a diminutive Edwardian window, quite low down in the north wall. There is a bracket on the western side, but the wall adjoining is of very irregular work, and has been rebuilt, so as to obliterate the ancient design.

An example at Boyton, in Wiltshire, bears a close resemblance to the one just named; and in this, as in almost every other instance, its situation is contiguous to the principal entrance, which, at Boyton, is on the north side, by a spacious porch, forming the basement of the tower. The little room referred to occupies the angle formed by the porch and the western extremity of the nave, and has low walls, with a steep pent roof. Two very small apertures, one on each side, afforded light to the interior; but these have been closely walled up.

At the west end of the south aisle of Burwell Church, Cambridgeshire, is an appendage of very similar character: it was anciently approached from the aisle, but has evidently been long abused and neglected, the original entrance being blocked up. It is lighted by narrow oop-windows on the west and south aspects, which latter has been defaced by the recent formation of a common door, inserted upon its perversion to the use of an engine-house.

These illustrations of such an arrangement were well adapted for the purpose to which they are here assigned, the penitents remaining in the porch until they could gain access to the confessor, who attended in the adjacent penitentiary.

In churches of more grand dimensions and stately architecture, these places occupy the same position at the west end, sometimes forming a magnificent portico extending the full breadth of the buildings, but capable of being parted off, and entirely inclosed by means of doors; and instances might be adduced in which these side portions have rooms over the one designed for the especial purpose referred to, having the approach to the upper chamber within the penitent's porch, the other, probably intended for the use of the sacrist, having its door opening to the aisle. Not, however, on the present occasion to dwell upon the nobler examples, I will observe in respect of those attached to churches of less pretension, that an inclosed and covered space was provided for the sacred tribunal, while on the other hand, the majority of writers seem to regard "*outward* confession" as signifying *out-door* confession!

Although many may doubt the accuracy of the belief that such places as these, far removed from the chancel, were referred to by the visitors of religious houses under Henry VIII., not so many will be found to deny its *likelihood*, especially of those who are most deeply versed in the practices and ordinances of antiquity.

Such ridiculous ideas have gained circulation with respect to confessionals, that it is scarcely safe to incur the risk of adding to the number, but I could not withold the submission of the foregoing remarks to the consideration of your antiquarian readers.—Yours, &c.,

B.

THE NEW COLLEGE IN CANTERBURY.

A HASTY run through the ancient city of Canterbury last week, enabled us to see that the new college, on the site of the Monastery of St. Augustine, to which we have already referred on several occasions, is making progress; in fact, it will be finished to a certain extent by Easter. Mr. Hope, it will be remembered, purchased the site for the purpose, and is, we believe, the chief if not sole promoter of the undertaking. Adjoining the ancient gate (a beautiful specimen of ancient art), four small houses have been removed to obtain a frontage for the chapel, the exterior of which is partly of flint work, partly random walling, with Caen stone dressings. A long range of dormitories, at least 250 feet in length, is nearly completed. It presents externally an unbroken line of flint walling and tiled roof, with a series of windows at equal distances, without much pretence to architectural effect. A library of considerable size is going up, the materials of which are Kentish rag and Caen stone. The restoration of the old gateway is not yet commenced. The manner in which the new buildings are connected with it, is not altogether satisfactory in appearance at present. A trefoil panel, on the top of the coping of the former, is too large and coarse for the details of the gateway, and these suffer in consequence. There appears to be no master builder engaged: the committee employ their own men, and have at this time eighty-two engaged there. Mr. Butterfield is the architect.

If we have a reader who has not seen Canterbury, we advise him to seek an early opportunity to pay it a visit. It belongs to History, and is full of interest. Don't omit to see St. Martin's Church on the Hill, and the old hospital in the town. The cathedral will afford you much delight and many a lesson. By the way, it is to be hoped that careful drawings have been made of the south porch and other parts of the exterior, and that no long time will be suffered to elapse before the restoration of the former, at all events, be attempted: its present state is greatly to be deplored.

CARVED PULPIT.—The proprietors of the wood-carving patent have just completed a pulpit for the City Board of Works, intended for the chapel of Emanuel Hospital.

IMPROVEMENT OF THE PARKS.

SIR,—Through your valuable journal I wish to submit to the consideration of the Viscount Morpeth a few alterations, which would contribute to the benefit of the public in Hyde-park.

1. I would suggest that two alcoves, open all round, except the roof, be placed midway between Oxford-street Gate and the head of the Serpentine, for the purpose of protecting the passengers in stormy weather, and securing their persons from aggression, by permitting the stationing of a policeman between sunset and nightfall. To make the spot more conspicuous, a gas-light should be affixed there. If the alcoves would be an impediment for the troops on field-days, they might easily be removed by placing them on low trucks of wheels.

2. To continue the railing of the lake of Kensington-gardens to the bridge; which would conduce to the safety of passengers during the winter or foggy season.

3. To lay down a stone or brick crossing, on that part of the road between Kensington-garden lodge and the field part of the park.

4. A spacious shade should be erected at the solitary tree that stands in the road used by horsemen, for shelter there in stormy weather.

5. That a watering-place would be highly desirable, if erected at the gable-end of the cavalry officers' stables, for the accommodation of equestrians and others.

6. That the iron hand-balustrade, which has been removed from the stone steps near the Duke of York's Column, be affixed in the centre, so as to divide the steps. This hand-rail would be a great accommodation to invalids and members of the clubs adjoining; also to members of Parliament proceeding to the House of Commons. It would also serve to divide the crowd who assemble in St. James's-park on a gaiety, enabling them to ascend on one side and descend by the other. It is not unfrequent for individuals to lose their equilibrium.

Should the Viscount Morpeth be pleased to consider favourably the foregoing propositions, either as a whole or a part, his lordship would thereby confer a great boon on the public, but more particularly on those who are obliged to cross the park daily. AN OBSERVER.

THE IONIC ORDER USED AT THE TAYLOR INSTITUTE, OXFORD.

THE TEMPLE OF APOLLO EPICURIUS, NEAR PHIGALIA.

IN accordance with our pledge last week,* we have engraved the details of the order employed at the Taylor Institute, together with the other parts, on a scale so large as to shew clearly all their peculiarities. The form of capital, and the decoration of the entablature, will in particular excite observation. Our engravings shew the eastern angle of the building, with one of the detached columns on the St. Giles's front, The height of the column is 27 feet 8 inches, and the diameter appears to be 3 feet 3 inches.

The Temple of Apollo Epicurius, at Bassæ, was unknown till Mr. Cockerell, in conjunction with the profound Haller, explored it. In consequence of their visit, it was excavated in 1812, and the dimensions found to be 125 feet by 47 feet. Externally it was of the Doric order, having six columns in the front and fifteen on the sides; 3 feet 7 inches in diameter, and 19 feet 6 inches high.

Around the interior of the cella was a series of attached columns of the order Mr. Cockerell has adopted at the Taylor Institute, over which, on the four sides of the cella, ranged a sculptured frieze.† This was sent to England, and was purchased for the British Museum at the cost of 15,000*l.*

The roof was of marble. Mr. Donaldson, who has ably illustrated this temple in the supplemental volume to "Stuart's Athens," expresses his opinion that the date of the interior of the temple may be less remote than that of the exterior, as the Ionic capitals in question are less severe than would be found in the age of Pericles, to which the latter unquestionably belongs.‡

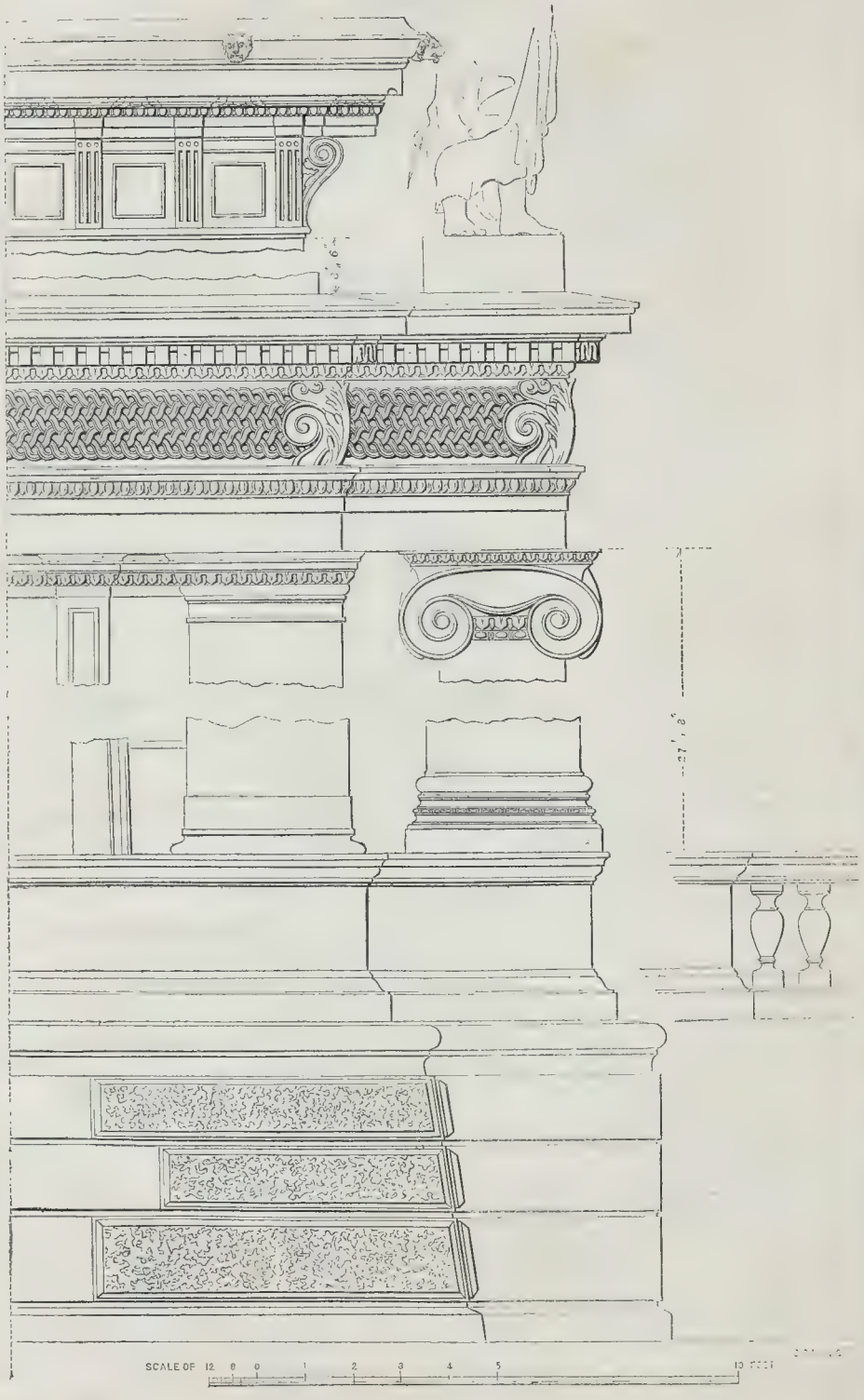
* See page 505, *ante*.

† There was also one insulated column of the Corinthian order, the occurrence of which has given rise to much discussion.

‡ In the Greek example the columns are fluted.

UNIVERSITY GALLERIES AND TAYLOR INSTITUTE, OXFORD.

DETAILS OF FRONT.



ANCIENT IRONWORK AT MALINES.

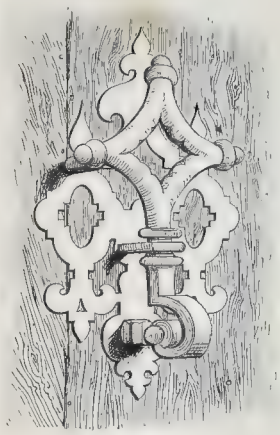


Fig. 1.

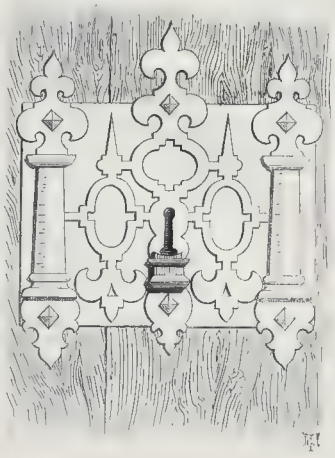


Fig. 2.



Fig. 3.

Apollo Epicurius,* may be classed amongst the most important architectural antiquities of Greece "from the ascertained era of its design, the character of its style of art, the beauty of its ornaments, and the extent of its preservation." Phigalia, near the site of which it occurs, was situated at the south-western angle of the province of Arcadia, and was built (according to Pausanias) by Phygalus, son of Lycaon, and grandson of Pelasgus.

Ictinus was the architect of the Temple; he died 429 years B.C.

We cannot find room for more than the following, from amongst the remarks on the building with which correspondents have favoured us. It is necessary to remember, that, to criticise a building fairly, it should itself be seen.

Sir,—The elevation of the Taylor Institute, given in your last number, makes evident how highly requisite it is that architects themselves should put forth authentic designs of their own buildings for our information as to what they really are. Professor Cockerell's had certainly been strangely misrepresented in many respects; yet, though it turns out very much better than the idea conveyed of it by other "portraits," there is a good deal that is exceptionable in it. To say nothing of the portico, which is exceedingly meagre as to intercolumniation, and should either have been hexastyle, or carried up higher, by the order being enlarged and made equal to the extreme height of the wings,—the plan shews one extraordinary fault in composition, the flanks of the wings, towards the front court, presenting elevations from which a compartment (that to the north of the centre one with attached columns) has been cut off by inserting the middle building between the wings after the latter had been erected. At any rate, such is the appearance, and the defect is a perfectly gratuitous one, there being nothing whatever to hinder those elevations being quite symmetrical. Possibly, the architect had what was to himself a very sufficient reason for such a singular anomaly in design; therefore, many others besides myself would, doubtless, be very glad to know what it is. I hope you will not withhold from us a section, or rather sections, of the building; or if you have them not to give, at any rate let us have some more full and explicit description of the whole interior. At present, it is puzzling to make out from the plan how the ground-floor of the centre gallery is lighted, nor is that the only mysterious part. Budownik.

* The name of Epicurius (Driver away of Evil), was applied to Apollo, for having driven from the Athenians a pestilential disease.

ANCIENT IRON-WORK AT MALINES.

The old town of Malines, or Mechlin, so interesting to the painter for the "Crucifixion," by Vandyck, the "Miraculous Draught of Fishes," and many other fine pictures by Rubens, is as much so to the architect for its cathedral, churches, and old picturesque houses, with their high-pitched roofs and quaint gables, to which we have already adverted on more than one occasion.

Many of these houses were erected by the Spaniards, when they had possession of the country in the 16th century, and are peculiar in character; we illustrated one of them a few weeks ago.* We now give some examples of iron-work from the same place. Figures 1 and 2, from drawings by Mr. Truefitt, represent the knocker and lock of an old Spanish house; they display considerable fancy.

Fig. 3 shews the gates to the court-yard of another house in the town, apparently of earlier date.

A strong iron railing of excellent character

* See p. 450, *ante*.

surrounds the market place, and the immense, but light clock face still retains its position on the lofty tower of the cathedral.

Relative to ancient ironwork we are informed that the well known beautiful inclosure of the cathedral well, at Antwerp, has entirely disappeared! Whether or not it may be elsewhere preserved safely, our informant is not aware; we hope this may be the case.

HOUGHTON HOUSE, BEDS.

Sir,—I am gratified that Mr. Smith has made extensive use of my "Illustrations of Bedfordshire,"* with some tasteful additions. I should be glad, with your permission, to add some brief remarks.

The "print," or "restoration," alluded to, in that work, was not only taken from the "elevations," lent to me by Lord Holland, but from careful comparison, in detail, with the ruins, by Mr. Stratfold, an able draughtsman at Woburn. These elevations are probably still at Ampthill House, now the property of the Duke of Bedford.

I am bold to say that, of its particular style and age, this was the handsomest domestic edifice in England. Audley-End, a little later, perhaps the next, but inferior. Of Wilton I have no knowledge; whilst Penshurst, the other Sidney residence, however romantic, is perfectly different in architectural unity, and Hatfield not equal in gracefulness. Besides the moral evidences of its being Inigo Jones's, there was no known architect in that spring of Italian architecture capable of producing so much elegance.

A principal feature was seen in the corner towers,—spire-roofed, exactly like those of old Montague House, now disappearing; but much more lofty, shapely, and slender. The columns are nearly as fresh as at Whitehall.

The dismantling caused some surprise at the time, as it was the birth-place of the late excellent Duke of Bedford, who, besides much liberality of disposition, had some tenderness of local feeling. There were probably reasons not apparent. As a "ruin," it is the "great" (or rather only) "card" of the county, but not so well known as might be to strangers; and in itself what Dr. Johnson would have considered worthy a visit from London. Some of the removed materials were used in the erection of the Swan Inn, Bedford, one of the handsomest county ones in England.

It is not certain that the whole or part of the celebrated "Arcadia" was not written here; but probability is on the side of Penshurst.

I am glad Mr. Smith has no objection to my "discovery" of the *Carita* convent resemblance.

Of the Countess of Pembroke's works, the best account is found, where it might be least expected, in Baker's "Biographia Dramatica." There is a copy of the "Tragedie of Antonie" in the British Museum. It is partly "lyrical," and has some poetical lines, combined with quaintness. The following quatrain is not inaffective:—

> "But no one thing the gods can less abide
> In deeds of men than arrogance and pride,
> And still the proud, which too much takes in hand,
> Shall foulest fall where best he thinks to stand."

Few need be told of a noble descendant of the Countess's in the north.

The writer hopes to be pardoned for a concluding observation.—Whilst a "History of Bedfordshire" has been desired for about half a century,—with the exception of some little "guides" to the county town, since the labours of *Lysons* and the kind-hearted surviving patriarch (though not senile) *Britton*,—he has been the only one who has done any thing towards it. Having, besides the above work, and some articles in the honoured columns of "Sylvanus Urban," twice written a "History of Woburn," &c., and its neighbourhood discursively,—these circumstances might be expected to cause sympathy, and a wish for kind service, under some particular

> "Slings and arrows of outrageous fortune."

—wrapped in great mishaps in life, as known to some of your readers.—I am, Sir, &c.

J. D. Parry.

London, Oct. 17, 1846.

* A thin 4to; pp. 120, six plates; 1827.

ST. JOHN'S GATE, CLERKENWELL.

We are glad to learn, that considerable progress is being made in the restoration of this interesting relic of ancient London; the north front is mainly finished, and the south front will be commenced next week. Lord Northampton has recently subscribed 5*l.*, the Common Council of London, 10*l.*, and the Archæological Institute, 2*l.* 2*s.* Much credit is due to Mr. Griffith for the energy with which he has urged the claims of the structure.*

AUSTRIAN DRAWING SCHOOLS.

The idea of generally educating the *people*, on the continent, belongs to Austria, and was achieved under Maria Theresa and Joseph II. in 1784, since which time no improvement of any kind has been added thereto. But we have chiefly to speak of *drawing schools*. As it has been now put forth here from the highest authority, that *every child* ought to learn to draw, it may be interesting to know, that this facility is afforded them in Austria. In every little township or large village, is, at least, one, what is called Normal school (*Normal Schule*), in larger towns one in each district. It takes the child—boy—from the very *primer*, and in three or four years, if talents and application be adequate, gives him the whole complex of a plain education for the general purposes of civic life. In the fourth year of the course, and therefore between the age of ten to fifteen, he learns to draw; and how fond are children at this age of drawing! In every Normal school is one spacious room set apart for drawing purposes, whose walls are ornamented with framed and glazed sketches of the architectural order, scrolls and mouldings, and Acantha and finials; the human body, flowers and landscape, elevations of buildings, ground plans of buildings, as well as estates and parks, &c. Whether the child who frequents this *state establishment* (all schools are so in Austria) be destined merely for the humbler walks of life, or for the legal, medical, or clerical profession, he cannot avoid to see these things constantly before his eyes; and if he feels the inclination, this tuition also is afforded at a mere nominal price (about 6*d.* per *month*), the poor to go free. For the future barrister, therefore, drawing is *not* compulsory; still, most children are fond of it, and acquire it as a matter of amusement. But for many other branches it is compulsory; for all, namely, who wish, subsequently, to frequent the Real schools or polytechnic schools (*Real Schulen*, &c.). Not to speak of architects, engineers, &c., there is hardly a reputable smith or carpenter who has not his son thus instructed. He can do it, as we said, in every large village at a nominal cost.

The next question is, where such a number of drawing masters as are required are to come from? *Create any demand, and you have created the supply!* These teachers are poured forth from the art academies of Milan, Vienna, Prague, &c.—and, as even every provincial town has its *structural* authorities (*Bau-behörde*), there are plenty of minor clerks and draughtsmen, who fill up both situations. Prizes, in the shape of books, &c., are awarded in all Austrian schools and gymnasia, and, therefore, also in those for drawing. The next in the system of *technical* education, are the *Real Schulen*, which exist in every chief town of the empire. There architecture, engineering, surveying, the rudiments of natural history, book-keeping—and, of course, the higher branches of technical drawing are taught. These schools form the minor *employés* in the roads and bridges *public* departments, in that of land and hydraulic buildings, the mines and the railway branches; they, besides, afford corresponding instruction for the manufacturers and tradesmen. All these technical establishments are headed by the polytechnic institutions—at Vienna, Prague, Gratz, &c., the latter an astounding work, undertaken by the exertions of Prince John of Austria, and the grants of the legislative chambers of Styria.—The art-branch in fine, into these normal drawing schools expand, are the academies of fine arts, of which there is also one in each of the provincial capitals. The *system* seems good: it takes up the peasant boy in his native village, and thence it leads him, step by step, to the higher and highest branches of either technical drawing or art. If this main system of 1784 should ever receive its time-adapted development, superior results and men would spring up. Still, even the spreading of an average instruction in an art, ennobling and useful like that of drawing, is not to be under-rated.

J. L.

* Mr. Griffith advertises a new work, under the title, "Ancient Gothic Churches, their proportions and chromatics." According to the prospectus, the main object of the work is "to lay before the public a geometrical analysis of gothic churches, laid down from actual admeasurement."

WESTMINSTER COMMISSION OF SEWERS.

A meeting of the court was held on the 23rd inst., Captain Bague, R.N. in the chair, "To consider, and, if it be deemed expedient, to rescind the resolution of the court on the 7th August last, on the subject of the actions Donaldson *v.* Smith, and Donaldson *v.* Bird; and to determine whether, in the event of Mr. Smith moving for a new trial in the action brought against him, this court will not move for a new trial in the action Donaldson *v.* Bird."

The following letter from Mr. Garrard, Mr. Bird's solicitor, was read:—

"Being informed that it is not the intention of the commissioners to move for a new trial, in the cause in which the verdict passed against them, I beg to state officially for their information, that I am authorized to adopt the same course in the cause in which the verdict passed against my client. This will obviate any discussion at the special court on Friday next."

On which it was resolved that no further steps be taken by the court.

The surveyor brought up a report on the breaches in Brook-street, in Grosvenor-square, and in North Audley-street; and as to the general state of the drainage in the neighbourhood of Grosvenor-square.

In accordance with the report, on the motion of Mr. Gunter, it was resolved that 4,000 feet of sewer, from the King's Scholars' Pond Sewer, along Brook-street, north side of Grosvenor-square, from South Audley-street along the west side of Grosvenor-square, and North Audley-street to North-row, Duke-street, Brown-street, and George-street be constructed.

In the course of the discussion on this subject, the singular fact was stated, that when "Dame Grosvenor," in 1726, obtained leave to build the sewer for 102 acres of land, part of which is now about to be displaced, the sum of 204*l.* was paid by her to the court for the permission.

On the application of Mr. Edward Blore, leave was granted "to construct a 2 feet 9-inch barrel brain, in connection with the existing drains of Buckingham Palace, for the purpose of relieving three drains from a superfluity of water, and conveying such superfluity directly into the pond in St. James's-park."

TRAPS FOR HOUSE DRAINS.

Sir,—In a recent number, page 463, you shew a proposed new formation of drain and trap, in the arrangement of which I think some important results have been entirely overlooked, and that the trap, therefore, will not, I fear, succeed in the only two circumstances for which a trap is required, viz.: to keep out vermin and smell. As to vermin, the fact is well known that rats will dive under water where the line of obstruction is, as in this instance, sloping, so as to give them foothold or an expectation of rising above the water on the other side; on this account not only should the check be abrupt, like the dipstone of the common cesspool, but that stone should dip more than it is usually made to do: I make mine to dip from 4 to 6 inches. But a no less important consideration is, that by this trap all house drains will be what is called *double trapped;* and as every rush of water along them, will infallibly drive out of the drains the larger portion of the air which that body of water displaces (assuming the remaining portion to be compressed), and as, after the water has run off, or rather, as, in order to permit it to run off, its place must be again supplied by air, to come from some quarter, the inevitable consequence will be, that the water will thus be sucked out of some, or all, of the upper traps, which will then cease to keep out the smell—

and so the very object sought to be gained will be most assuredly defeated. This consequence is well known to plumbers, when two water-closets run into the same soil-pipe—or even with only one, if the soil-pipe be trapped at the bottom as it is in the best work; to prevent which good workmen put into the top of the soil pipe an air-pipe expressly to give that which your trap so labours to keep out. But your trap, even without this evil, would not keep smell out of the house, from the alternate egress and regress of water, causing, as I have shewn, constant currents of air, which in a drain from water-closets and sinks must be foul. The smell, if there be any vent for it into the house, must be equally offensive as if entirely open to the sewer, as is well known in the case of a defective soil-pipe, even if trapped at both ends. The real way to keep out all smell from drains, assuming them of the common description, is to build them very sound, with good bricks, good mortar, every joint well flushed with mortar, the bottom half included, which is too often laid dry, and the bottom half cemented on the inside, and the top half on the outside, sufficiently below ground to have a good covering of it, and a good fall; and all openings to be well trapped, and all soil and other pipes well let in with P traps or taits, built solid in brickwork; one of these latter are always put by me, though usually neglected, and thus the most usual cause of smell. The top of the drain, and the trap to be brick or stone, or equal (not wood, as formerly). The trap to be little, or no larger, than the drain, and to have half circular bottom from inlet to outlet. This is my plan, and I have never known such drains to fail of their object when the outlet or sewer has been of due depth. From these observations it will of course appear, I am not an advocate for leaving the joints of the drain open, that it may draw off the moisture from the foundations. This ought to be prevented or got rid of by other means. Still, keeping the drains below the foundations of the walls will have a beneficial effect, and where practicable it should be done. From the difficulty of securing lead (a soft and malleable substance) to brickwork, so as to make a good joint, and from the injury lead-soil pipes often receive from rough usage in the basement story, I usually make the lower lengths of my soil-pipes of cast iron, half an inch larger in bore than the upper lead pipe, and with a quarter bend tafted pipe, or iron P trap, at bottom, the joint between lead and iron being carefully made by flanges.—I am, Sir, &c.

AN OLD SUBSCRIBER.

There is one other plan to which I have not before referred, because I assumed it would be at variance with the very principle of the new drain; it is to let the rain-water pipes run into the drains, and thus form air pipes; but then the joints must not be loose and unconnected, or the smell will escape at these, and pervade the areas, and get in at the windows, equally as if the drain-stones in those parts, were the common five or nine hole sink-stones instead of air-traps. I allude to this only to shew it has not been overlooked by me.

CONTINUED STIR IN THE SCHOOL OF DESIGN

LONG ago, the opinion of THE BUILDER was pronounced against the inefficiency of the School of Design, as at present in operation at Somerset House. This opinion was corroborated by facts illustrating the effects of the system both in London and the provincial schools. Mr. Dyce, Mr. Herbert, Mr. Zephaniah Bell, and Mr. Wallis, all able officers, retire, or are dismissed. At the recent exhibition we noticed the absolute absence of *design*—the want of any signs that it was even taught in principle—and now we are not surprized to find that a deep conviction of the present erroneous arrangements of the School, has drawn forth memorials to the council from two of the head masters.

The three head masters of the evening school are now known to be strongly opposed to the system, which gives such meagre instruction to the pupil; a system which truly appears to be of little practical utility. The memorials, printed and otherwise, are before us, but as the council are still, we believe, in deliberation upon them, we refrain from quoting them at present.

RAILWAY JOTTINGS.

IN the Wash, on the Ely and Peterborough line, hundreds of loads of timber have entirely disappeared, as if they had floated away under the surface, so that there is no prospect of the opening of this line at present.——The works on the Wymondham and Dereham railway will be completed in less than a month. The great gullet at Hardingham, one of the heaviest works of the sort in that quarter, is nearly completed, leaving quite a hill of marl thrown up on one side of it for about a mile in length. About 500 men have been employed during the summer in this excavation. All the bridges are in a forward state, though only three are finished. The arch of one, being too flat, fell down about a month ago. Very large culverts, or arched viaducts, have been constructed between the heavy embankments, and streams diverted through them. The stations are all in course of erection. Near Dereham the work in general is only begun.——The London and North Western newly amalgamated line have already not only instituted a very reduced scale of charges, both for goods and passengers, but increased their income, in 15 weeks, thereby, to the amount of 46,478*l.*, from which, to be sure, the additional working expenses must be deducted; but the result of the experiment is, as we have frequently anticipated in such circumstances, not only the conferring of a great benefit on the public, but the securing of a decided increase of profit to themselves. The company, it is said, have also determined to become their own carriers, whereby it is expected they will increase their profits still further, to the extent of at least 50,000*l.* to 60,000*l.* a year, So good an example will surely be now followed up by the like reduction of charges on other lines. A writer in the *Edinburgh Review* animadverts on the discouragement of third-class passengers on our English lines, giving the following proportions of railway passengers out of every hundred, in England and Belgium:—

	British.	Belgian.
1st Class passengers, . . .	16½	10
2nd Class ditto.....	43½	30
3rd Class ditto.....	40	60
	100	100

The revenue on British lines, he adds, exhibits the same deficiency from third-class passengers as compared with foreign railways:—

	British. £ s.	Belgian. £.
1st Class (out of every 100*l.*)..	40 14 ..	20
2nd Class ditto.....	42 16 ..	33
3rd Class ditto.....	16 10 ..	47
	£100 0	£100

So that in England the passenger traffic is mainly drawn from first and second class passengers; in Belgium from second and third, but chiefly from third. The writer attributes this to four principal causes: first, high fares; second, carriages uncomfortable and unsafe; third, inconvenient hours; fourth, slow speed. ——The river Ouse, at Selby, is to be crossed by the electric telegraph from the Hull centre in rather a novel way, so as to allow the largest vessel trading there to pass below the wires without injury from their masts. Two large masts, nautically rigged with patent wire rigging, cross trees, caps, &c., are to be erected with top-masts, reaching a height of no less than 140 feet, from summit to summit of which 12 telegraphic wires will cross the river under the protection of suitable conductors for lightning. The whole apparatus has been made at Hull, under the superintendence of the contractor, Mr. J. Aughton; and the telegraph will be completed in two or three weeks from Hull to Milford Junction, which will place that port in communication with York, Scarborough, Newcastle, and the ports of Durham northward, and with Leeds on the west; and also in a few more weeks with Liverpool, westward, and Wakefield, Barnsley, Sheffield, Rotherham, Derby, and London, south; and with Birmingham and other south-western towns. The telegraph is also in course of erection on the Burlington line, and will be opened throughout in a month or two.——The bridge now in course of erection over the Wansbeck, on the Newcastle and Berwick line of railway will be 130 feet in height, or two feet higher than the high level bridge over the Tyne.——The secretary of the North British line, in a communication to the *Morning Herald*, on the subject of the damage lately done to a portion of the works by floods, incidentally states, that there are 158 bridges on this line, of which five were the number partially or wholly destroyed; the original cost of these being under 5,000*l.*

KENSINGTON WORKHOUSE COMPETITION.

SIR,—You have no occasion to make any further inquiries into the matter, the fact as stated in your paper of the 17th inst., being notoriously correct. When the selected plans were sent to the Poor Law Commissioners, they at once informed the guardians, that the cost of carrying them out instead of 9,000*l.*, would be nearer 18,000*l.*; they even shewed, if I remember rightly, that the brickwork alone would exceed the stipulated amount. An opportunity was given to the competitor to prove the truth of his own estimate, and this being out of the question, the plans were withdrawn. All this and something MORE, which would amuse Professor Hosking and those who are probing the *secret* history of competitions, has been already publicly stated in the parish. I send you my name. I am bound to say that the public and the profession are indebted to the guardians for the proper course they have pursued, and to you, for a uniform endeavour to promote fairness in competitions.

I am, Sir, &c.,

AN OLD VESTRYMAN.

*** We are always anxious to avoid personalities, and find no pleasure in giving pain; but it is not vulgar abuse that will deter us from the exposure of injurious customs or disingenuous dealings. The practice of submitting to committees plans, which cannot be carried out for much more than the stipulated sum, is a species of dishonesty so injurious, and of such constant occurrence, that examples of it which may reach us, whether in the high or the low, neighbour or foe, shall be unflinchingly exposed, without fear of consequences. We are quite able to defend ourselves, and offer a friendly caution to those who need it, not to mistake our usual good nature for want of teeth. So, also, will we give hearty praise to committees who, as in this case, shew a proper appreciation of the responsibility of their position, and refuse to commit injustice. To those competitors and others who have addressed us on the subject of the plans about to be carried out, we can only say, that as estimates publicly advertised for, are about to be delivered for executing them, it would be wrong at this moment to insert their letters.

WINE CELLARS.

SIR,—I have had occasion, in search of a residence, to inspect a goodly number of recently built houses, and to my great surprise have found that the wine-cellars are generally placed so as to spoil any wine that may be deposited in them. Instead of being placed so as to insure a regular and somewhat warm temperature throughout the year, the coldest part of the houses seems to be set apart for wine. On expressing my objection to a builder, and a very intelligent one, he seemed quite astonished, having an opinion that the cellar was *a nice cool place*. Now any one who knows any thing about wines, knows that a temperature never below 55 degrees is essential to their preservation and improvement. The best vaults in the docks are those which preserve this temperature throughout the year. Some wines are dispatched to the East and West Indies for improvement under higher temperature, but carefully guarded against a lower than above stated. The knowledge of this fact may be useful to many of your readers, and will perhaps lead to a better arrangement generally of those useful portions of the houses now building. May I suggest, that, as the cellars are usually on the same floor as the kitchens, they should be placed so as to admit of a ready communication with the boiler of the kitchen-range, by means of a small pipe, so that by the circulation of hot water night and day, the needful temperature might not only be secured, but increased to any amount that might be desired for special wines. This advantage might be obtained at a very trifling cost, if the wine-cellar were contiguous to the kitchen range.

PROCEEDINGS AGAINST THE DISTRICT SURVEYOR OF LEWISHAM.

At the quarter sessions for west Kent, on the 20th instant, a complaint was preferred against Mr. C. R. Badger, the district surveyor of Lewisham, by a number of the inhabitants.

The complainants charged Mr. Badger, first, generally with an overbearing, litigious, and exorbitant line of conduct, and particularly with, first, a non-compliance with a certain section of the Act, which requires that he shall have an office in a central part of the district, where he or some person on his behalf shall attend daily from the hours of ten to four, such office to be approved by the justices in sessions, and that a book of returns of all works surveyed, and fees received, be kept at all times open to the inspection of the inhabitants of the district on payment of a fee of one shilling; 2nd, With having acted in the double capacity of an architect on his own account, and of a district surveyor in his public capacity; 3rd, With having demanded and wilfully received fees in cases where none could be legally demanded, and also with exacting higher fees than those prescribed; and 4th, With refusing on demand, to return certain fees decided by the official referees to have been received wrongfully.

Nine witnesses were examined in support of the complaints.

In defence, counsel urged that his client was the subject of undeserved persecution, and called Mr. Badger himself to disprove the various charges.

The justices retired at six o'clock, the case having occupied the whole day; and in about half an hour the chairman returned, and said that the decision of his brother magistrates was, that Mr. Badger had, on many occasions, violated the provisions of the Act of Parliament under which he was appointed, and that, as a punishment, they condemned him to pay 30*l*.

THE PROPOSED CITY IMPROVEMENTS.

The report of the Improvement Committee, read on Thursday week, and at once adopted, in the face of an amendment for time to consult the constituency, recommends that the vote of 20,000*l*. per annum, by the corporation, for some grand series of improvements in the city, —or rather, that a sum of 530,000*l*., to be obtained, partly at present, on the credit of that vote, —be applied in carrying out, in the first instance, as the most desirable, a line "commencing from Cannon-street (King William-street) to the south side of St. Paul's Churchyard, including the proposed widening of Queen-street, from the south side of St. Thomas Apostle to Upper Thames-street, as affording immediate relief to the present crowded state of the metropolis, and the expense of which is estimated by the clerk of the works at 530,000*l*., after deducting the value of the building frontages;" the cost to be discharged out of the corporation vote in 20 or 30 years; but the operations to be at present confined to the opening from Cannon-street to Queen-street, and from Queen-street from St. Thomas Apostle to Thames-street, for which an estimated sum of 250,000*l*., or thereby, would be requisite. The mover of the amendment, Mr. Norris, expressed his apprehension "that the plan would cost probably upwards of a million, and be nothing better than a deformity after all. The line," he observed, "would be interfered with, and the portion proposed to be at once carried out would be quite useless and absurd;" but what was most desirable, in the mean time, at all events, was a little time for consideration; even those who were to vote on the report, as observed by Mr. Prendergast, "had no opportunity of seeing or being informed of the merits of the plan recommended." Mr. R. L. Jones, in urging the immediate adoption of the report, on the ground therein stated, namely, that "in consequence of the standing orders of Parliament with respect to private bills having been materially altered, it is requisite that any plans for improvement of London should be agreed upon as soon as convenient; and that the lists of owners and occupiers of property required to be taken should be prepared by the end of the present month at latest," remarked, that "it might be expected, as was the case with the London Bridge improvements, complaints would pour in against any project of improvement; but that the committee had taken infinite pains to guard the public and the private interests, as far as was practicable, in a scale of extensive change." Objections already urged, however, are, that the proposed changes are not extensive enough; or at all events not commensurate, in general utility, with what such a sum of money ought to do, and might be, in various modes of outlay, made to do.—We may observe, that a petition for improvement in Great Tower-street, presented at the same time with the report, was referred to the Improvement Committee; and that Mr. Jones, in recommending the selection of the spot proposed for the beginning of the alterations, as most advisable for effecting a relief to all the crowded streets from Tower-hill to St. Paul's Churchyard, stated that "he was led to believe that the government, upon seeing the corporation proceeding in such a spirit, would go on with the projected improvements in the neighbourhood of the Tower."

Correspondence.

TRAFALGAR SQUARE.

Sir,—In passing across Trafalgar-square the other day, my attention was drawn to the basins; I noticed that the water found its way through in many places, and flooded the paving around. Pray, how is this caused? The presumption generally arrived at is, that they are badly constructed; and certainly, the jointings of the stone cannot have been properly treated, or the internal finishing must be defective. A lining of lead round the inside, and part of the bottom, would seem to be necessary.

In a public place of this kind, some attention ought to be given to the state of these basins and the surrounding pavement.

I would also beg to ask, if it is known what is intended to be placed upon the pedestal at the western corner of the square? The tardiness which prevails in the completion of this *national* work is any thing but satisfactory. As a mark of respect to her Majesty, I would suggest an equestrian bronze figure of her illustrious father, the late Duke of Kent. I believe, in the whole metropolis there is not a statue to this royal Duke; and, associated as his name is with Queen Victoria, it behoves us to pay some tribute to his memory.

I am Sir, &c. Aqua Pedestal.

Newington.

Miscellanea.

Improved Fastenings, Knockers, &c.—Mr. Cotterill, of Birmingham, has obtained a patent for numerous curious arrangements in respect of locks, bolts, knockers, &c., which may be worth inquiring into. His improvements in locks consist in introducing spiral springs for the purpose of acting on the bolts when released, and also arranging the other parts, so that the bolt will be withdrawn by means of pressure on a knob in the centre of the handle, which acts on a wedge, and thus displaces the bolt from the staple; in latch locks the internal part is so arranged, that by turning the handle in either direction, the latch is lifted up; it is also replaced again by means of a spiral spring. In his improvements in knockers and bells for hall doors, the knocker, instead of being placed outside, as at present, is fixed inside the door, and has a spindle projecting through to the outside; on this is placed a small wheel, with a handle for the purpose of driving it round; on the axis inside the door is placed a sort of ratchet wheel, with two or three teeth, which, as they revolve, raise the knocker, which falls by its own gravity, the continuation or rapidity depending on the number of teeth, and the rate at which the wheel may be driven. Door bells are also applied in a similar manner, at the back of the door.

Norfolk and Norwich Archæological Association.—On the 22nd inst., the fourth general meeting of this association was held in Norwich, the lord bishop of the diocese in the chair, when a large number of interesting objects of antiquity were exhibited, and several papers were read. In the course of the meeting reference was made to an ancient baptistry in Dereham Church, of which the ruins still remain at the west end of the church.

Matters for the Legislature.—Sir,—To your "Matter for the Attention of the Legislature in the Approaching Session," you should add the obliging of all manufacturers to consume their own smoke, and the alteration of the Metropolitan Buildings Act. With regard to the former, I think we may fairly expect that Government will bring forward a measure for that purpose, as Mr. Makinnon has several times dropped *his* bill on the understanding that the ministry, then in power, would bring forward a *comprehensive* measure of their own, which should include this useful object. If this is carried into effect, it is to be hoped that the "Act" will also oblige the river steamers to consume their own smoke, or to burn coke or Welsh coal as the locomotives are obliged to do; as this is, if possible, a greater nuisance than the smoke which is emitted from the chimneys of manufactories. With respect to the latter,—the alteration of the Metropolitan Buildings Act—it is to be hoped that we shall shortly have a new Act that will give general satisfaction, and serve as a model from which similar Acts might be framed for other large cities and towns, where the like supervision is as necessary as in the metropolis. Civis.

The Iron Trade in the Far West.—A visitor, in describing the extension of trade in the flourishing town of Cincinnati, says,—"The iron founderies here are numerous, and some of them immense establishments. The work turned out is as good as in the east, and almost as various in kinds. The steam printing power-press is one of the articles recently turned out, and the manufacture of locomotives has just been commenced. The framing of models for new work is already a large business, and every new invention from Europe or the east is aimed at with a skill and perseverance that is sure to master every difficulty in the way of invention or imitation. Every kind of iron handicraft is wrought, from the colossal wheel to the screw, and from a complete engine to the finest wire. The rolling mills deal with iron as a carpenter would with pine boards, or a cabinet maker with the furniture of a parlour. Iron, indeed, is made by machinery to assume all the shapes and forms which the wit of man can devise, and is now as easily worked as wood, and almost with the same expedition. The rapidity of reducing the melted ore to the finest wire will amaze all those who have not seen the process of reduction."—At Poland, on the Mahoning river, in Ohio, new and extensive works are now in operation for the preparation of pig-iron with raw bituminous coal, an object now for the first time successfully accomplished in an American furnace, by Messrs. Wilkeson, Wilkes, and Co. The iron made by them by this process is said to equal the best Scottish pig-iron. Two hundred men are employed at these works, which have been twelve months in construction.

Rage for Building in Paris.—It would seem incredible that the continuation of the building of the Palace of the president of the lower House, in Paris, has been *delayed* for want of timber for the roof. Such has been the quantity of oak used, be it in the sleepers of railways, be it otherwise, that the largest timber merchants are at a loss how to procure the necessary supplies — even from Belgium and Germany. Still the house of the president will be covered in in the course of this month. The architect has taken especial care to preserve the fine wood carvings, which adorned the saloons of the ground floor. They are now in the hands of *ornamentists* and decorators, who, after carefully cleaning them, will restore them to their original beauty.

The Nelson Monument in Trafalgar-square.—The death of Mr. Ternouth, the sculptor, to whom part of the decorations of this pedestal was intrusted, will cause fresh delay in the completion of this memorial, and force the works to drag their slow length along for many months yet to come. We have not heard of the appointment of a successor.

Burial in Towns.—With the view of obtaining immediate alteration in a system, seen to be pregnant with evil of great and increasing magnitude, a committee is in course of organization. We will forward to the proper quarter the names of any parties who may signify to us their willingness to be associated in it.

CASTLE STOLZENBERG ON THE RHINE, AND ITS FRESCOS.—This palace, interesting to every reader as the abode of the Queen during H. M.'s late Rhine-trip, has been of late adorned with some fine wall paintings. The chapel, as well as the whole castle (thoroughly restored by order of the King of Prussia), commands one of the finest picturesque views imaginable. From the platform two windows, which serve also for doors, lead to the smaller Knights'-hall (*Rittersaal*), whence, by a short interstice, we enter the large hall. This part of the castle is the most exquisite and ornamented, to which now the frescos have been added. The able artist, Mr. H. Stilke, thought that he would best accomplish his orders, by exhibiting to the beholder pleasing and instructive events of the middle ages. Thus, to the form of the vaulting, six pictures are adapted, each of great character and considerable brilliancy of colour. The first picture represents the virtue of faith (*Treue*), Hermanne, of Siebenichen, saving Emperor Frederic I. in battle, by dressing in his garment, and being slain instead of his master. The second allegory is *love*,—Queen Isabella of England being received by Emperor Frederic II. on the Rhine; the banks of the river are crowded by greeting multitudes. The next picture represents the Greek princess Irene being conducted on the Rhine by Philipp of Schwaben, surrounded by Walther von der Vogelweide and other minstrels of that period. It is, however, animadverted upon, that the artist has not represented in a *Prussian* palace one single scene of Prussian history.

HOLY ROOD CHURCH COMPETITION.—Some competitors wish us to bear witness to the proper tone exhibited in the letter from the committee in Southampton, to the unsuccessful candidates; we gladly do so, the occasion being unfortunately rare.

NOTICES OF CONTRACTS, &c.

THE authorities of the Stamp Office having given us notice to discontinue the insertion of our list of contracts, &c., excepting as advertisements, we, in deference to their wishes, omit them for the present, but have taken steps to place the facts of the case properly before them, and, as we hope, remove their objections. In the meantime a list may be seen at our office.

TO CORRESPONDENTS.

"*T. P.*"—Write to Pontifex and Wood, Shoe Lane, City.

"*F. T.*"—The facts are too obvious to require publication.

"*Rev. W. S. W.*"—Any intelligent labouring man could form the gravel and gas tar floors from the description in our last two numbers.

"*Sanatory State of Buckingham Palace.*"—The jocular remarks of "B." will not weigh against the statement of the eminent medical authority, advisedly made, which appeared in our pages.

"*Martin.*"—"An octagon room with a four-centered arched ceiling may be made in character with a Doric portico and entrance."

"*Subscriber from the Beginning.*"—We cannot furnish valuations.

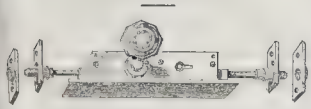
"*W. D.*"—We should advise him to apply to some of the principal leading decorators in London. Our occupations prevent us from personal interference.

Next week.—"Improvements (?) in Scarborough," "C. F.," "Philo Medicus."

Received.—"E. M.," "A Subscriber," "Friend to Self-improvement," "E. H." (Oxford-street), "Competitor," Gray's-Inn-road, "Competitor," (2) "Cavello," "H. E.," "J. R. N.," "W. Styche."

"*Books and Addresses.*"—We have not time to point out books or find addresses.

ADVERTISEMENTS.



IMPORTANT TO ARCHITECTS, BUILDERS, AND CABINET MAKERS.

LEA'S PATENT DOUBLE-ACTION BOLT, combining Cheapness, Facility of Action, and Security; adapted for the Strongest Folding-doors as well as the most Elegant Cheffonecr.

Agent, E. PARKS, 140, Fleet-street.

Best Patent Cut Clasp.					
6d.	7d.	8d.	1s.	1s. 6d.	2s. 3d.
3d.	4d.	6d.	8d.	10d.	20d.

Best Patent Sash Line.					
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s.
1	2	3	4	5	6

Every description of Ironmongery equally low.

TO GAS COMPANIES, FITTERS, AND CONSUMERS.

WM. DONALD and Co., Gas Meter Manufacturers, 35, Britannia-street, City-road, beg to inform the above that they are now manufacturing a Two-light Meter, long required by small consumers, and at a price which will insure their patronage, viz., 1*l.* 12*s.* Warranted to register correctly.

WILSON'S PATENT VENTILATING SPIRAL CHIMNEY POT,



For the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success.

This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance.

The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory,

Southwark-bridge Iron Roofing Works.

PAVING, 2*s.* 9*d.* PER SQUARE YARD. Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27*s.* 6*d.* per ton.

COMMISSIONERS OF FINE ARTS' REPORT ON THE MEANS OF PREVENTING DAMP IN WALLS.

THE DIRECTORS of the SEYSSEL ASPHALTE COMPANY have much pleasure in recommending to the notice of Architects, Builders, and others, the application of the ASPHALTE of SEYSSEL as the only effectual means of preventing DAMP rising in WALLS.

J. FARRELL, Secretary.

Seyssel Asphalte Company's Works,
"Claridge's Patent."
Stangate Depôt, London.

The following account of its application is extracted from "The Appendix to the Commissioners of Fine Arts' Report," page 18:—

"In 1839 I superintended the construction of a house of three stories on the Lac d'Enghien. The foundation of the house is constantly in water, about 9½ inches below the level of the ground floor. The entire horizontal surface of the external and internal walls was covered, at the level of the internal ground-floor, with a layer of SEYSSEL ASPHALTE, less than half an inch thick, over which coarse sand was spread.

"Since the above date no trace of damp has shewn itself round the walls of the lower story, which are for the most part painted in oil of a gray stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so painted, yet the pavement of the floor, resting on the soil itself, is only about 2½ inches above the external surface of the soil, and only 19½ at the utmost, above that of the sheet of water.

"The layer of Asphalte having been broken and removed, for the purpose of inserting the sills of two doors, spots indicating the presence of damp have been since remarked at the base of the door-posts."



THE CHRONOMETRIC GOVERNOR, invented by Messrs. SIEMENS, of Berlin, patented and supplied by JOSEPH WOODS and Co., Barge-yard-chambers, Bucklersbury, London, has now been in constant use, for regulating the supply of power for grinding corn, and moving machinery of other kinds, for a considerable time, and it is found to succeed perfectly in producing an instantaneous and automatic adjustment of the supply of power, without allowing any variation of speed; the result of which enables all manufacturers, dependent on regularity of the velocity for a maximum result, to attain a greater uniformity in, and increased quantity of, the manufactured article produced in a given time, without increasing the expenditure of power. This effect in grinding corn amounts to an increase of 10 per cent.

These instruments may be applied to existing steam-engines, water-wheels, &c., without interruption to their constant work, and at an expense very much below the value of the advantages obtained.

Testimonials may be seen, and every information obtained, at the office of the Patentees, and cards for admission to the numerous flour-mills, saw-mills, and other works in different parts of the country, where the Chronometric Governor is employed, on application to them.

PATENT STREET-SWEEPING MACHINE.

THE Public Authorities, having the charge and management of the cleansing of any town, are informed that a number of the PATENT SWEEPING MACHINES have been got ready, with the view of meeting, without any delay, the increased demand which may arise at this season of the year.—Application to be made to the Road and Street Cleansing Company, Chorlton-street, Manchester.

TO ARCHITECTS, BUILDERS, AND THE PUBLIC IN GENERAL.

GEORGE JENNINGS, of 29, GREAT CHARLOTTE STREET, BLACKFRIARS ROAD, begs to call the attention of Architects, Builders, &c., to his REGISTERED FASTENING for SHOP SHUTTERS, &c., which entirely supersedes the use of shutter-bars. Thereby effecting a great saving of labour, as by the old method, the bar has to pass through the hands of some one upwards of six hundred times in twelve months, which tends to deface the whole front more or less every time the bar is put up or removed. The fastening is secret, simple, and sure, in its action, and can be affixed to any shop-front in two hours, without any alteration to the shutters. New fronts fitted at a less expense than a shutter-bar would amount to. A liberal allowance to the trade, and any further information may be obtained by inclosing a postage stamp to the above address.—A Model may be seen at the office of "The Builder."

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters for both security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. Mr. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

LIGHTNING CONDUCTORS FOR BUILDINGS.

A. SMITH'S PATENT COPPER WIRE ROPE is being daily employed for the protection of CHURCHES and other buildings from the effects of thunder storms; it possesses important advantages over other forms of conductors. References can be given where it has been applied for some time past to CHURCHES, PUBLIC and PRIVATE BUILDINGS, &c., &c. Its general adoption in the Naval and Mercantile Marine of this and other countries is the strongest possible EVIDENCE of its EFFICIENCY, &c.

A. SMITH begs the attention of those engaged in building to his IMPROVED PATENT PANELLED AND REVOLVING IRON SHUTTERS,—Also, the Patent Weather-tight Fastening and Cill Bar, for French Casements, which are so much admired for their security, simplicity, cheapness, and efficiency. Of the merits of his Patent Double and Single Action Door Springs,

Improved Flooring Cramps,

Patent Wire Sash Lines, &c. &c.,

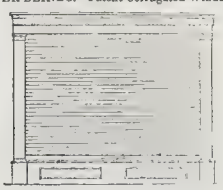
Little need be said, as they are pretty generally known and appreciated.

Manufactory for Iron Suspension, Sliding, and other Doors, Strong Rooms, Plain and Ornamental Palisading, Gates, and Columns.—Also, Metal Sashes, Shop-fronts, Stall-board Plates, Brass butt, and other Hinges. Buildings heated upon a new, safe, and superior plan.

Estimates given for every description of Metal-work.

A. Smith, 69, Princes-street, Leicester-square, London.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.—Patent Panelled Iron Safety Shutters. PATENT OUTSIDE SHUTTER BLINDS.—Patent Corrugated Window Blinds.



The attention of Architects, Builders, and Blind Makers is requested to the IMPORTANT PATENTED IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 115, Old-street, London.

The great importance of strength and stiffness in the Laths of REVOLVING IRON SHUTTERS, when required for security, is so obvious, that it is only necessary to point out the fact, that the Patent Convex Laths are twelve times stronger than the ordinary flat Laths (as shewn by the engravings and description), to insure their general adoption.

The Patentees invite attention to their greatly improved Gearing for Raising and Lowering their patent Shutters, which, possessing all the advantages of the endless screw (worm and wheel), cannot, even by wear, be liable to run down, and entirely avoids the necessity of using the ratchet wheel; it is at once simple and THOROUGHLY EFFECTIVE, and is SAFER and MORE DURABLE than any plan yet adopted for that purpose, thus rendering their patent Revolving Shutters the SAFEST and MOST EFFICIENT in use. These Shutters are fixed horizontally (either above or below the window or door), or vertically, for which position the great additional strength of the Convex Laths renders them peculiarly suitable.

REVOLVING IRON SHUTTERS, MADE OF THE COMMON FLAT LATHS, at a considerable reduction of price.

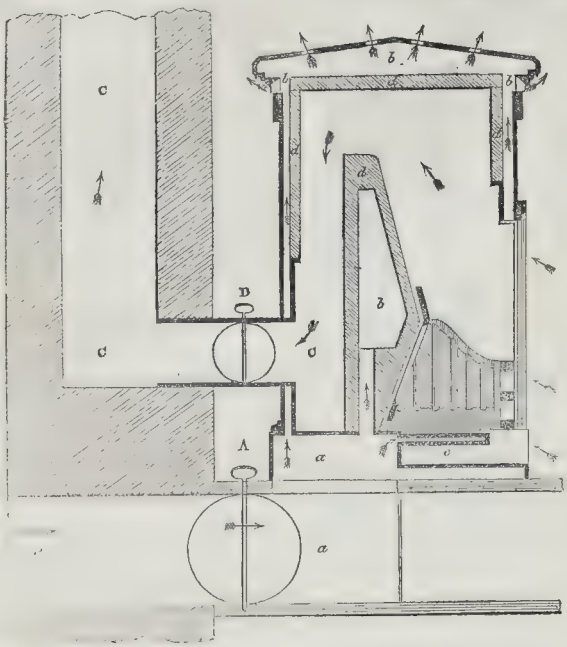
CAUTION.—The Patentees beg to caution all persons against Making or Using BENT or CONVEX LATHS for REVOLVING IRON SAFETY SHUTTERS (whether winding horizontally or vertically), so as to obtain increased strength and stiffness, as they thereby render themselves liable to legal proceedings for infringing this patent.

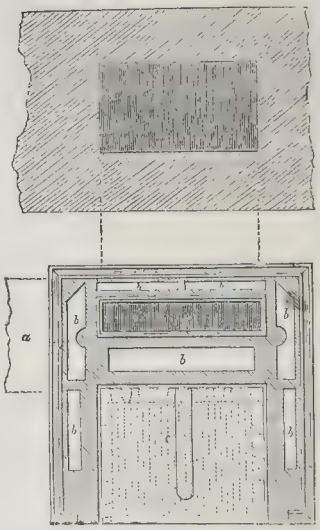
Engravings and Prospectuses will be forwarded on application.

DRAWN METALLIC SASH BARS, ASTRIGALS, MOULDINGS, STALL BOARD PLATES, &c.

Patentees and Manufacturers, R. HOWARD and Co., London.

CUNDY'S PATENT IMPROVED OPEN FIRE PLACE, HOT AIR, VENTILATING STOVE.





PLAN.

Description of Diagram.

a a a a Fresh air channel, for admission of external air.
b b b b Hot air chambers (formed with artificial stone, *d d d d*) through which the air passes into the room, and is heated without being injured.
C C C The direction the smoke and vitiated air takes after it has passed through the fire and heated the artificial stone of the hot air chambers.
c Blow pipe to preserve perfect combustion placed immediately underneath the grating of fire place.
A and D are regulators.
The arrows shew the way the external fresh air is admitted, next passing through the hot-air chambers into the room, and lastly taken out of the room through the fire and up the chimney—thus completing ventilation.

This STOVE embraces the following most important principles connected with the economy of

WARMING AND VENTILATING CHURCHES,

and other Public and Private Buildings, viz.:—

HEAT by RADIATION from the Open Fire.

HEAT by CONDUCTION.—A copious and continuous stream of PURE WARM AIR is conducted into the room through the large Stove, at a regulated rate, by means of an air channel underneath the floor, communicating with the external air.

HEAT by REFLECTION.—The external casing of the Stove becoming warm, communicates its heat to the surrounding atmosphere.

VENTILATION produced by the OPEN FIRE—which will carry off the Vitiated through the chimney at the same rate the Pure Air is conducted into the room through the interior HEATING APPARATUS of the Stove, thereby keeping up a regular and agreeable system of Ventilation.

ECONOMY of FUEL.—This Stove, from the peculiar construction of the Fire Place, will produce a most BRILLIANT FIRE with the least possible quantity of fuel, and will continue to burn so long as any particle of coal remains.

TESTIMONIALS AFTER A WINTER'S TRIAL.

Gothic Villa, St. John's Wood, Oct. 22, 1846.

SIR,—Perhaps there are few private individuals who have had more experience in stoves than I have had. I have tried most of the newly invented ones and rejected all but yours.

I tried two in my temporary church, and found them to succeed so well, that I have introduced them into All Saint's Church, St. John's Wood.

The following reasons induce me to approve of them:—Exemption of effluvia; the emission of pure warm air; the perfect system of ventilation; the sight of the fire; the consumption of vitiated air; the little attention requisite; the cleanliness connected with them; and though last, not least, the great economy of fuel.

All more I can say in favour of your stoves is, that whenever I require a stove, either for my house or church, I shall purchase your patent, and recommend my friends to do the same.

Yours truly,
(Signed, ED. THOMPSON, M.A.
Incumbent of All Saint's, St. John's Wood.

St. Thomas's, Charter-house.red

We, the undersigned, do hereby certify, that during the last three winters we sufferee severely from the cold in the Church of St. Thomas's, Charter-house, although we had thlit. large Arnott's Stoves, which consumed one sack and half of coals each day they were we The building was never warm; in consequence of which the congregation fell off, though s, had a zealous preacher in the Rev. Dr. James. We have now two of Cundy's Patent Stoves which consume but one cwt. of coal per day between them, and they impart to the church a comfortable heat and ventilation.

WILLIAM BUSHMAN, Verger.
THOMAS GEORGE, Beadle.

29, Charter-house-square, Monday, Feb. 17, 1846.

DEAR SIR,—The Stoves which you have recently erected in my church have been highly successful, and I have great pleasure in expressing to you the entire satisfaction which they have given to all parties. The church, which was notoriously noted for its coldness and bad ventilation, is now most agreeably warmed and well ventilated. I shall be most happy, on any occasion, to bear testimony to the excellency of your stoves; and I will endeavour, to the best of my power, to make them known, and I will certainly recommend them to my friends.

I remain, Dear Sir, yours faithfully,
JN. WM. ROGERS, St. Thomas's Charter-house.

St. John's, Fulham, 2nd May, 1846.

My Dear Sir,—I have very great pleasure in giving my testimony to the efficiency of your stove, as combining the double advantage of thoroughly warming and constantly ventilating any large church or building. Your invention appeared to me to be in theory all that could be desired; and I can honestly say, that I have not yet discovered the point in which the practice falls short of the theory.—The area of my church is computed to be nearly 200,000 cubical feet, and though a second stove will be required, the one already erected has fully answered my highest expectations, and realized all that you had given me to expect. If confirmation were needed for evidence of its efficiency, I might further state, that I had peculiar difficulties to contend with,—that various attempts had been made, and that every attempt had proved a signal failure,—that I was exposed to the charge of boldness in attempting what had baffled others; but that such is the power, the efficiency, and the comfort communicated by your Stove, that I know not of a dissentient voice, and have heard only of approval with unanimous consent.—I might add, that I was first led to the making inquiry respecting your stove, having gathered indirectly, that a disposition not unfavourable towards it was entertained in a certain high quarter, where, on account of ability of discernment, the smallest approach to approval must carry with it great weight.—I remain, Dear Sir, yours faithfully,
WILLIAM GARRATT, Minister of St. John's, Fulham.

Letter from the Rev. MATTHEW O'BRIEN, (Professor of Natural Philosophy and Astronomy), M.A., F.R.S., &c., King's College.
Upper Norwood, 22nd June, 1846.

I beg to certify that one of Mr. Cundy's Patent Stoves was put up in my lecture room at King's College, last year, in place of a common stove (of Arnott's construction, I believe). I have no hesitation in saying from actual experience, that Mr. Cundy's Stove is far superior both in producing warmth over the whole room, and in promoting ventilation, without disagreeable currents of air, or close smell.
MATTHEW O'BRIEN.

*** Since this stove was put up, four others have also been fixed, one of which is placed in the Medical Library.

Letter from Professor BRADLEY.
King's College, London, July, 1846.

Sir,—I am happy to be able to bear testimony to the efficiency of your stove, which is fixed in my lecture-room at this Institution. It seems to have all the essential requisites of a good stove, a rapid draught, freedom from all smoke, and from that smell which arises from iron, heated in contact with the air of a dwelling-room, which is entirely avoided by your arrangement.—I am, Sir, your obedient Servant,
THOMAS BRADLEY.

To be had of the Manufacturers,

MESSRS. DOWSON, 69, WELBECK-STREET, CAVENDISH-SQUARE,

Where they may be SEEN IN OPERATION, and where also may be seen an ELEGANT assortment of REGISTER and other STOVES, FENDERS, CULINARY APPARATUS, &c. &c. ARCHITECTS and BUILDERS supplied with IRON and BRASS CASTINGS, at Messrs. DOWSON'S FOUNDRY, 5, SEYMOUR-PLACE, BRYANSTON-SQUARE. Smith's Work, Gas Fittings, and all other works appertaining to a Smith and Founder, undertaken at estimated prices.

The Builder.

No. CXCVI.

SATURDAY, NOVEMBER 7, 1846.

NOVEMBER brings the first indications of the returning London season,—not of fashion, but of science, art, and literature,—and all the principal "societies" of the metropolis open again their closed up doors, for the periodical meeting, and the prosecution of their particular purpose:—

> ——"The public haunt,
> Full of each theme, and warm with mixt discourse,
> Hums indistinct."——

Last year was a period of much commotion in many associations, nor has it yet subsided. In the direction of the Royal Society are evidences of disturbance; in the Society of Antiquaries further efforts will be made to increase its efficiency; and in four or five of the younger societies, confidence and regularity are yet wanting. It will be our duty to chronicle their proceedings, so far as they may be instructive and useful, and, while we would wholly discourage groundless cavilling and personal bickerings, to assist every legitimate endeavour to remove abuses and increase their usefulness.

The Institute of Architects held their first meeting on Monday last, and the president, Lord de Grey, took the chair. At the close of last session, we expressed our dissent from certain proceedings of the council, and expressed a hope that some alterations would be made and a bolder and less confined policy adopted. This we still hope for. At the same time we would remind the members how much depends on them, and urge them individually, to give such assistance to the council as may be in their power; either by forwarding the results of their observation and reading, in the shape of papers, or proposing such questions for consideration, relating to the art and science of architecture, or professional practice, as may seem to need solution.

The meeting on Monday night was numerously attended, and Lord de Grey shewed the same interest in the progress of the society and good feeling towards the members, as have always animated him. Mr. George Allen, and Mr. Mayhew were elected fellows, and Mr. Charles Barry, Jun., an associate.

The Dean of Westminster offered for exhibition, a large model of Westminster Abbey, executed in cork by a young man who is a clerk in a merchant's counting-house.

Mr. Donaldson, in connection with the model, wished to draw the attention of the dean to an addition greatly required at the Abbey. He meant the spire, at the intersection of the nave and transept. While this was wanting, the Abbey would always appear unimportant amongst the fine buildings by which it was being surrounded. It had been said that the piers were not strong enough to carry a spire; but surely this was not insurmountable: they might be taken down and reconstructed; and he felt sure, for such a purpose, a subscription might easily be raised to supply the required funds. By the addition of the spire, the Abbey would be distinguished from the parliamentary buildings, where there are lofty towers but no spire. He hoped, with the aid of the dean, the Abbey might soon receive its crowning glory.

The dean said this was contemplated in the time of Christopher Wren; but the flexure of the columns was so great, that it appeared to be dangerous to attempt it. The columns were of Purbeck marble, and he doubted if more could be obtained; moreover, if the piers were enlarged sufficiently to carry the spire, the proportions of the interior might be injured.

We should be glad if the objections urged by the very reverend doctor, were the only difficulties in the way, as we should then soon see the spire commenced, and have the proper outline of the building restored.

There are many other things required in the Abbey of easier accomplishment than this, and we do hope that Dr. Buckland, who is, very properly, ever ready with suggestions for the restoration and amendment of other buildings, will now look at home, and lend his aid to improve the abbey church of Westminster. Let him get rid of some of the monstrous specimens of bad stone-masonry which now disfigure and injure it, giving parts of it the appearance of a statuary's show shop rather than that of a Christian temple. The ancient monuments should be carefully looked to and maintained; and Henry Seventh's Chapel, both inside and outside, requires immediate attention. As regards the construction of the spire, we ought to be grateful that Wren, great artist as he was in other respects, was not commissioned to effect it; and almost equally so in the case of James Wyatt, who in later times also reported upon it. There would be much less chance of the removal of an incongruous disfigurement, such as would certainly have been placed there, than there is now of a spire being commenced. We would gladly contribute to remedy the mischief Wren did at the west end.

Among the donations received were drawings by Mr. Haviland, architect, of Philadelphia, of the Halls of Justice at New York, in the Egyptian style, and of the Pennsylvania State Penitentiary, "the first prison erected on the Haviland plan." What there is in it to entitle its author to claim the plan as his own, was not apparent. The general arrangement is on the principal of radiation from a central building.

Mr. George Mair then read a description of an ancient structure existing at Al Hather, in Mesopotamia, illustrated by drawings, and of the curious sculptured marbles recently discovered by Mr. Layard at Nimroud, the site of Nineveh. Mr. Layard's researches being regarded with considerable interest by many persons, and the results promising to be of considerable value, we give the whole of Mr. Layard's communication on the latter subject, and will, next week, in like manner, give his more architectural description of the Temple of Al Hather, as arranged by Mr. Mair. The letter is from Nimroud, near Mosul, dated 18th May, 1846, and is as follows:—

"I am now exploring Assyrian ruins, in the neighbourhood of Mosul, on the Tigris. I have been thus engaged since last November, and the *success* I have met with has exceeded my most sanguine expectations. I am at present digging out a palace which has probably been quietly reposing under ground from the time of Senacherib.

You may have heard of the French discoveries at Khorsabad, in this neighbourhood, which have created so much interest in Europe.* Mine is something after the same kind, only on a *much larger scale*.

To what city *this palace* belonged is doubtful: the large collection of mounds which now mark its site are called Nimroud; and the tradition of the present inhabitants of the country all point to that hero, and to Ashur, as the founders of the city. Modern travellers have believed the ruins to be that of Resen, one of the primitive cities mentioned in Genesis, and have identified Resen with *Larissa*, an Assyrian town mentioned by Xenophon. Indeed, *Nimroud has as good a claim to be identified with Nineveh*, as any other ruins in Assyria—PERHAPS A BETTER; and until I can make out the inscriptions I have discovered to my satisfaction, I shall consider them to be those of that celebrated capital of Assyria.

The mode of construction amongst the early inhabitants of Assyria appears to have been very simple. Slabs of marble, from 10 to 14 feet in height, from 1 to 2½ feet in thickness, and varying very considerably in width, were placed against an intervening wall of sun-dried bricks, generally about 6 feet in thickness. These slabs were covered with sculptures, sometimes historical, sometimes religious;—the former being battles, sieges, sea-fights, triumphs, representations of the monarch and his attendants, &c.; the latter, divinities of various shapes. Enormous symbolical figures frequently occur, such as bulls or lions with human heads, and with wings; these usually form the portals, and are carved out of one block of marble. I have a pair of such bulls, above 14 feet in length, and a pair of *lions*, 11½ feet. It would be difficult to convey an idea of the imposing effect they make. They form an entrance into a temple, into which I am now going to dig, and which I have already ascertained is covered with sculptures. Nothing so beautiful as these lions were discovered by the French; indeed, the sculptures at Nimroud far exceed those at Khorsabad, in the richness of detail and variety of subject.

The inhabitants of Assyria at that time probably exceeded all the nations of the earth in power, and riches, and luxury. Their knowledge of the arts is surprising, and their style I believe to be purely their own, and *not Egyptian*, as some would have it. There is as much difference between their sculptures and those of Egypt, as their exists between those of Assyria and Greece, and they held relative positions in point of knowledge of the arts. The lions lastly discovered, for instance, are admirably drawn, the muscles, bones, veins, quite true to nature, and portrayed with great spirit. There is also a great "*mouvement*" (as the French will term it), in the attitude of the animal and "*sa pose est perfaite*." The human head too is really grand!

It is curious that the artist has given the animal *five* legs. He has done this in order that when you look at him in *front* or at *the side*, he may appear to have the proper number, for although the figure is in relief, yet at the end of the slab it is in full. Between the legs are long inscriptions in the cuneiform character.

Over the slabs appear to have been placed layers of *painted* and glazed bricks; the ornaments are exceedingly elegant, and the colours very brilliant; they are still in perfect preservation. It is difficult to conjecture how the roof was constructed, but it appears most probable that *only timber was used*, and that it was flat.

I have found many ornaments in ivory, copper, and a kind of porcelain which may have decorated the ceilings. The rooms were paved either with slabs of marble, with layers of bitumen, or with bricks. In all cases, however, there was a thick substratum of bitumen, and beneath the whole, a thick layer of fine sand.

Every slab of marble in the building, and there are some thousands, has an inscription, generally *on both* sides; this is the case *even with the pavements*.

There was only one story or rather only a ground-floor to the edifice, which was built on the summit of a lofty artificial mound. The inscriptions are in the cuneiform, or arrow-headed character, such as was used in the earliest ages in Assyria and Babylonia. Of the precise date of the building, I can at present say no more, than that I am pretty certain that it must have referred to the time of the dynasty of the Assyrian kings, mentioned in chronicles and kings, and that it is not impossible that it may belong to an earlier period.

I am now working on a very small scale, and am anxiously waiting for orders from England, which may enable me to examine

* Mention of these discoveries has already been made several times in THE BUILDER.

these interesting remains as they deserve. I have, however, dispatched the following specimens on their way to England:—eight small bas-reliefs of battles, lion hunts, &c. (very beautiful); two large winged Divinities (one with an eagle's head), the head of one of the great bulls, and a portion of a slab, with the head of a king, and his attendant eunuch. They are all fine specimens.

I have been about twenty days occupied in packing and forwarding these antiquities, and have had to move immense blocks—some nearly nine feet square and one foot thick—of the most fragile material, and covered with delicate sculpture, without even a *rope* capable of sustaining an ordinary weight, and without any machinery. Many of the blocks have been sawn in various directions, to reduce them to a transportable size, and have been removed to the river in carts which in England would scarcely be used for carrying a load of hay. I have luckily succeeded in sending them all without accident. I trust you will one day see them in the British Museum. The finer sculptures—the great lions and fine bas-reliefs—remain in *statu quo*; I had no means of removing them. As I advance further into the mound, the sculptures become more perfect in preservation, and superior in execution. The discoveries are creating great interest; and every post brings me letters from parties wanting information, and offering (scientific) assistance.

Major Rawlinson, the British resident at Baghdad, in a letter to Mr. Layard, says:—"I look upon the *Nimroud* marbles as invaluable. They unfold to us the history, theology, language, arts, manners, military skill, political relations, &c., of one of the most illustrious nations of antiquity, and thus fill up an enormous blank in our knowledge of the early history of the world. I consider the discovery of these sculptures as more valuable than even Pompeii or Herculaneum, and view every new inscription as equal to gaining one of the lost decades of Livy." "I hope," says Mr. Layard, "the people at home will take the same view of the subject."

At the conclusion of Mr. Layard's paper, Mr. Tite said he was most anxious to direct the attention of the Government to the discoveries made by Mr. Layard, and to obtain for him that aid which he deserved. We owed much in England to individual enterprize, and that, too, on the part of non-professional men: he would instance Belzoni and Fellows, who had done so much. Mr. Layard was of the same class; he was a solicitor, travelling for his health; but by his enterprise and good judgment he had succeeded in making what must be considered some great discoveries. The remains which had been described referred to two different periods. As to those from Nimroud, it did not seem quite clear from what part they came; all the buildings there, however, were ascribed to Nimrod. The history of that period was well and briefly narrated by Gibbon, from whom he (Mr. Tite) then read some passages, to shew the degree of civilization early attained by the inhabitants of Asia.

The speaker continued: he did not consider these remains so ancient as Mr. Layard, but attributed them to the period of Cyrus and Darius. The French had been intent on the elucidation of this same period of history, and were exploring neighbouring ground, but had not been so successful as Mr. Layard.

As to Al Hather, it was one of those extraordinary cities, of which the rise, progress, and destruction, were alike mysterious. It was well known, but had not been investigated, the difficulties of access being great. Dr. Ross, in the ninth volume of the Transactions of the Geographical Society, gave a plan of the city.

From this plan, it was seen that the walls surrounding the city formed a circle, this was divided into two by a wall across the diameter; one-half was appropriated to the living, the other half to the dead, being the necropolis. The description given by Buckingham of another extraordinary city, Ctesiphon—probably agreed with Al Hather; and the account given by Gibbon of the sack of this city by Omar, might probably serve for an account of the destruction of Al Hather. He was most anxious that the exertions of Mr. Layard should be recognised by the Government, and that we should see the results of his labours in the British Museum.

The honorary secretary said, that he had learnt two days before, that the Government had already made an arrangement to reimburse Mr. Layard, that some of the marbles were on their way to this country, and that means had been provided for further investigation. We shall be truly glad to find it so, but at present are disposed to regard it as somewhat doubtful.

APPENDIX TO "ANNOTATIONS ON IRON."

Allusion having been made to the experiments of Messrs. Fairbairn and Hodgkinson on the strength of iron and the best form of girders (see p. 459), we think some additional particulars may be interesting. We also append extracts from answers to certain inquiries, made about the time the results of these experiments were published, from an individual who was well acquainted with their nature, and who had opportunities of witnessing their progress. The particulars of these experiments are to be found in the transactions of the British Association for the Advancement of Science, and in those of the Literary and Philosophical Society of Manchester, vol. v. Mr. Fairbairn's researches were, we believe, directed mainly to the comparative strength of different descriptions of iron, and to the effects of the hot and cold blasts. Mr. Hodgkinson directed his attention rather to the capabilities of the material to resist the different forces of tension, cross strain, and compression, and to ascertaining the form and proportion, which should be given to the material under particular circumstances. Our correspondent wrote:—"All I think it necessary to say with reference to these experiments is, that you must avoid making any reference to particular makes of iron, for it unfortunately happens that the results here shewn are not borne out in general practice. The fact was, that the use to which these samples were intended to be applied became so well known, that many parties, making very inferior iron generally, sent us samples of very first-rate strength and toughness." And in reference to the hot and cold blast iron, which are compared in our former article with decided disadvantage to the former, we find that we were advised as follows:—"Experience proves, as a *general* rule, that cold blast iron is stronger than hot; but this arises from the fact that the hot blast enables the maker to use an inferior material, which was formerly left on the bank, and was a dead loss; and very few are honest enough, or have sufficient resolution, to withstand the temptation. If the same materials be worked, the hot-air iron has a trifle the preference. The *prejudice* against the hot air is perfectly ridiculous, if the maker will but put proper materials into the furnace. Some stones and coal, however, will not bear the hot blast. Yorkshire iron, for instance, is greatly injured by it." On the form of section, and the effect of time in producing deflection of iron beams, the points which Mr. Hodgkinson investigated, he said:—"Time produces so little deflection in iron, provided it be only fairly weighted, as not to be at all worth notice."—"Dr. Young started a theory, upon which Tredgold, Bramah, and several foreign engineers made some very interesting experiments. They were very satisfactory as far as they went, but they ought to have tried greater weights, and then their whole theory would have proved itself futile. The beam, which Tredgold called the best, in his experiments, would have broken with a very trifling addition of weight; but he did not know that, because he did not try it. The resul from Tredgold's reasoning is, that the *elasticity* of cast-iron *remains perfect*, when a bar is not loaded with more than about 15,000 pounds per square inch, and this he calculates to be about one-third of the breaking weight; but in the late experiments at Mr. Fairbairn's, many bars of cast-iron were broken with a weight actually less than what Tredgold called his strongest point. In Mr. Hodgkinson's report to the British Association, I think it is shewn clearly that there is no 'elastic point' in iron."—Tredgold, Dulau, and others make it out, that a beam of any form will bear the same weight, which ever way it is turned upwards; the absurdity of which will be shewn by a simple example. A bar of cast-iron of the I section will carry three or four times as much weight, set in that manner, as it will when set thus T. All Tredgold's reasoning goes on the supposition, that the tensile and compressive strengths of iron are the same, which is, in fact, begging the whole question. Unless we have been most strangely and unaccountably deceived, in every one of our experiments, as to the breaking point, we have *invariably* found, that it takes six times as much pressure to crush cast-iron as to tear it asunder, and I therefore prefer that form of beam which has the lower edge the strongest, where the greatest pressure will always take place." Notwithstanding the result of the experiments abovementioned, we know that the I form of section is still persevered in by many; and it is much to be regretted that complete unanimity should not prevail in this very important matter. It is desirable that attention should still be directed to the subject, until it is completely set at rest by indisputable experiment. In many great works, iron is the most important material of any employed; and our pages have heretofore recorded instances of most disastrous failures. The writer above-quoted from, after saying that he has paid much attention to the question, concludes by saying, "I cannot help thinking that Tredgold, and others who think with him, have in the first instance been struck with the beauty of Dr. Young's theory, and have made all their experiments more with a view of supporting than of testing it. The experiments made here (in Manchester) were at first made on plain square bars, after which different patterns were tried, and this led to the discovery that Tredgold's section was not the strongest by very much." We give these few particulars, as illustrating points referred to in our former article; we may, however, remark, that our correspondent had no intention of questioning the general accuracy of the experiments made at Manchester, which are justly considered of the utmost value.

TOWER BUILDINGS, OLD CHURCHYARD, LIVERPOOL.

The buildings erected of late years in the town of Liverpool, for commercial purposes, have assumed an architectural character of a description never dreamed of until recently. Suites of merchants' offices and commercial chambers have arisen in many of the principal streets, and some of the bye-ways of the town, combining imposing magnitude of size with considerable architectural pretensions, forming suitable abodes for the commerce of the modern Tyre "whose merchants are princes," and whose traffic extends to the uttermost bounds of the earth. Amongst the most important may be mentioned, the royal Bank buildings in Dale-street, the architect the late Mr. Samuel Rowland; Brunswick buildings, Brunswick-street, by Messrs. A. and G. Williams, a view of which appeared in the *Companion to the Almanac*, a year or two since, and which has been repeated in the *Westminster Review*, just published; and Fenwick chambers, Fenwick-street, by Mr. J. A. Picton. Castle-street, the principal street of the town, is about to be adorned with a new branch Bank of England, from the designs of Mr. Cockerell, and immediately adjoining, by the buildings of the Commercial Bank, by Mr. J. Cunningham.

The buildings named at the head of this article are the most recent of this class, being only now on the point of commencement; but will, when completed, be the most imposing in point of size of any yet erected.

They are intended to comprehend one entire block, or insula, extending from Water street to the Old Churchyard, about 70 yards from north to south, and from Tower-garden to Stringer's-alley, about 34 yards from east to west. One-half of this design is now being carried up, the remainder being left to a subsequent period. The general arrangement is,

with some modifications, the one usually adopted in buildings of this class in the town of Liverpool, and which is found in practice to be the most commodious and profitable.

Under the entire surface there are constructed two heights of vaults for wines, spirits, oils, and other merchandize of like character. Over these there is a basement story partly sunk below the level of the ground, occupied as counting-houses. This is surmounted by four more stories, all occupied as offices and commercial chambers. The buildings surround an inner court or quadrangle, which is entered by large *porte-cochères* and corridors from each of the sides.

The architecture of the exterior is in the Italian palazzo style, necessarily astylar, trusting for its effect to the door and window dressings, cornice, &c., in the absence of any bold projections. The façade fronting the old churchyard, with its returns in the two flanks, will be executed in white stone. The buildings behind, which, owing to the declivity of the ground, are of necessity separate elevations, will be fronted with red stock bricks, with white stone dressings. The principal feature in the design is an Italian tower at the north-west corner, carried up 120 feet above the surface. From the position which the buildings occupy, being an elevated site open to the river Mersey, this will form a conspicuous object in the view of the town from the river, and will command an extensive prospect of the port and shipping. Most probably it will be used as a telegraph station.

The buildings will be constructed fire-proof throughout. The floors are all vaulted with flat brick arches, springing from iron girders, over which are placed floors of wood, resting on the upper edges of the girders. The roof is of wrought iron. The windows are iron; the architraves, skirtings, and mouldings, are run in Roman cement. The internal doors alone are wood, it being found impracticable to use any other material with advantage. The external doors and frames are iron. The staircases are stone, circular in plan, and covered on the top by conical domes thirteen feet in diameter, the ribs iron, glazed with large sheets of plate glass. The windows in the principal fronts are glazed with plate glass. The arrangements for the water-closets, the supply of water and coals, and other conveniences, cannot be explained without plans, but no expense appears to have been spared to render every department perfect and complete.

The denomination of "Tower Buildings" is not derived, as might be supposed, from the tower which forms part of the present design, but from an ancient fortified building which formerly stood on part of the site, called the Tower of Liverpool. This was anciently the property of the Earls of Derby, and was taken down about twenty-three years since.

The buildings are the property of Jos. Bailey, Esq., of Glanusk-park, Breconshire, M.P. for Worcester. The architect is Mr. J. A. Picton, to whom Liverpool is already much indebted. The cost, exclusive of the site, will be about 22,000*l.*

OF WHAT TO DO WITH THE DUKE..

PEDESTALS.

Sir,—*Vulgar hypercriticism* is a very bitter wind that every artist has to bear. And the greater the man the more bitterly blows the blast about him,—he all the while the more sensitive. Until he wraps himself (if he can) in the good vesture of a high firm confidence, —the "first be sure you're right, then go straight ahead" principle,—the good self-conceit that keeps a real man strong; and then the rude blustering breath breathes harmlessly by.

The Poet seeks down into the depths of the Beautiful; and rare gems from a brighter world beget strange laughter in a butcher's 'prentice! The Painter, Sculptor, Architect, casts a lifetime of rich thinking into his work; and little Missy Bull "can't u-bear that picture!"—or perambulating sweeps will pause before the statue and intermit their yelling to cut quaint jokes!—or three tailors on a Monday will stop to gaze upon the building, and conjure up wonderful allusions from their fractional fancies! Art casts her pearls before swine; they turn again and rend her. She lovingly sets up her monuments to grace the heart of man; and there is not a twopenny-halfpenny fellow can pass by but he must be clever and fling his gibe. And she wonders often how it is so; and grieves sometimes, and gets discouraged.

There is a reason for every thing; there is a reason for this. This joke-mockery (as we may call it) is argument densely condensed—a page of logic thrown into a word of satire. But with the greater condensation, of course, there is the greater room for falling. A work of Art is, in another mode, argument densely condensed: and with the greater condensation, of course, there is the greater openness to misconstruction: and between this greater openness to misconstruction and that greater laxity from law, poor Art comes often badly off;—herself so easily assailed, and her assailant so ruthlessly advantaged, no wonder that she gets many a hard knock and very undeservedly, —sinks, frequently, ashamed beneath fallacy, when truth would be proud to give her honour.

Therefore, now that we have got him down (in our last), we must look at him with full scorn of *Vulgar Hypercriticism*.

There is the Doctor's man, for instance, "Master Hugh," with a long cock-and-bull story about a bullock. It is this very sin. And, by the bye, it were well if every one could be as easily persuaded of it as worthy Hugh. I accused him of it broadly the other day, and declared it was a shame. Hugh would fain have disproved me (and he is a tough logician, too, in his own way), but he gave in at last, like a man (being a good-hearted fellow,—all Scotchmen are so), and owned that it just happened to be joke *versus* generosity within him, and joke happened to win it, that was all. Still maintaining the root of the matter, however, that the sculpture might have shown more *life* and *beauty*.

The sculpture is as it is,—it cannot change at bidding now. And as it is, it is a very valuable work. If we were to set down as valueless every thing that people choose to blame, what would be left us? Not even the "Discourses" themselves. Better to set about advantaging the statue than to keep snarling at it for ever. It is not absolutely celestial; but it needs only good management, proper advantaging, to be made a very glorious monument! Therefore—

Of what to do with him. And this is the easiest thing in the world. We happen, in the first place, to have no precedent for setting a horse on a column; so that this our first and favourite mode of honouring an exalted man by exalting his effigy must be abandoned,—unless we are prepared to dismount the Duke and *seat* him on the abacus with his feet dangling over the front, which I don't think well of at all. So Mrs. Precedent turns over the next leaf, and there, sure enough, under the head *Of how to deale with a horss aude a manne*, we have it exactly.

> We hie him away to—no matter where,
> And build up a precedent pedestal there,
> With its Base, and its Dado, and Cornice so fair,
> And its panels of sculpture so rich and rare,
> All for to hold "th'old Duke" and "th'old mare;"

And that's what we must do with him. But the gentlewoman has been unfortunate lately; her boys are growing too big for her, and threaten turbulence and actual rebellion; (whereat she is, of course, a very angry woman;) and so we don't at all hesitate in this case to question the maternal wisdom, and *think* at any rate for ourselves.

I. The primary simple idea in the placing of a statue is, of course, to place it on the ground like that which it represents.

II. We improve upon the simple idea by giving the statue a *basis*, that is, a ground for itself; whereby it assumes a more formal monumental character, and obtains also in connection with such character, increased importance and state. This is, so far, the rationale of the Pedestal.

III. (The statue being, of course, no matter of the architect's province, but merely a *fact* with which he has to deal.) We proportion the pedestal to the statue; 1st, with reference to graceful general form; 2ndly, with reference to relative importance, by dimension, by display, and by spirit (so that the sculpture may not be overpowered by the size or richness, or other importance of the pedestal, and, at the same time, that the pedestal may be equal to its office—not too mean, or too small, or otherwise deficient,—and, lastly, that the pedesta may not be incongruous in spirit—inconsistent in genius with the sculpture); and, 3rdly, with reference to the restrictions under which the design of the pedestal is laid by the requisites of sculptural effect (so that the sculpture may not be placed too high, or too low, or otherwise at variance with its right effect). The proportion and design of the pedestal, 4thly, as regards itself specially, is understood; as it never loses its independence as a complete design in itself, all the while that it is merely an accessary of the statue, and merely a part of the whole structure.

IV. Then we improve upon the pedestal thus, (and now we are getting beyond the usual depth of architectural design); we throw over it the refinement of graceful artistic conjunction with 1st, the ground, 2ndly. the sculpture. The pedestal itself is essentially vertical in character, and we conjoin it with the essentially horizontal of the ground. We spread the base: the contour becomes a curve, terminating at one extremity in vertical tendency, and at the other in horizontal.

Memoranda. The Greek stylobate will at once occur to the mind. Observe also the vast inferiority of the York Column to the Nelson Column in this respect.—Fox's statue in Bloomsbury-square, and others, display similar advantage over the common idea.—The slightest hand-sketch will enable the reader to observe the difference between the base dado and cornice of common orthodoxy, and the same with a bold wide-spreading graduated stylobate.—It was Sir Joshua Reynolds' praise to Vanbrugh that his compositions were so artistic in this idea.—The capital of a column, also, is an exemplification of our present subject, being a junction of the vertical of the column with the horizontal of the entablature, —the Ionic capital of the Greeks being in this respect an extremely bad design. The rationale of a capital and that of a base are so far similar, that that which serves for the one will be not altogether incongruous for the other. The Doric or Corinthian capital, if used for a base, would manifest no essential inconsistency, although not exactly appropriate; but try the Ionic capital for a base!—the Greek Ionic at least; the four-horned Roman is much better, although still very objectionable.

Thus we have connected the pedestal with the ground. We have now to connect it with the sculpture. Suppose we give the pedestal a cornice,—the reason of it is this. The contour rising from the ground tends to fall short of absolute verticality and turns *inwards;* and we turn it outwards again by the projection of a cornice,—thus rectifying the line by making it a *scotia*.

The Greeks, Egyptians, &c., used the excellent principle of inclination in the vertical face, which gave the greater reason to the cornice; although, even with our usual perfectly perpendicular wall, the inward tendency of the contour is still produced by the horizontal ground and the vertical edifice forming in the eye, independently of any artistic stylobate, the curved contour of connection. The vertical contour is led off beneath by the ground, and this is *balanced* by leading it off above by a cornice; the *finish* which a cornice produces, is the formation of a *scotia* contour —a graceful balance in the perpendicular outline.

The cornice does not at all interfere with the junction of the pedestal with the statue. It merely adds a refinement—an elegant finish to the contour, by keeping separate the pedestal and statue as two objects, when without a cornice (especially with certain kinds of statue) the two might run too much into one, more confused than conjoined. There are certain cases, however, where the character of the monument would suffer in *majesty* by the *elegancy* of a cornice; and we preserve a plain simple dignity by the upper portion of the pedestal being a mere block. (If my memory serve me well, Fox's statue already referred to, is thus advantaged very manifestly). The connection of the pedestal with the statue is effected by the weathering of the cornice, the superimposed plinth or base, and so on; or when there is no cornice, by similar management of the general outline formed by the statue and pedestal; the contour in the one case being divided by the cornice, spreading outwards to the cornice from the statue above,

and outwards to the cornice from the pedestal beneath,—and the contour in the other case being undisturbed, statue and pedestal in one mass.

V. We improve still further, and lastly, by another refinement. The statue is connected with the pedestal, and the pedestal is connected with the ground; but it does not follow that the statue is connected with the ground. The stylobate is good connection between pedestal and ground; we now make the pedestal good connection between statue and ground. The statue has been harmonized with the pedestal, and the pedestal with the ground and in itself; we must now have the statue, pedestal, and ground, harmonized all together—unity in the whole effected. The conjunction of the pedestal with the ground, therefore, is now improved upon in the conjunction of the whole with the ground, so that the contour of the whole mass shall be one harmonious line, and the monument as a whole completely proportioned.

Of course the addition of one grace is supposed not to be made to destroy any previous other. And thus we have the monument perfected. And its criticism consists in the examination of its compliance with the various principles detailed.

The design of the sub-committee outrages III. 1, 2, and 3, IV. 2, and V.,—that is, by-the-bye, every applicable principle in the series. The Arch, as at present the pedestal of that statue, is repugnant to graceful general form; to relative importance, in all the three respects of dimension, display, and spirit; to sculptural effect; to graceful connection of pedestal and statue; and to harmonious unity of form in the whole mass. Whatever the Arch in itself may be, and whatever may be the grandeur of the idea of placing the statue on that proud seat, *the Arch is not a good pedestal for that statue,—it spoils the effect which the statue might produce.*

I pass over allusion to any alterations on the sculpture which Mr. Wyatt may have to effect in order to suit it to the proper site, or rather in removing the character which may have been put upon it to suit it to the present site. Perhaps there is sharpness and boldness which must be modified; although, after all, considering the gigantic size of the sculpture, and the fact that its light-and-shade will soon be that of a perfectly *black* object, too much sharpness or boldness is scarcely to be feared.

I presume that it will be admitted that the character to be carried out in this subject is *grandeur*, and that the grandeur must be the grandeur of *magnitude;* that the effect of the statue must chiefly consist in the development of its own mighty mass.

It is very difficult to express briefly in words, any principles of guidance in such a matter of design as the present. It just amounts to little more than saying that the pedestal must not be too high, nor too low—too large, nor too small,—too elaborate, nor too simple,—and so on. Although, in this case, with regard to one important point, it may be laid down very decidedly that the base of the sculpture should not be placed so far above the eye, as ordinary precedent ideas of proportion may probably advise. The exact elevation may be determined by the rule, that the spectator at the proper distance for properly observing the minutiæ of the sculpture, shall have the figure at the proper angle of vision for its right effect as a whole,—that at a distance of perhaps from 50 to 100 feet in this instance the sculpture shall appear, not as a man on horseback viewed from beneath, but as usually seen in nature, with the least possible elevation consistent with a duly grand monumental character. The desired grandeur in the pedestal, with the requisite lowness of mass, may be given by the greater extension of the curve of connection with the ground: and by dispensing with cornice (as may be very well done in the effect desired) this extension may be had still more increased.

Don't put *railings* round it. Foreigners think Mr. Bull must be a roaring lion going about seeking what he may destroy, so carefully do we *keep him off* always. And even, say they, even if boys *will* knock off corners, better far to have a little mutilation (if it should come to that—which is not altogether likely) than to mar that very important part of the work, the ground line, so completely and so hopelessly for ever.

Regarding the site, we are in rather unfortunate circumstances. To *make* a site is, (with us,) I fear, out of the question: we don't do such things. The parade at the Horse Guards?—A very *shabby* site, truly. Waterloo-place?—Large enough *perhaps;* but not exactly suited otherwise. Still we may get a site. If I were a king, said the little rustic, as the story goes, I would have milk porridge and milk with it. If I had my way I would cut down certain trees in a certain Square, and form a really proper site for the grand Wellington. A broad grand pavement within the carriage-way,—(a terrace? accessaries?) the mighty monument in the grand centre! But whether such an atrocious offence to utilitarianism could possibly be accomplished, I cannot tell.

I have found it not an easy thing to get him down and to do well with him even on paper; and your readers must allow for imperfections,—or come spiritedly forward and supply them. Not an easy thing on paper: still less, perhaps, is it an easy thing in fact. No one can but feel a sincere desire that so grand a monument of Art, and the memorial of a man in whom we justly take so great a pride, should be so administered as to be worthy of Art, worthy of Wellington, worthy of England. It is not so administered now. A most noble monument—a most glorious offering to the great man's fame! Pity that we should mar it when we might enhance it! The statue is a fact weakened or strengthened by another fact the site: the Sculptor a fact weakened or strengthened by another fact the Architect. How much of the deed depends on how it is done! How much of the glory consists in how it is given! How much of the value of this statue lies out of itself! As it is, how lessened—weakened! As it ought to be, how augmented—strengthened! Then let the Power come forward, with a hearty Will, and show an English manliness to take him down, an English open-handedness to do well with him!

Robert Kerr.

MARGATE, AND THE OLD CHURCH.

The same hasty flight that enabled us to speak, last week, of the new college at Canterbury, took us into Margate for a few hours. The aspect of the town was cheerless,—

> "Its lights were dead,
> Its guests were fled,"

and we had the "White Hart,"—waiter, chamber-maid, and boots inclusive, all to ourselves. When our business was over, though it was growing dark, we looked into the old church, and were glad to find that something had been done towards restoring it to a fitting condition. The body of the church is Norman, it consists of three nearly equal lateral divisions, and is very long and very low.

The west gallery is removed, a new porch formed there, and a new west window of perpendicular character constructed. A plain waggon-headed ceiling is formed, to be panelled when funds are forthcoming. The Norman columns dividing the nave and aisles are restored, as is also the very nice perpendicular font, adorned with the arms of England and of the Cinque ports. There is also a new east window and a new altar piece of oak; the latter chiefly owing to the archbishop, who himself gave 50*l.* to get rid of the Corinthian excrescences formerly there. The sedilia and piscina are plain. Mr. W. Caveler was the architect, and the money spent is about 800*l.* The new pewing is much too high, but the architect is probably blameless. Outside, nothing has been done; the tower is an amusing specimen of churchwardens' Gothic of thirty or forty years ago.

The branch railway to Margate is to be opened forthwith, and those who have endured the four hours and a half journey, to which the directors of the South Eastern now subject land travellers to Ramsgate, (melancholy reminiscence!) will be glad of even the little saving of time this branch will effect. Some of the bridges, by the way, near Margate, seemed to us little calculated for great traffic. Our trust must be in Pasley; therefore, O most excellent general, open wide your eyes.

Surveyorship, St. Thomas's Hospital.—The election will take place on the 11th. Testimonials are to be sent in on the 9th.

IMPROVEMENTS (?) IN SCARBOROUGH.

Mr. Editor,—Observing in your paper of the 19th ult. a wish to know something more about the railway station, and I presume also the general improvements of Scarborough, I beg to send you the following particulars:—

If it be true that Scarborough is the "Queen of English watering-places," it must be understood to derive its celebrity from its scenery and picturesque beauties, and not from its architecture, for there are not above half a dozen buildings that are worth the name.

In point of situation, Scarborough is second to none; it stands unrivalled both for its land and sea views; but it is not too much to say, that its architectural beauties are in an inverse ratio to its natural advantages, which is a fault and a blemish much to be deplored; for we shall see in the course of this article how its advantages have been thrown away, and its architectural character neglected.

I will instance Bath, as a place where the localities have been moulded into architectural magnificence by an educated man, and the result is nothing but pleasure and satisfaction, both to the eye and to the mind; but Scarborough—or rather "new Scarborough," with far greater natural advantages, and fresh from the hand of the builder, creates nothing but disgust. Had Woods planned at Scarborough instead of Bath, he would have made it one of the finest towns in England, for there was every facility for doing so a few years ago.

The south cliff, or as it is commonly called "New Scarborough," is separated from Scarborough by a ravine running from the Hull road down to the sands; it is connected, however, by a cast-iron bridge of four spans, called the Cliff bridge, which was built originally for the Spa Saloon only, but now serves also for the south cliff inhabitants.

The top of the cliff (the tide when up washing its base, which is protected by a sea-wall) is probably 300 feet from the level of the sea. On this cliff is a zig-zag row of houses, which the local papers call (I forget the precise terms, but amounting to) "splendid palaces," "charming crescents," "delightful villas." To make a simile, to give a better idea of their position, this row of houses has the appearance of a railway train passing from the *down* on to the *up* line, with this addition, each carriage higher than its neighbour; fix the idea, and you have the south cliff esplanade before you.

At the end of this row stands a "villa" of the cockney gothic school, then another row of houses of a little more symmetry than the last, and as a masterpiece for the finish, comes the end of the Prince of Wales's Crescent—a blank wall, with pilasters at the angles, surmounted by a gable full of chimney stacks!—a more stupid perpetration cannot well be conceived.

In returning from this survey let us glance at the Crown Hotel, which is the centre of the esplanade, and on which the architect appears to have "used up" all his architectural knowledge. Here we see something new in the way of design—the Corinthian supported by the stalwart Greek Doric, and even without any intervening entablature: this may be seen in what is termed the "portico," but which is no other than a trumpery display of columns, merely for the sake of display, without any real use, in bad taste and still worse proportion.

If it should be asked who was the architect, I answer, there was none employed. It was conceived by some speculative wise-acre that the "native talent" (concentrated in a speculative builder) was quite equal to the task, and, therefore, "Why employ an architect?"

The result, as in all such cases, may be summed up in two words, "complete failure."

It provokes a smile to see the ridiculous and awkward attempts made at display, by means of pilasters with Corinthian caps (the same moulds having been used by all the plasterers in the place for the last five years); and so infatuated has been the "native talent" in one instance to get pilasters, that it has neglected to bring over the entablature to the same face—the effect of which, at the angle of the building, may be imagined.

There are three radical errors in the laying out of this cliff: the first of which I conceive to be the placing a carriage road between the houses and the view of the sea; second, in building the houses on an inclined plane; and, third, having backyards and excrescences looking out upon a most lovely landscape.

In my opinion (and I think I shall have every man of taste with me) the following considerations ought to have produced a plan worthy of the spot:—first, the view from the houses towards the sea ought to be uninterrupted and pleasant, devoid of the common-places of town life, and as quiet from every day noise as possible: for this reason—the people who reside here come from the inland towns to enjoy country life and the sea air, and, therefore, want change of scene; and how is this to be obtained when every thing goes on around you as in the place you left? This, therefore, leads to the conclusion, that the space between the houses and the edge of the cliff (say about 100 feet) ought to be laid out in ornamental grounds, private to the esplanade, but common to all the houses. 2nd. As it is very painful to see a person with one leg shorter than the other, so it is to see one house jumping above its neighbour; and this leads us to the result of having them on the same level, which might have been done by embanking the lower end and cutting off the top of the hill; then making the space in front of the houses into an agreeable garden of flowers and grass-plots—not trees. The level thus created, the buildings rise as one grand whole, getting over a great difficulty, and vastly improving the general outline. 3rd. Rich as is the view seawards, the landscape at the back of the houses is equally pleasing and agreeable. When the setting sun is just imparting its expiring rays to the vallies, and just on the point of disappearing behind the hills—then, at such a time, who would not forsake the monotonous dashing of the waves for such a view as this? But, I ask, who can enjoy the setting sun according to the present arrangement of the esplanade? If you attempt it, your poetic feelings will receive a shock by the backyards and privy-doors staring you in the face, and maybe (owing to the defective drainage even in this new part) your olfactories be assailed by the most horrid of smells. This front might have been made delightful by having the kitchen offices under a terrace, on to which French casements might have led from the drawing-rooms, thus commanding extensive and delightful views. The entrance door would have been in this front, coming up a few steps from the road, all of which might have been arranged by an architect of taste with perfect ease.

So much for general arrangements: in my next I will give you a descriptive account of some of the better buildings. J. L. C.

FOREIGN INTELLIGENCE.

The Art-Union of Prague, Austria.—The interest which the *public* take in such establishments, increases even in these hitherto reputed half-civilized countries. At the last exhibition, the number of visitors increased to 16,480, and twenty shareholders bought forty pictures for the sum of 10,434 florins (1,000*l.*). The Union purchased forty-six pictures for 8,353 florins. The number of shareholders increases not only in Prague and Bohemia, but also in Silesia and Galicia, where hitherto no such association existed. In the year 1845 the number of members was 2,473, who possessed 3,149 shares—this year the proportion has increased to 2,966 members and 3,622 shares. The Prague Union has also put aside a separate fund for executing public monuments, which amounts now to 18,000 florins. They intend to begin with the pleasure pavilion of Emperor Ferdinand I., in the palace gardens at Prague—a beautiful structure in the best Renaissance style, which has been already perfectly restored, and which the Union intends to have ornamented with frescos from Bohemian history. The estimated costs will be 30,000 florins.

Newly-discovered Works by Raffaelle and Michael Angelo.—The picture-dealer, Mr. Fabri, at Rome, has discovered a portrait by Raffaelle, representing Cardinal del Monte, which is very similar to that of the fresco of the Vatican—representing the laying down of Canonic law. It is a spirited, sharp countenance, exhibiting, in those parts which have not been injured by restoration, those high art qualities appertaining only to the great Urbinate. To the right a landscape is seen through a window, rich in all the delicate fancy of the great artist. The other work, perhaps even more important and scarce, is a picture by Michael Angelo, representing Christ laid in his grave. Of the deep sentiment, which this highly original composition displays, no words can render a proper account; and it is expected that shortly, at least, an outline will be published. This picture, hidden under the bedaubing of a modern *ristauro*, had been bought by a dealer amongst other refuse of the Fesch Gallery, from whom it was purchased by Mr. M'Pherson, an English artist. A label of tin on the back of the canvass, with the lilies of the Farnese family, shewed that it had belonged to that collection, and thus led to the discovery of its great value.

INDUSTRY AND ART.

On the 13th instant, Mr. G. Wallis, the late principal of the Manchester School of Design, delivered a lecture at the Bradford Mechanics' Institute, on the fine arts and their application to industrial purposes. In showing how the arts served to increase our wealth, and the value given to our manufactures, by brain labour, the lecturer produced a French miniature jug, beautiful in design, and stated that the clay of which the jug was composed would cost about half a farthing, whereas by the brain labour of the designer, its value was increased to half a crown. The material form of another jug had, in like manner, had its original value of a farthing increased to seven francs (5*s.* 10*d.*) in consequence of the colours which had been bestowed upon it in ornamenting it. He stated that there was an indisposition, from the non-appreciation of the works of art, to pay the high price for their embellishment which our continental neighbours, whose taste was educated, paid for them; and he said that they might depend upon it, that Englishmen would produce works equally as beautiful in the art of design as the French, when they had equal encouragements, and when the people could appreciate the truly beautiful. The English manufacturer seemed to lose sight of the fact that, if he produced a costly article, he must look to his customers for an increased return for the outlay made, in order to increase the value of the raw material; for instance, there was a beautiful design in paper before them; the English manufacturer dare not attempt to produce it, if it would take more than twelve blocks, in order to print it, but this design would take 450 blocks, and the French manufacturer produced it, because he knew its value would be appreciated amongst a people who had a love of art, and he would find a ready sale for it. It was a very unfortunate thing that the manufacturers in this country seemed to have a fear to produce the higher specimens of art; and it arose from the fact that they did not understand it. Our continental neighbours did not fear to produce a work at the cost of a few hundred pounds, because they knew they would command a better sale. But a necessity had arisen within these few months, in the relaxation of commercial restrictions, why we should no longer look to our neighbours, but depend upon ourselves for the production of materials equal in art to our neighbours, and he would urge our manufacturers for the coming struggle, for they had nothing to fear if they set about this in good earnest, and with a determination to produce specimens of high art. He contended that the embellishment of the works in use in daily life must henceforward be one of the objects of our study; and that our artisans must become artists as well as artisans, and be able to cultivate and derive increased enjoyment from the works of art. Our manufacturers, too, must become artists. The manufacturers of Lyons were generally artists: and many houses had obtained their high position from the superior order of the designs of their principals. To shew there was no lack of ability in England, he stated that, during his connection, for the last five years, with several Government schools of design in this country, he had found only four persons, out of the large number of 1,500, who had an incapacity to make any progress. If he were to state that, among this number, there were fifty more whose friends he would have advised not to let them engage in such studies, he would be exceeding the number. This was the result of his own experience—four only out of 1,500 discovered an incapacity; and he offered this statement to those who might doubt our fitness to excel in the fine arts.

In the course of the lecture he very rightly contended, that there were infinitely higher considerations involved in this question than those relating to our position and well-being as a commercial nation; and he shewed that the fine arts exerted a great moral influence over social life, and that the man who could admire the beautiful in a picture or a statue had opened up to him rich and inestimable sources of enjoyment. As a social benefit he advocated the extension of the fine arts; and he instanced the difference of feeling with which a person sits down to table, though the edibles were only scanty and common, in a room decorated and furnished with taste, from that of sitting down in a room disorderly and dirty.

HONOUR TO THE FAIR SEX!

At the risk of vexing some who would not have their good deeds brought too prominently forward, we cannot avoid making honourable mention of the remarkable perseverance and devotion of the daughters of General Simcoe, who distinguished himself in the American war. These ladies, on the ruins of the old abbey of Dunkswell, near Honiton, have erected a church, for which they worked all the stone with their own hands. A large drawing-room, commenced by the general, and not finished, served for the *atelier*.

We have a worthy companion for these ladies, whose names we mention with all due respect, in Miss Rickards, of Stow Langtoft, Bury, who has, with her own hands, as we hear, glazed all the windows in her father's church with stained glass, painted and burnt by herself!

BUCKINGHAM PALACE.

We find the following in the current number of the *Art-Union Journal*.* Our contemporary need not fear that we shall let the matter rest.

"While some have been volunteering their ideas both for a different appropriation of the present palace (viz., that it should be given up to the National Gallery), and for the erection of a new one, a very lofty and extensive boarding has been put up; consequently all doubt as to the matter of alteration is now removed, although the result of the intended transformation is exceedingly problematical. The boarding, indeed, has answered admirably, for it seems to have most effectually screened the whole affair from further public notice and animadversion, those who had previously so much to say being now silent; which surely ought not to be, as it should be pretty loudly demanded that the public should be let to know in time—that is, at once—what the design for the new façade really is; more especially as they would be likelier to favour increased grandeur for the design, than any curtailment of it. One national structure there is in this country which deserves to be studied by a palace-builder; so we would recommend Mr. Blore, before it be altogether too late, to take a few lessons of the grandiose and scenic from Greenwich Hospital. We fear, however, that the original littleness of manner and *mesquinerie* of ideas, will extend their contagion to the new range of building; because it may be presumed that the additional rooms will be only subordinate ones for purposes of increased accommodation; consequently the number of the windows will be greater, and the size of them less, than comports with architectural dignity. Even if we may not know what the design itself is, it is highly desirable to know who sanctions it, and whether any one besides the architect himself is responsible for its merit and its satisfactoriness—that is, its satisfactoriness to the public, who, whether they are, or are not, allowed to express any opinion now, will exercise their right of opinion pretty freely hereafter. If the public are content to give Mr. Blore a *carte blanche*—although their experience of modern palace-builders might fill them with mistrust—they ought to be prepared to abide by their bargain, let it turn out whatever it may."

* The editor of the *Art-Union Journal* seems determined to spare no pains to render his elegant work popular. He announces for the new year a series of portraits of artists (a worthy thought), a series of historical pictures engraved in line, an illuminated volume, a series of papers by Dr. Ure on the French manufacturing towns, another on forms from the antique, by Mr. Fairholt, and a continuous story from the accomplished and *good* Mrs. S. C. Hall, illustrated by Mr. Noel Paton.

CARVED WOODWORK IN ANTWERP CATHEDRAL.



ANTWERP AND ITS CHURCHES.

Although Antwerp may not present, to the eye of the artist, such an appearance of antiquity as Ghent, Bruges, and other towns of Belgium, or that air of comfort and elegance so observable in Brussels, yet it is impossible for a stranger to behold, for the first time, the many churches, palaces, and other public buildings, of the extent, magnificence, and solidity which characterize those of Antwerp, without surprise and admiration; and these feelings will be considerably enhanced if it is borne in mind, that many of the fairest places in the city were erected in seasons of tumult, and amid civil and political conflicts. If we consider the great commercial advantages Antwerp possessed, we need not wonder that it should have attained to that pitch of wealth and grandeur which has always been found most favourable to the encouragement and development of the fine arts. In painting, it went hand-in-hand with Italy, and supplied England with a succession of able masters, who became the favourites of the sovereigns they served, and were the means of diffusing a love of art throughout the land, which has ever since been on the increase. Nor was it behind in architectural skill—in the fourteenth and fifteenth centuries it produced those grand examples which have since been the admiration of all Europe.

It is almost impossible to give a just idea of the beauty of the churches here; it is very easy to call to mind the effect produced by each noble pile—the rich windows of the one, the graceful arches of another, the wondrous aisles of the cathedral, or the richly carved confessionals of St. Paul—all come readily back to one's own eye, but are so difficult to put fairly before the eyes of another. This is perhaps of less importance, now that Antwerp is within a day's journey, so that nearly every person may see and admire for himself.

Sir Walter Scott, no mean authority in such matters, declared that the Cathedral of Notre Dame was one of the grandest pieces of architecture which Europe could shew. In point of size alone, it must always excite astonishment, its length being about 500 feet, and the breadth, exclusive of the transepts, about 250 feet. The height of the nave is said to be 360 feet, and many of the noble piers which support the vaulting are twenty-seven feet in circumference.* Every other part corresponds as to size and magnificence. The tower is not to be surpassed for beauty of design, although at a distance the great profusion and delicacy of the ornament render the outline rather confused. Had both towers been completed (which was evidently the intention), the west front would have been unequalled.* It is much to be regretted that the effect is much impaired by some very mean houses built against the base of the towers; these should be at once removed, and the whole front undergo the same careful restoration as that of St. Gudule, at Brussels.

The interior of the choir has been much improved by the addition of a row of stalls on each side, with canopies of rich tabernacle work. These are of very beautiful design, and of such delicate execution as to afford a convincing proof that the Belgian artists have lost but little of their skill in wood carving.

Here, as in most of the churches, there is a great variety of confessionals; it is in these and the pulpits that the finest specimens of wood carving are to be found: the designs are varied in every case, but the merit of the execution is equal in all. The one chosen for the present illustration stands in a chapel of the south aisle of the nave, and is a fair specimen both as to design and execution; it calls for no

* The Norman piers in the nave of Gloucester Cathedral are twenty-one feet in circumference.

* It is curious to observe how many of the finest towers in Belgium are in an unfinished state; the magnificent tower at Mechlin but little more than half the height intended; the two towers of St. Gudule, at Brussels, and the south tower at Antwerp.

SIDE ELEVATION.



particular remark, except that the two centre figures project a little before those on each side. As was mentioned in another case, the centre division is occupied by the priest.

Every one is aware that this cathedral contains two of Rubens' finest paintings, "the Elevation of the Cross," and "the Descent from the Cross;" the latter of these was taken by Napoleon to Paris, but restored at the peace of 1815. Besides these splendid productions, there are many others of great beauty, forming one of the most extensive collections possessed by any church in Belgium.

Another interesting object in the church, is the tomb of Quentin Matsys, known as the Blacksmith of Antwerp. Sir Joshua Reynolds, in his discourses on the fine arts, mentions him as a great painter; and those who have seen the tomb of Edward the Fourth, at Windsor, (if by him) will willingly bear testimony to his skill as a smith; it is almost as delicate as lace.

The church of St. Paul will well repay the stranger for a lengthened visit; it contains two fine rows of confessionals, each one surmounted by a good picture. In the inclosure around this church is what is called a representation of Calvary; it is reared against the walls of the church. There are more than sixty figures, of the size of life, representing patriarchs, prophets, and apostles; some of the groups have a bold and graceful outline. The entire area is converted into a sort of pantheon of saints, statues of half the calendar being stuck about in all directions.

The church of St. James is considered by many persons the finest in Antwerp. Roscoe in his "Tour through Belgium," gives a fine description of it; he says, "the splendid mausoleums, pure rich wrought marbles, bold sculptures, and brilliant paintings, interspersed through eighteen chapels, and twenty-two altars, present one magnificent coup d'œil, the effect of which nothing can surpass. Even the choir, differing from other churches, is beautifully decorated with every attraction of art that can lend a charm to religious sanctity. The splendid confessionals, the beauty of the statues and paintings on all sides, the exquisite skill and beauty of the carvings, the subdued and mellow light thrown over the whole from the majestic windows, give it a hold on the imagination and the feelings not to be experienced in any other place." In a chapel behind the choir of this church, is the tomb of Rubens and his family.

But it is impossible to mention all that is worth seeing in the churches of Antwerp. We can only advise those who have the leisure, to spend a week there; they will find more than sufficient to occupy them pleasantly and profitably, especially if they take a sketch-book with them, as recommended in a former number.

PATENT ORNAMENTAL TILES.

Sir,—The very liberal and courteous tone of manner you evince, on every subject which has for its design the advancement of art or science, especially in its relation to architecture, emboldens me to intrude upon your attention the result of some considerable labour on the subject of tiling. In the pursuit of this I have been guided by the following ideas, viz.: security, economy, taste.

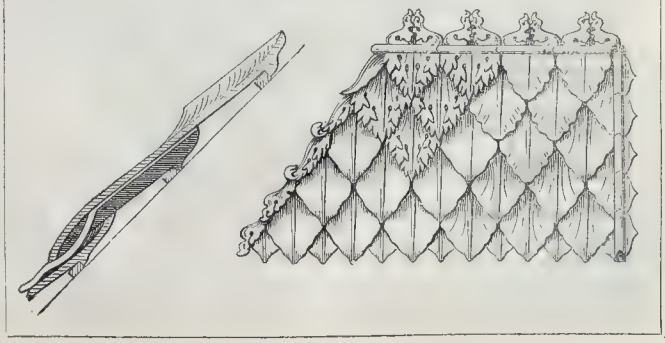
Hitherto the style of covering buildings seems to have been the victim of necessity rather than the well-regulated result of choice or design.

About three years since I was the inventor and patentee of a tile, which claimed many advantages over those in common use, being provided with a coupling joint of inverted fillets, somewhat similar to the "Italian tile:" but in *practice* I discovered many serious defects—their large *flat* surface being very difficult accurately to manufacture, besides insecure when on the roof, in consequence of the fractures to which the inverted fillets were so continually liable, besides thus forming an inducement rather than a prevention to the admission of water.

The tile to which I now solicit your attention is the result of practical experience and observation, by which these evils are entirely obviated, the manufacture facilitated, and more perfect security obtained when on the roof, besides being much lighter, more elegant and original in their character, and capable of a greater variety of style, though of one uniform size and gauge—a feature not possessed by my former patent tile, though of paramount importance.

In addition to the entire curvature of surface, which provides an equal distribution of water over each tile, the concave and convex overlapping, while it not only prevents leakage, through driving rains or capillary attraction (an evil, though frequently unobserved, yet of very common occurrence to covering by the

PATENT ORNAMENTAL TILES.



overlapping of flat surfaces), is not liable to the misfortunes to which the fillets were so constantly exposed.

Its cost is comparative, as much depends on locality, but in most cases a saving to the extent of two-fifths may be effected on plain tiling, and one-fourth on ordinary slating. As these tiles may be manufactured where the transit of slates would be heavy, a greater proportion of saving would result; and then as to the style, these tiles may be varied to suit any description of building, whether ornamental, modern, or antique, whether it regards colour or design. The accompanying sketch shews tiles in the form of the wood ivy leaf, and the oak.) REED.

Hamworthy Tile Yard, Poole, Dorset.

FACILITIES AND DIFFCULTIES OF VENTILATION.

SOME have denied the necessity of making provision for change of air, thinking, that the general laws of nature preclude the idea of inconvenience or ill-effects upon the general health; and, perhaps, this is in part true, or mortality must else have been greater.

Chemistry shews that the general laws of nature may be interrupted; and the discovery leads to the detection of subordinate laws. Animal life cannot exist without oxygen; combustion also requires the same principle. The products of the lungs by respiration have taken away life; the products of combustion extinguish flame. Animal life, and it may be called chemical life, are thus supported and terminated by the same laws.

Liebig says, animal life is a kind of combustion; and many must have felt the general effects of an unusual exposure to fresh air; and those unaccustomed to travelling, are surprised at the influence of fresh air in producing fatigue, being sensible that bodily exertion could not have been the cause. The effects upon the system are usually increased appetite and improved general health.

In a crowded and highly illuminated apartment, we have, from two sources, an enemy to animal life; the products of what has been called animal, and that of common combustion. These principles, when present in any considerable degree, weaken the powers of nature, by removing or modifying the general laws which preserve health.

Ordinary apartments are generally healthy, under ordinary circumstances. It is only when there are a number of persons present, that more air is consumed and spoilt by respiration, and other causes, than can be renewed by the usual architectural arrangements.

If the draft of chimnies were increased, where such inconveniences were likely to arise, a ventilating power would be found equal to the difficulty. To increase the draft of a chimney, it is not sufficient to remove all possible obstructions to the ascent of rarified air, but also to make arrangements for a proper supply of common air to replace the loss. If a chimney be supplied freely with air, it will transmit a much greater volume than if the supply be niggardly, or, as it is under ordinary circumstances, strangled. Chimney draft has, then, a scale of power, from the free supply, to that point when the supply is nil, and the unascensive products extinguish flame.

The united draft of a number of chimnies, with combustion going on, is considerable: making arrangements for a supply of air to one or more separately is not sufficient; for correctness and satisfaction all should be supplied from one source.

As most buildings have a greater or less space unoccupied, except as halls and staircases, these should be the reservoir from which the respective apartments may be supplied. The advantages of internal over external ventilation will be apparent, when it is considered, that in the one, should the atmosphere be wet and raw, an opportunity offers itself, by the well-warmed halls and staircases, to correct this objectionable state, while by the other this is impracticable.

It is unnecessary to observe, that the whole interior of a house should communicate by air passages of some sort or other, and that it should not be the endeavour, unwittingly 'tis true, to convert one or more, or all rooms, into what might be called exhausted receivers.

But while dwelling-houses offer every facility for change of air, by the better arrangements for combustion, the same cannot be said to be the case with some buildings of greater magnitude. Churches and chapels are mostly without chimnies, and when they do not possess towers or steeples, the which to contain a ventilating tube of convenient large diameter, the difficulty is considerable. Opening the windows on both sides the building, may assist to cool the heated atmosphere; but if there be no wind, or artificial or mechanical means, to produce an agitation of the impure contents, there will be little or no change. It is too much to expect that hot air which ascends with considerable velocity, should pass off laterally at the same time, or at all. As hot air ascends in straight lines, the ascent is accelerated by passing through tubes of equal diameter.

A building not possessed of a tower or steeple, may still be ventilated by placing in the angles of the building, tubes of conveniently large diameter, which should have their commencement a little above the highest breathing point, and terminate through the roof. Niches and canopies offer an ornamental commencement to the tubes.

Should a chandelier be placed under the opening of the tube, the acceleration of change will be in proportion to the amount of combustion. To double the velocity of the escape, will be to square the motive power. C. F.

Chelsea.

NEW CHURCHES IN THE COUNTRY.

THERE appear, on a general calculation, to be nearly 400 churches at the present moment in one stage or other of progress throughout the country; that is, either in actual course of erection, conditionally ordered, or privately in preparation.——Amongst the notices of those to be added to our weekly incidental lists, taken from the local papers, it is strange how few there are in which even the most insignificant and accidental mention is made of the name of that anomalous and superfluous adjunct, the architect, to whom all parties interested were *only* indebted for the idea, the design, the head-work of the whole of that construction, of the foundation or completion and possession of which, in most cases, they are in these notices in the very act of publicly glorying and boasting, while detailing in the fullness of their gratitude to all concerned, even the most paltry contribution of pulpit cushions, linen drapery, kneeling hassocks, and other laudable enough endeavours of those "into whose 'hearts' it has been put, to 'beautify the House of the Lord;'" that house for the very idea, and architectural beauty, and elegance, of which, as it may be, they appear to be, after all, so thankless. This is a "great fact" of a very singular and unaccountable description, which well merits a niche amongst the "curiosities of journalism."—— On the 20th ult. the chapel of St. John, the Evangelist, at Stoke-row, parish of Ipsden, near Wallingford, was consecrated by the Lord Bishop of Oxford.——In the hamlet of Seer-Green, parish of Farnham-Royal, Bucks, the new church erected from designs by Mr. James Deason, has also been consecrated by the Bishop of Oxford, in presence of a numerous assemblage of clergy and others. It is in the early English style of architecture, and consists of a nave, chancel, porch, and vestry, and a stone bell turret at the west end. Including chancel, it is 80 feet long, width 26 feet, turret 60 feet high. The interior is fitted with open benches to the entire exclusion of closed pews, and will accommodate upwards of 200 persons.—— Christ Church, West Fordington, has also been consecrated.—— The foundation-stone of the new church of All Saints, Leeds, is about to be laid on a site near the York-road, at Pontefract-lane.—— The new church at Durweston, Blandford, rebuilt by Lord Portman, and opened on the 25th ult., is an edifice consisting of a spacious chancel and nave, with a south aisle, in the early English style. The chancel arch and timber roof are highly spoken of. The architect was Mr. P. C. Hardwick, of Russell-square; the builder, Mr. Webster, the superintendent of buildings to Lord Portman. The architect designed the pulpit, which has been massively executed in old carved oak.——"On Monday" (week), says a contemporary, "the foundation-stone of a new church, to be called St. James's, was laid by the Lord Bishop of Woodside, Horsforth."——The Independent Chapel at Rawden, the foundation-stone of which was laid in March last, is now nearly completed. The chapel, vestries, class-rooms, school-rooms, and manse are all in the Norman Gothic style.——The work of restoration at the parish church of Bridlington is progressing. A new roof over a portion, comprising nearly one-third of the whole length, is now drawing toward completion, after a design by Messrs. Sharpe and Paley, of Lancaster. Mr. Thomas Hodgson, of Bridlington, is contractor for the wood work. The present building is only part of the ancient fabric, including no more than the original nave. The length of the present interior is 185 feet; when entire, the length extended to about 337 feet, being 152 feet more to the eastward than its present limits. The breadth of the interior, including the side aisles, is 68 feet, and the height of the walls 67 feet. From the dimensions here given, the reader will see that though much reduced in size, it is still a spacious edifice. Indeed, from the circumstances of its magnitude, and there being no funds appropriated, either at the dissolution of the monastery or subsequently, for its repairs, there is no wonder that it has been disfigured and dilapidated through the scanty means afforded for repairs. Many of the clerestory windows on both the north and south sides are walled up between the tracery, as is also the case with all the upper compartments of the large west window.——Stert church having been almost wholly rebuilt, was re-opened by the Lord Bishop of Salisbury, on Friday week.——St. Martin's Church, Zeals Green, Wilts, the first stone of which was laid rather more than twelve months since, was also consecrated on Wednesday week by the same bishop.—— The new church opposite the railway station at Heaton Norris was consecrated by the Bishop of Chester on Wednesday fortnight. The first stone was laid on 29th July, 1844, by Mr. Wilbraham Egerton, of Tatton Park, who gave the land, endowed the church with 1,000*l.*, and contributed 200*l.* to the cost of the spire.—— The foundation-stone of a new church, to be built at the expense of the Rev. Davis Griffiths, vicar of Ystrad, has been laid at Cribyn, Cardiganshire.——The old church at Flint (St. Mary's), is about to be pulled down to give place to "an elegant and capacious edifice." This church is one of very early date, being supposed to be Capella de Colsal, belonging to the Abbey of Basingwerk, mentioned in the charter of David ap Llewellyn.

DECORATIVE ART SOCIETY.

OCT. 28th; Mr. Fildes, V.P., in the chair. He congratulated a numerous meeting on the auspicious commencement of a fourth session, and observed, that the number of persons who were that evening proposed for election as members and subscribers, conveyed an assurance that the past efforts of the society were now receiving a response that would soon place it prominently amidst useful institutions. The objects of the society were described as assuming a definite and practical basis; the recently commenced library, in connection with the society, was also adverted to, as being intended to consist of all works *illustrative of the arts and sciences*, thus offering to the members a treasure which no other institution at present did at a moderate charge; and he trusted that donations to the library would rapidly facilitate the benefits derivable therefrom.

A paper was subsequently read by Mr. Crabb "On the application of colours to manufactures," illustrated by many rich specimens of silk fabrics. The writer noticed the singularly varied opinions prevailing upon the ordinary properties of colours, and asserted that our manufacturers generally gave but little attention to the subject, nor even to the Government School of Design, which might be made capable of administering fully to their wants, provided these were clearly understood by a competent council, at the head of a proper and efficient school of design. In referring to some brocaded silks of the 15th century, he considered that they might be regarded as displaying some of the finest efforts of combined artistical skill and mechanical ingenuity; supporting the leading character of the design, preserving the style in its integrity, with details, promoting a rich and superb effect. This union of various

qualities being an exemplification of that which absolutely constitutes and deserves to be received as *manufacturing design*. Mr. Crabb next selected some modern French silks, and directed attention to the skilful combination of colours, the strikingly effective contrasts, and the precision with which various styles were defined and adhered to. He could not refrain, he said, from deploring the system adopted by English manufacturers of copying and reproducing French patterns, and he inquired, "Is it not extraordinary that in the course of manufacturing arrangements, a legitimate provision for design is scarcely considered essential? being treated rather as an expensive incumbrance than as contributing a final impress of beauty and usefulness; thus evincing less solicitude about the artist than the mechanic."

This apathy, he said, exists very extensively among manufacturers; and until a change takes place, men of superior and fitting intelligence will not devote their energies to manufacturing design.

NOTES IN THE PROVINCES.

A few remarks on "new churches in the country," with a collection of notes on recent erections, consecrations, restorations, &c. will be found under a separate head.——A sudden subsidence of earth, to a depth of many feet, and in an area of about 50 feet in diameter, lately occurred in the midst of an ornamental garden, in the vicinity of Birmingham, where an old coal-pit, closed for the last 13 or 14 years, had undermined the ground. The more immediate cause of the subsidence, or rather of two successive subsidences which occurred, is supposed to be the removal of a stratum of water from beneath, on the opening of a new pit adjoining. A number of tenements on the brink of the subsidence had a narrow escape, and a high wall was thrown down. The only habitation destroyed, however, was fortunately a pig-stie, and the only life lost, that of its inhabitant, the pig, which was in all probability destined to be swallowed up at any rate. The tenements remained unoccupied, a further subsidence being expected.——The Manchester Parks Committee, having effected its objects in a speedy and business-like manner, has been finally dissolved, leaving on hand a balance of 114*l.* 6s. 1d., as "a nest egg for future contributions towards the formation of another park." The whole business has been done in one year for subscriptions and government grant, and one year for the purchase and laying out of the grounds and the completion of the whole work.——Mr. Bennet, M.P. has contributed 100*l.* to the fund in course of accumulation for the complete repair of the old parish church of Tisbury.——The new additional works of the Lincoln Gas Company are now in working order; and the quality of the gas provided by the company since the reduction of price from 10s. to 7s. 6d. per 1,000 feet, is said to be decidedly improved, and the inhabitants are repaying the twofold advantages thus conferred by a considerable increase in the consumption. The Nottingham Railway terminus is to be provided with 200 lights.——The works of the Yarmouth Jetty are nearly completed. "For this work," says the Report of the Standing Committee of the Haven and Pier Commissioners, "four different tenders had been forwarded to the commissioners. The lowest was 645*l.*, the next for 675*l.*, a third was 911*l.*, and the highest, which was from a Mr. Beechey, was 1,180*l.* The commissioners selected the lowest, but the person who had sent in the tender was not able to procure sureties for the due completion of the works, and it was consequently offered to the next lowest, Mr. James Chapman; but he afterwards declined doing it at less than 800*l.* In consequence of this the committee requested Captain Smyth, the harbour-master, to attend upon them, and give his estimate of the works. Captain Smyth did so, and his estimate was 715*l.* 5s. 6d. Mr. Teasdell also, then deputy-engineer, gave in his estimate, which was 694*l.* The consequence was, that the commissioners determined to purchase their own timber and other materials, and to contract only for the labour, and the whole was done within the estimate." The jetty has been carried out 60 feet further into the sea. The commissioners agreed to the formation of the Norfolk railway-bridge at Yarmouth Harbour, which we recently noticed. In deepening Breydon, 63,000 tons of soil have been already removed. The cost of deepening to the extent of 18 inches will be 2,700*l.*——The Hull town-council have again taken up the subject of new markets, which they had voted down. The corporation-surveyor, Mr. David Thorpe, has been instructed, by vote of the council, to prepare plans and estimates, which will be ready in six weeks or two months.

RAILWAY JOTTINGS.

A machine has been invented for registering the velocity of railway trains during each half mile of their transit, with the length of stoppages at stations, &c. It is even expected, somehow, that this vigilant spy will be often able "to assign correctly the nature and cause of an accident" which may happen during the transit; though, itself, slyly ensconsed "under the seat of a railway carriage," where it is to be ever busily engaged in writing, or "marking on a strip of paper," all that may transpire.——The directors of several companies, it is rumoured, contemplate the adoption of the liberal and considerate practice of the French in providing for the comforts of second class travellers, by lining, padding, and supplying their carriages with cushioned seats, glass windows and lamps. Surely the third class cattle pens on many lines will never stand in the face of such an improvement. Should not the present second class be thereupon handed over to the third?——A renewed attempt is being made to convert the Regent's Canal into a railway. Sir Peter Laurie, in exciting the Marylebone vestry again to resist the attempt, assured the vestry, that "if it was allowed to be carried into effect, it must pass under the newly erected church in Aberdeen-place, and also under Alford Lodge, the foundations of which would be entirely destroyed thereby."——The evidence adduced before the Metropolitan Railway Termini Commission has been printed, but the mere minutes of the mass monopolize 264 folios of space, the appendix 44 more, and the index itself 66 and upwards.——The Ipswich and Bury line it is expected will be "ere long" opened, notwithstanding obstacles, amongst which, besides those especial ones already more than once notified to our readers, we observe "a scarcity of journeymen bricklayers," want of timber, and local contentions regarding the position of bridges. As to the difficulties in the construction of the embankment at Stowmarket Morass, "it was reported in the early part of the present week (now past) that the new surface was again sinking, but this does not appear to be the case, and no apprehensions are entertained that the difficulty is not overcome."——It is stated in one of the accounts of the destruction of the viaduct of Vierzon, that, only two days before the disaster, the engineer-in-chief of the government wrote to the directors of the centre railway, stating that he had just examined it, and could pronounce it to be then in so solid a condition that nothing could affect it. The cost of this viaduct to the government is stated to have been at least thirteen hundred thousand francs.

It appears that at least a few threads of the ideal tissue of telegraphic wires with which the metropolis is to be interwoven, are to be in earnest, forthwith prepared by the Electric Telegraph Company, who mean to establish a central telegraph station at the Company's Depôt, in the Strand, by means of which, communication will be established between that one point, as the centrum commune, or brain proper of the country, and its various extremities. The South Western extension will be first struck out along the Waterloo-bridge and road, by Kennington-road and lane, to Nine Elms. Its completion is anticipated in course of three months, but the wires will not be run out on the other lines for a much longer period. The Government have even caught the infection, it is said, and have directed the Company's officers to report upon the practicability of extending the "main" telegraph to the principal depôts of the Government.

Holborn Hill.—We have received several communications on the means of overcoming this difficulty, and will consider them.

RIGHTS OF ARTISTS.

Sir,—In discussing the Hyde-park-corner absurdity, too much stress cannot be laid on the moral wrong done to Mr. Burton. No sooner is a line of railroad projected than we are deafened with the shrieks of landed proprietors, the alarm whistle of vested interests. The rights of private individuals are jealously guarded, and compensation granted for what often turns out to be a benefit instead of an injury. No such consideration is evinced to the artist; his designs are seized upon, added to, curtailed, altered in any way that suits the caprice of a committee, without the slightest apparent consciousness, on the part of the perpetrators of the act, or the public, who witness it, that there is any right or wrong in the matter. With the merits of the statue we have nothing to do, it is with its position that we quarrel; so long as it is allowed to degrade Mr. Burton's arch into a mere pedestal, the feeling of outraged justice will, in every well constituted mind, outweigh even that of offended taste.

Let us labour to impress on the nation that the works of the poet, the painter, the architect, offsprings of man's head and heart, produced at the cost of thought, study, and self-denial, such as the world can never know, are property at least as sacred, and no more wantonly to be tampered with than houses, lands, or the Three per Cents.—I am, Sir, &c.,

Oct. 31. M. R. W.

DWELLINGS FOR THE WORKING CLASSES.

The houses built at Birkenhead, under the directions of Mr. C. E. Lang, for the dock labourers, are now completed, and have been visited by Lord Morpeth and others. The *Times*, giving an account of them, says, "The buildings are four-storied, of red brick, with light sandstone window-cills and copings. Their external aspect would suggest to a Londoner the idea of a block of buildings constructed for professional persons, for an inn of court or Chancery, and, with little addition and variation of ornament, they might match with the new hall of Lincoln's Inn. They are, in fact, flats or sets of chambers, consisting of two sets on each floor. Each set consists of one living room and two sleeping rooms. The floors are of arched brick. The living room is floored with a hard Welsh fire-brick tile; the sleeping-room floors are boarded. The staircases are of stone, with iron balustrades. The flat brick arches of which the floors are constructed, are tied together with iron ties, and the whole building is fireproof.

The most important points of improvement are, however, those in which some principles of the sanatory report in respect to the means of cleansing and ventilation for the working classes, are carried out. Each set of rooms is furnished with a constant supply of water, and also with sinks for washing, and a watercloset, and means of communication with a dust shaft from the whole set of chambers, by which all dust and ashes might be removed at once from the apartments without the necessity of the inmates leaving them."

"The sinks in each room were trapped with bell-traps, as were all the openings to the drains and the gully-shoots in the paved courts and thoroughfares. A constant supply of water was secured, the house-drains were well flushed with water, and cesspools were entirely abolished."

"The rents charged were from 3s. 6d. to 5s. each set, according to its position. But this included a constant supply of water, and the use of one gas-burner in each set of rooms, and all rates and taxes, and moreover two iron bedsteads, and a grate with an oven, and convenient fixtures."

Mr. Chadwick, who was one of the party, whilst expressing his warm concurrence as to the advance made, stated his opinion that further improvements might yet be achieved, especially in the mode of warming and ventilation. The ventilation was at present with cold air, which all experiments showed the inmates would in winter time try to stop, and succeed in doing so. The egress of vitiated air was, to some degree, dependent on the perception and care of the inmates. He considered that the ventilation must be self-acting, and that in such a range

of buildings it might be accomplished with air that was warm as well as fresh, of which practical instances were in progress. Tubular chimneys of fire-brick, which had been in use in various places, with a much smaller bore, would "draw" better, and with a careful disposition of fire-brick over the fire-grates would give greater warmth with less fuel. He pointed to marks of damp on the stairs, opposite to the ornamental sandstone copings, as a defect incident to the use of so absorbent a material. The thickness of the walls diminished the damp or the expenditure of fuel to prevent it, from the use of so absorbent a material as the common brick. But by the use of a harder, or machine-made brick, and by the construction of hollow walls, warmth or dryness might be obtained with a less expenditure of fuel.

The size of the chimneys, Mr. Lang, the architect, pointed out, was due, with other errors, to ill-advised building regulations. The materials of construction, he said, were the best the district afforded.

Correspondence.

WORKS FOR PRACTICAL MEN.

SIR,—I am a practical working mechanic, a millwright and engineer, I have been in the habit of taking in mechanical works of course, for the purpose of gaining information; these books I have read over and over again, and now I am equally as forward as I should have been if I had never seen these books. I will take one work for instance, the "Engineers' and Machinists' Assistant," in the preface of which, it says, the work is intended for the humble artisan; and I will ask you, Sir, whether Algebra, Logarithms, and Euclid, are to be found in a factory of commonly educated men? Where is the utility of a man of the same class as myself going to the expense of taking in these works, when, comparatively speaking, they are useless to him? I am not the only individual who complains, there are some twenty or thirty in the same factory, who have been similarly disappointed; why not give the various calculations in plain figures, such as decimals, and without algebraic signs? I am sure they might be dispensed with, were it the wish of the author to instruct and enlighten the ideas of the working mechanic.

Works of this kind are not fit for factory perusal, for the man that comprehends them is a man of education, a man of great abilities; in fact, he must be equal to the authors in his acquirements of knowledge. Sir, I feel certain, that if there was a work brought out, more simplified, and with less abstruse language and algebra, it would be much more supported by the practical working men, than works of the present day are.

Hoping that you will grant the favour of inserting this humble letter in your columns, as by so doing you will oblige some forty or fifty others besides.—I am, Sir, &c.

Oct. 23rd, 1846. J. P. K.

SANATORY STATE OF BUCKINGHAM PALACE.

SIR,—In my last hurried letter I omitted to mention the additional argument against the sanatory state of Buckingham *Palace*, that during the late severe hail-storm, the *basement* of both wings was under water; and to whatever cause this casualty may be sought to be attributed, the circumstance can only tend to sustain and strengthen my observations, as to the unfitness of the *palace* as a royal residence, independent of the nasty neighbourhood by which it is so closely invested. It is impossible to expect either good drainage or ventilation in a building so squatted down in the ground; and to attempt to mend so grievous an error is futile;—low and damp it is,—and low and damp it must remain,—there is no help for it now. Let me beg of your readers to refer to the last number but one of THE BUILDER, and look at the view of "The University Galleries and Taylor Institute," lately erected at Oxford, and observe how differently, but how judiciously, Professor Cockerell has elevated the basement of that building, giving it an improved character by elevation, as well as affording increased room. I may here remark, too, that it seems a sound and happy view, to unite two or more institutions into one fine building, which, taken singly, could not afford the same scope to the effort and skill of the architect.—I am, Sir, &c

PHILO-MEDICUS.

IMPROVEMENT OF RAILWAYS.

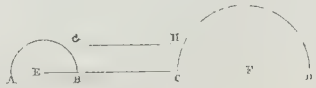
SIR,—Allow me, through the medium of your columns, to make a suggestion with regard to railways, which I think would do much towards the prevention of accidents.

What I propose is, that in the construction of all trunk lines *three* sets of rails should be laid down instead of two, so that if any repairs were wanted on one of the lines, the traffic might still go on on the other two lines, and the necessity of crowding all the traffic on one line would thus be obviated.—I am, Sir, &c.,

London. ONE OF THE PUBLIC.

A PROBLEM FOR SOLUTION.

GIVEN the semi-circles AB, CD, connected by the line of centres, EF, and the parallel line GH, to find the centre of a circle that shall be tangential to the given semi-circles, and to the line GH. J. M.



Miscellanea.

THE PARK IMPROVEMENTS.—A correspondent (Mr. H. Whitaker), in giving expression to his approval of the suggestions in our last impression on this subject, remarks, that there is something more wanted on the path leading from Oxford-street gate, namely, "a viaduct over, or an arch under, the road, with steps leading up the one and down through the other. It might be made a police-station, and a place for a respectable person to sell refreshments. Something handsome might be designed for it, and prove an ornament to the present ugly spot. The proposition is subject to many objections, but I am sure," he adds, "they might all be overcome. It is impossible to pass the place without feeling that such nuisances ought not to exist and be allowed to continue year after year, as if there were neither money nor brains in the country to cure them." We fear our correspondent has overlooked the fact, that this is but one out of many nuisances of an exactly similar order, affecting the metropolitan streets and roads, all equally demanding obviation, and all equally expensive and difficult in obviation. A precedent such as this might lead to a demand for viaducts with steps, for ascent and descent of pavement passengers, across *every* great thoroughfare; but where is the money to come from for desirable improvements such as these?

THE BUILDER'S FRIEND.*—Under this title Mr. H. Fitzgerald has published a table, which cannot fail to be useful. It shows in one line the relative prices plank, deals, battens, and timber, bear to each other, from 20*l.* to 45*l.* the hundred, so that on looking at it, any person about to build will easily discover which is cheapest for him to buy. For instance—

If 120 12 ft. 3 in. 11 in. plank cost	£20	0	0
120 12 ,, 3 ,, 9 ,, would be..	16	7	3
120 12 ,, 3 ,, 7 ,, ,, ..	12	14	6
120 12 ,, 2½ ,, 7 ,, ,, ..	10	12	1
This is equal to per load.....	3	0	7

The information is given in a concise form, so as to fit the pocket-book.

TRUTH IN ARCHITECTURE.—A correspondent, commenting on a recent letter in our pages on this subject, the writer of which asserts that if he were strictly to carry out the principle upheld by the opponents to his views, it would compel him to demolish his viands in a very raw and pristine state, says:—"Nothing of the sort; it permits, and indeed urges him to dress, garnish, and serve up his beef in the most refined and tasteful manner. What the principle does protest against, is the impropriety of his anointing it with pyroligneous acid, and then coolly attempting to pass it off as pickled salmon."

* Published at 2, York-street, Covent-garden.

SAXON TOWER OF TRINITY CHURCH COLCHESTER.—A fortnight ago a deputation from the British Archæological Association visited Colchester, and after examining the whole of the antiquities there, held a meeting for a discussion upon them. The buildings were mentioned *seriatim*, and amongst them, the tower of Trinity Church. This, Mr. White observed, was one of the most beautiful things they had seen in the town; and if Colchester, in its guard house, could boast one of the finest pieces of Roman work, it could also lay claim to one of the most perfect Saxon Towers in England. The semi-circular doorway resembled some of the windows in Deerhurst Church, as also Aveley Church, in this county. In Trinity Church it was peculiarly marked; it was built entirely of brick, and in order to counteract the very bad construction of bricks laid to form an angle, the builders had evidently formed it of two segments of a very large circle. The little arch, at the east end, was very interesting, because it proved that not only in the Norman, but also in the Saxon times, was the tower arch thrown into the church; for there could be no doubt that the arch he had mentioned looked into the original building. The windows on the outside looked like circular openings, but in the interior they were not so; they had circular heads with two tiles on each side at the springing of the arch. This tower was one of the few specimens of Saxon architecture remaining in this part of the country; and to his mind it was one of the most interesting objects in Colchester. He hoped that neither in the re-hanging of bells, nor for any purpose, it would be interfered with. He should very much like to see the filling up of some of the windows removed, in order to see whether the cills were flat, as was the common Norman style, or considerably slanted, as were all Saxon windows hitherto discovered. At the meeting, an investigation was made of the peculiar masonry of tiles of which most of the ancient buildings in that town is composed. That of the chapel near the castle of Dover was referred to as being analogous. It was shewn, that although the tiles in form and colour resemble Roman, yet there is a vast difference in the fabric and composition, as well as in the mortar. It was considered that tiles made after the Roman model, were made in Essex for centuries after the Romans left Britain; and the county is remarkable for its early churches built of tiles and bricks.

STRENGTH OF TUBULAR OR IRON BRIDGES.—Mr. W. Fairbairn's experiments having, in a manner, established the general fact that hollow beams of wrought-iron are about three times stronger than solid beams of the same form (and quantity of material surely), Mr. H. Hodgkinson has been further engaged, according to the *Mechanic's Magazine*, in ascertaining whether hollow beams of an oblong, square, or cylindrical form be strongest. From the results, shewn in the following table, it will be seen that the cylindrical are, as might have been, and was, in fact, anticipated, the strongest of all, and the square next in degree.

Weight of Tube.	External Diameter of Tube.	Weight of Greatest Resistance.
CYLINDRICAL TUBE.		
lb. oz.	Inches.	lb.
47 10	2·34	31,838
45 15	2·99	37,356
59 0	4·05	47,212
54 4	4·06	49,900
RECTANGULAR TUBE.		
43 14½	4· 1×4·1	19,646
65 8	8·15×4·1	23,289
82 0	8· 1×4·1	43,673
91 1	8· 0×8·0	27,345

The rectangular tubes were all of plates, 1-16th of an inch thick, and all simple rectangles, except the last but one, which had a partition into two divisions.

MR. TERNOUTH, THE SCULPTOR.—Mr. Ternouth informs us that the report of his death is untrue. The statement, which had previously appeared in several of the journals, was sent us by a correspondent in whom we had confidence. We are very glad to find it incorrect.

NEW USE FOR WATER-WORKS.—A rather novel source of mechanical power, and curious application of that power, have lately been adopted at Newcastle, on the quay of which a hydraulic crane, worked by the pressure of water in the common street water-pipes, has been erected, under the partial protection of a patent, by Mr. W. Armstrong. The pillar and jib alone appear above ground, and the application of the power to the instrument, in all its movements, is regulated with rapidity, as well as delicacy, by means of indicators, traversing circularly on engraved plates or indexes. Though not the first time that waterworks have been applied in the accumulation of mechanical power, this rather elegant application of it to the ordinary business of a town, opens up a wide vista, through which may be traced the indefinite outline of multiform uses for such a convenient power, in the sphere of domestic as well as of business life.

THE ROOF OF WESTMINSTER HALL.—The celebrated roof of Westminster Hall, the span of which is among the greatest ever built without pillars, is little more than one-third the width of the Worksop Spread-oak, the branches of which would reach over Westminster Hall, placed on either side of its trunk, and have 32 feet to spare; and its extent is nearly 30 feet more than the length, and almost four times the width of Guildhall, in the city of London. The rafters of Westminster Hall, though without pillars, have massive walls on each side to support them; but the tree-boughs, of 16 feet more extent, are sustained at one end only. Architects, who know the stress a staircase, of even 8 or 10 feet in width, has upon the wall into which the side is built, can alone fairly estimate the excessive purchase which branches on either side, spanning from outbough to outbough 180 feet, must have on the central trunk.—*The Plough.*

SCHOOL OF DESIGN.—Not merely members within the walls, but every eminent artist who as yet has had a glimpse of the school, is equally opposed to the system of management. Mr. Redgrave, A.R.A., who officiated temporarily a few months back in the figure class, has addressed a letter to the premier, strongly pointing out the defects observable in the conduct of the institution.

ROYAL ACADEMY.—Mr. E. M. Ward was elected an associate at a meeting of Academicians on the 2nd. Complaints are made that other real vacancies were not filled up.

NOTICES OF CONTRACTS, &c.

THE authorities of the Stamp Office having given us notice to discontinue the insertion of our list of contracts, &c., excepting as advertisements, we, in deference to their wishes, omit them for the present, but have taken steps to place the facts of the case properly before them, and, as we hope, remove their objections. In the meantime a list may be seen at our office.

TO CORRESPONDENTS.

"*Architects' School of Design.*"—Various letters on the subject shall receive consideration.

"*A. S.*"—The architect as your agent can bind you. If he act wrongly your remedy is against him.

"*Country Subscriber.*"—The depôt is in the Quadrant, Piccadilly, next door to the County Fire Office.

"*Delta.*"—Laxton's will answer your purpose.

"*Constant Reader of the Builder.*"—The chances are that neither one nor the other would keep down the water in such a case.

"*Amateur*" shall appear.

"*Citizen.*"—His request shall be attended to in respect of future communications.

"*C.*" may rely on our never losing sight of the necessity of preserving open grounds for the use of the people. We will yield nothing quietly without a fair return.

"*Inquiries.*"—A correspondent asks for information "about a machine for making carriage-wheels of wood; the address of the party who makes the same; likewise what instrument is most approved off for enlarging or diminishing and copying drawings instead of the pentagraph; at the same time would like to know if any company or manufactory has used or lighted their premises with gas made from the Comte de Val Marino's plan, as introduced by him into London in the year 1840."

"*Philo-Kerr.*"—The price is 5s.

"*J. W.*"—The price of the Encyclopædia is 2*l.* 12s. 6d.

Received.—"A Country Reader," "Subscriber" (U.), "T. E. Carnegie," "Subscriber," *re* Holborn Hill, "Cosmopolite," "S. P.," "Amicus," "H. J. L.," "F. S.," "People's Journal" for November, "Ignez de Castro," "Pictorial Gallery of Arts" (Sculpture) Knight, "British Worthies," "Patent Journal," "A Manual of Gothic Architecture," by F. A. Paley, M.A. (Van Voorst, Paternoster-row.)

*** Correspondents are requested to address all Communications to the EDITOR, 2, York-street, Covent-garden.

ADVERTISEMENTS.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Pantiles.

FIRE BRICKS, Stourbridge, Welsh, and Newcastle; also Lumps, Tiles, and Clays, a large Stock of the best made Goods are selling at very reduced prices (a great reduction having taken place in freights) at WARD'S Honduras Wharf, Bankside. Windsor Nonsuch, and Town-made Oven Tiles, PP.N. and Circular Red Fire Bricks, Country Pan, Plain and Ridge Tiles, Paving Bricks, Corn Drying and Patent Malting Tiles.—Country Builders promptly supplied. Rough River Ballast for Concrete and Thames Sand, above and below bridge, by freights or loads. Prepared Sand for Plastering.

VARNISH, COLOURS, WHITE LEAD.

Genuine White Lead .... per cwt.	27s.	0d.
Seconds ..... ,,	25	0
Thirds ..... ,,	23	0
Linseed Oil..... per gallon	2	3
Turpentine..... ,,	4	6
Putty..... per cwt.	7	6
Patent Dryers ..... ,,	36	0
Oxford Oker..... ,,	36	0
Varnishes equalled by none:		
Fine Oak..... per gallon	10s.	
,, Carriage ..... ,,	12	
,, Copal ..... ,,	18	
,, Body Copal ..... ,,	24	
,, Gold Size ..... ,,	10	
,, Black Japan ..... ,,	10	

Painters' Brushes, and every article in this branch, at the Manufactory, 87, Bishopsgate-street, Without, London.—THOMAS MILLINGTON, Proprietor.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 10s. per gallon.

TODD'S PATENT PROTOXIDE PAINT, manufactured by CHAS. FRANCIS and SONS, CEMENT WORKS, NINE ELMS, LONDON.

The properties of this Paint are peculiar for preventing iron from oxidation, wood from decay, and masonry from damp; it neither cracks nor blisters with the hottest sun, and is therefore most valuable for Railways, Boilers, Steam, Gas, and Water-pipes; Hothouses, Forcing-houses, and for Shipping. Its adhesion is so great to iron and wood, that the hardest friction will scarcely remove it. It prevents vegetation on stuccoed buildings, and is not affected by spray of sea-water.

PROTOXIDE PAINT is sold ground in oil, and, compared with white-lead, its property of concealing is as 75 to 50, so that one hundred weight is equal to one and a half of lead. It works well under the brush, and forms with oil an unctuous and cohesive mixture. If blended with other paints it has a softer tone than white-lead. For houses painted during occupation it is most preferable, being perfectly innocuous.



TO ENGINEERS AND BOILER MAKERS.
LAP-WELDED IRON TUBES FOR STEAM BOILERS.

THE BIRMINGHAM PATENT IRON TUBE COMPANY, 42, Cambridge-street, Birmingham, and Smethwick, Staffordshire, manufacture Tubes under an exclusive License from Mr. Richard Prosser, the Patentee. These Tubes are now very extensively used in the Boilers of Marine and Locomotive Steam Engines in England and on the continent, are stronger, lighter, cheaper, and more durable than brass or copper Tubes, and warranted not to open in the Weld. They may be fixed in the Boilers without Ferules, and can be taken out and refixed without additional trouble or expense.—Address, 42, Cambridge-street, Crescent, Birmingham; London Warehouse, 68, Upper Thames-street.

PATENT ARCHITECTURAL ROOFING TILES.—Architects, Builders, Railway Contractors, and others, may now be supplied with these very superior and truly ornamental Roofing Tiles, at the London Depôt, Essex Wharf, Strand, at the undermentioned prices. These Tiles, for security, beauty, and effect, surpass every other kind of roofing, and are equally adapted to the covering of Ecclesiastical, and other ornamental buildings of more modern architecture. They will be found far more effectual and handsome as a covering than slate, and equally cheap; and they do not subject the adjoining rooms to such extremes of heat and cold, nor occasion wet to run down within the roof, caused by condensation upon slating. These Tiles are laid on laths, like common pantiles; and although forming a perfectly close covering, admit of being effectually repaired with the greatest facility. Arrangements are in progress by the Company for providing a supply of these Tiles throughout the different counties of England in the ensuing season, and orders will be taken by the Agent for these Tiles, of a dark blue, grey, or lead colour, to be delivered in the spring, according to samples.—Prospectuses may be obtained of the Company's Secretary, at the Offices, 158, Strand, London, to whom applications for Licences should be addressed, by persons desirous of manufacturing these Tiles, for which a very superior press is provided, at moderate cost.

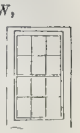
Price of the Tiles, Six Guineas per thousand.
to 22s. per square, for the Tudor pattern.
and 16s. per square for the diamond.
A liberal discount allowed to the Trade.

HERRING'S PATENT SAFETY WINDOWS.—No invention ever offered the advantages to builders and the public; it will positively add 5 to 10 per cent. to all houses having it, repay the cost every two years, abolish all danger to life and limb, cleaning and repairing. It is in full operation (four different ways), forms a complete ventilator and sun-blind, all simple, cheap, and effective.—Apply for licenses and to inspect its real merits, to Herring's Patent Steam Bed-feather Factory, 14, Kingsgate-street, London.

CHAS. WM. WATERLOW,



Manufacturer of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square. Well-seasoned materials, superior workmanship, lowest prices. Upwards of 400 Doors and a large variety of Sashes and Frames always on Sale. Glazed goods securely packed for the country.



Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

PAINTED GLASS.

THE Subscribers, who have been appointed to furnish the PAINTED GLASS for the WINDOWS of the HOUSE OF LORDS, are ready to prepare Designs adapted to every style of Ecclesiastical or Domestic Architecture, and to execute Work, to any extent, within the shortest possible period.
BALLANTINE and ALLAN, 42, George-street, Edinburgh.

TO THE PLATE GLASS TRADE.

THE BIRMINGHAM PLATE AND CROWN GLASS COMPANY, "Registered," beg to inform the Trade and Public, that the extension of their Works at Smethwick, near Birmingham, being now completed, their Warehouse, 141, Fleet-street, London, is now open for the Sale of their Crystal Plate Glass, which will be found to stand unrivalled by that of any other manufactory. They are also in a position to supply Rough Plate of any substance for Skylights or Floorings on the shortest notice.—Orders addressed to B. MOSS, Company's Warehouse, 141 Fleet-street, London, will be promptly attended to.

SASHES primed, glazed, and sent to any part of London at 5d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.
FOREIGN SHEET. BRITISH SHEET.
BRITISH CROWN. PROPAGATING GLASSES.
Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Shew-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.
Dry and Good Colours of the best quality; Brushes Dryers, and every article used in the Trade Warranted.
VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.
For complete lists priced.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

WINDOW GLASS, Crown Squares, in 100 feet Boxes, per foot:—

4 by 3	and under	5 by 3	.....	1d.	
5 .. 3	,,	6 .. 4	.....	1½	
6 .. 4	,,	7 .. 5	.....	1¾	
7 .. 5	,,	9 .. 7	.....	2	
9 .. 7	,,	10 .. 8	.....	2½	
10 .. 8	,,	14 .. 10	.....	2¾	
14 .. 10	and under 2 feet		.....	3	

Crates averaging 50 inches:—

ccc	12 table	each	40s.
cc	18		47
Fourths	18 table		65
Thirds.....	18 table		78

Foreign Sheet Glass, 3rds, superior to English, in 200 feet boxes, about 16 oz. 3d. per foot; best quality, Sheet Glass, about 16 to 18 oz., in 100 feet cases, 8d. per foot: this is a most superior article, nearly approaching to plate glass.
Water-closets, Pumps, and all kinds of brass work. Sash glazing, 4½d. per foot.—Address THOMAS MILLINGTON, 87, Bishopsgate-street, Without, London.

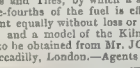
CHARLES SMITH and SON, 52, GREAT CHARLES-STREET, BIRMINGHAM (late STANDLY and SMITH, formerly STANDLY and GALE, Bull-street), Locksmiths, Bell-hangers, Brass-founders, Whitesmiths, &c., beg most respectfully to solicit the attention of MAGISTRATES, ARCHITECTS, and ENGINEERS to their inventions for prisons, lunatic asylums, &c.
C. S. and Son will be happy to attend any committee of magistrates without charge, and submit a VARIETY of patterns of peculiar locks, signals, inspection apparatus, chapel door-fastenings, iron frames, hinges, &c., as supplied by them at the MODEL PRISON, LONDON, and TWENTY-THREE SIMILAR GAOLS, where they have given entire satisfaction.
Among other testimonials, can be shewn that of Major Jebb, attesting the efficiency of the labels, &c., invented by them.
The contracts will be executed to the approval of the inspector-general of prisons, and the architects.
C. Smith and Son also are prepared to contract for the supply of the whole of the ironmongery requisites for the residences of the nobility and gentry, churches, banks, barracks, gaols, asylums, and workhouses, including locks, bells, hinges, grates, kitchen-ranges, staircases, grates, park-fencing, fire-proof safes, bookcases, doors, metal sashes of all kinds, and every description of ornamental brass and iron work, light castings, &c.
C. S. and Son beg to refer to the extensive works performed by them at Windsor Castle, Northumberland and Sion House, Blenheim Palace, Chatsworth, &c., as a guarantee for the superiority and durability of their work, in confirmation of which numerous letters from nobleman can be shewn.

WORCESTER ENCAUSTIC TILES.
Specimens of these beautiful Tiles in all their Varieties, may be seen and information obtained at the London Agents, Messrs. GRIEVE and GRELLIER, Marble-wharf, Regents, Messrs. GRIEVE and GRELLIER, Marble-wharf, Agents, Messrs. GRIEVE and GRELLIER, Marble-wharf, Belvidere-road, Waterloo-bridge, or at the Encaustic Tile Belvidere-road, Waterloo-bridge, or at the Encaustic Tile Belvidere-road, Waterloo-bridge, or at the Encaustic Tile Works, of Messrs. F. ST. JOHN G. BARR, and Co., Worcester.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge. —J. M. BLASHFIELD, Agent. The above tiles have lately been considerably reduced in price.
N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

TO BRICK AND TILE MAKERS.
THE AINSLIE PATENT TILE MACHINE COMPANY (James Smith, Esq., of Deanstone, Chairman,) invite attention to their improved Tile Machine, and to their new improved Patent Kilns for drying and burning Bricks and Tiles, by which a saving of from two-thirds to three-fourths of the fuel is effected, and all the articles are burnt equally without loss or damage. The Machines at work, and a model of the Kilns, to be seen, and all particulars to be obtained from Mr. JOHN PATON, Secretary, 193a, Piccadilly, London.—Agents wanted.

PAVING, 2s. 9d. PER SQUARE YARD.
Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27s. 6d. per ton.



COMMISSIONERS OF FINE ARTS' REPORT ON THE MEANS OF PREVENTING DAMP IN WALLS.
THE DIRECTORS of the SEYSSEL ASPHALTE COMPANY have much pleasure in recommending to the notice of Architects, Builders, and others, the application of the ASPHALTE of SEYSSEL as the only effectual means of preventing DAMP rising in WALLS.
J. FARRELL, Secretary.
Seyssel Asphalte Company's Works,
"Claridge's Patent."
Stangate Depôt, London.
The following account of its application is extracted from "The Appendix to the Commissioners of Fine Arts' Report," page 18:—
"In 1839 I superintended the construction of a house of three stories on the Lac d'Enghien. The foundation of the house is constantly in water, about 19½ inches below the level of the ground floor. The entire horizontal surface of the external and internal walls was covered, at the level of the internal ground-floor, with a layer of SEYSSEL ASPHALTE, less than half an inch thick, over which coarse sand was spread.
"Since the above date no trace of damp has shewn itself round the walls of the lower story, which are for the most part painted in oil of a gray stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so painted, yet the pavement of the floor, resting on the soil itself, is only about 2½ inches above the external surface of the soil, and only 19½ at the utmost, above that of the sheet of water.
"The layer of Asphalte having been broken and removed, for the purpose of inserting the sills of two doors, spots indicating the presence of damp have been since remarked at the base of the door-posts."

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.
JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Frost, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.
Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.
Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,
JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the auction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producesble by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

CHEAP ROMAN CEMENT is sold in Casks that will not contain five bushels, even by some manufacturers of a very respectable name. Consumers should see that the standard size cask is 29 inches long by 17½ across the head, outside measure. Any workman with a rule in his pocket can ascertain this.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.
Manufactured by J. B. WHITE and SONS, of Millbank-street, Westminster; and sold at their warehouses—Earl-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and undestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.
It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.
Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Seel-street, Liverpool.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.
CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—
1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.
It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichements of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.
For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.
For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.
Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

CAEN STONE.
TUCKWELL'S Norway Sufferance Wharf, Greenwich.—Architects and Stone Merchants are informed, that this stone may be procured at the above Wharf in any quantity, in blocks up to 12 tons. The stone, which is exclusively the product of the Allemagne Quarries, and of the very finest quality, is consigned solely to W. TUCKWELL, who is prepared to execute orders to any extent, having a Large Stock always on the Wharf.—Orders received by, and further information with samples may be obtained of Mr. R. A. WITHALL, Surveyor, 80, Cheapside, and of Mr. W. TUCKWELL, at the Wharf.
N.B. Cargoes shipped direct to any Port.

ARCHITECTS and SURVEYORS will find by making their selection of MARBLE CHIMNEY-PIECES at the Westminster Marble Company's Show Rooms, containing a great variety of elegant drawing and dining-room chimney-pieces, executed in a superior manner, and sold at such reduced prices to enable the public to realize a great saving, by their patent machinery. An unabated zeal will be maintained to continue the patronage so liberally shown to this establishment.
Address, Earl-street, Millbank.
N.B. Country Orders promptly attended to.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.
SAMUEL CUNDY begs to inform Architects and others that GOTHIC WINDOWS, and every other branch of Stone-work, &c., is executed at the cheapest possible rate, and packed for the country ready for fixing or fixed, enabling ARCHITECTS to have the most difficult TRACERY for CHURCHES, or other buildings in the PROVINCES, executed under their immediate inspection in TOWN.
BUILDERS and MASONS can have every description of Stone in the London Market, either in the rough block, or cut to sizes from the saw, or prepared ready for fixing or fixed, avoiding either waste in the goods or carriage.
Box Chimney-pieces from 12s. upwards.
THE WORCESTER ENCAUSTIC TILES, in all their beautiful variety, may be inspected, in addition to the usual extensive stock of Chimney-pieces and FONTS.
Estimates given for building generally.

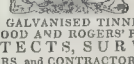
BARRETT, STONE MERCHANT, 24, Wharf, Harrow Road, Paddington, respectfully informs Builders, Stone Masons, and others, that he has opened a Depôt at the Great Western Terminus for the sale of Wall's Quarry Stone. Having been established at the above place for the last twelve months, and the sale of the stone increasing so much, the Great Western Company has had the kindness to favour me with a Depôt at their Terminus. The Wall's Quarry Stone is equal to Portland for Staircases, Hall Floors, Porticoes, Balconies, Chimney-pieces, Coping, Window Sills, &c. The same stone being used in Gloucestershire for all the above purposes. The stone is sawn to all sizes while in the Quarry to save expense of waste and sawing in London, on which account can be rendered much cheaper, and is free from all flints, shells, and holes.—List of prices and samples sent to any part of London, carriage free, by directing all letters to No. 24, Wharf, Paddington.
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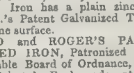
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The Builder.

No. CXCVII.

SATURDAY, NOVEMBER 14, 1846.

SOME one says, "Time is money:" we say, it is something better still,—it is money and much more. Time is priceless, not to be bought,—and involves culture, progress, wisdom, good. When schoolboys, we wrote, "Life is short and art is long," and we feel the truth of the apothegm every day of our life more strongly. The Londoners, however, can scarcely agree with us, or they would surely not suffer so much time to be wasted in the streets, as is now the case, for want of thoroughfares proportioned to the enormous and ever-increasing traffic of this wonderful metropolis. If we deduct the time spent in eating and drinking, sleeping, buttoning and unbuttoning (wrote Byron, in other words), how little is left for the real business of life!" Those who make a periodical journey through the city, must add it to the list of deductions, and make an allowance for the wear of the spirits caused by the forced detention.

A few days ago, while locked up in Gracechurch-street, where we stood motionless for twenty-five minutes, "by Shrewsbury clock," we made an approximate calculation of the time lost annually, for want of proper road room. The result was startling; as our readers may see, if they call to mind that less than 9,000 hours make a year, and that if only double that number of persons lose half an hour in the day, more than 300 years of active life are wasted within the twelvemonth.

This is *very* far from the amount of time really wasted (satisfy yourself of it, curious reader, by calculating the number of persons in every yard of road, when you are next compelled to creep from the Poultry to St. Paul's), and although it may be laughed at as fanciful, unquestionably deserves to be remembered.

Attention is now evidently awakened to the subject, and it is to be hoped that the efforts about to be made to lessen the evil complained of, will be in the right direction.

The commencement proposed by the City Improvement Committee appears to us far from satisfactory; it being clear, that after the 25,000*l.* are spent, much more must be done before the slightest improvement will be found in the existing thoroughfares. If they had even commenced at the other end of their proposed improvement, and formed the direct line from the south side of St. Paul's to Cannon-street, some relief would have been given to Cheapside; but as it is, years will elapse, and none will be felt. A member of the Improvement Committee, who wrote to *The Times* on the subject, says the proposal is only part of a much more extensive plan, on which the public are not informed; but the few particulars into which he goes are far from sufficient to assure us of the wisdom of the plan, even when all carried out. What we want are direct and *straight* lines of communication in the right direction,—not angles and windings for the sake of existing interests. We know it costs large sums in the first instance, to make entirely new thoroughfares, but the perfect thing is the cheapest thing in the end, and unless the alterations are to be made in the *best* manner (allowing *nothing* to interfere with this requirement), it will be better not to attempt them at all, as what is done will stand in the way of more far-seeing improvers who may come hereafter.*

We long ago urged the importance of having a general scheme, for the improvement of the metropolis, prepared by the most competent persons in no way interested, and with reference solely to the advantage of the public, so that all partial improvements, afterwards proposed by individual interests, might be tested by it, and modified accordingly. We shall return to this very important point on another occasion.

There is little doubt that if such a plan was prepared, a road from the end of Cheapside across Farringdon-street to the end of Longacre, so as to unite with the improvements at the end of Piccadilly, would appear upon it. The advantages of such a line are too obvious to need comment.

Another much called for improvement, the widening of the Poultry, could be accomplished with less difficulty, and would afford an immediate and most important relief.

The removal of that abominable nuisance, Holborn-hill, is loudly called for. If we may judge from the number of letters we have received, relating to its remedy, a very large section of the public feel interested in the matter. One correspondent suggests the simple course of lowering the brow of the hill, as constantly seen in country roads, so as to render the ascent more gradual—the foot pavements to remain as they are, and retaining walls built to keep them up, and form the end of vaults under them, with a parapet on the top for the protection of foot-passengers. "The water and gas-pipes would require to be lowered," continues the writer, "but there would be no interference with property, and the expense would be less than that of any other scheme for the same end, which has been laid before the public."

There are some obvious objections to the course proposed, the most weighty of which is, that it could but partially lessen the evil, not remove it.

A writer in *The Times*, who sees the absolute necessity of doing something here, if it be but to lessen the number of broken-kneed horses, suggests that the road should be made like the tooth of an elephant, full of ridges, which would keep themselves rough. "And how is this to be accomplished?" he asks; "why, in the simplest of all manners. The tooth of almost every vegetable feeder is composed of alternate plates of hard and soft material, placed vertically. During the attrition necessary to grind the food, the one wears much more readily than the other, and, as a consequence, it keeps up a constantly roughened surface. Apply this principle to the hill in question: suppose it were paved with alternate rows of soft and hard stone, say granite and Portland, or granite and wood,—the one would wear much faster than the other, and would necessarily keep up a constantly rough surface, from the ridges or projections of the unworn granite. In applying this principle, however, it would be proper to have the softer material laid in thin rows, as from one to two inches, or the roughening would be greater than desirable."

This, again, is but a palliative, and that, too, of only one of the evils. More is demanded; and that is, a road as nearly level as can be obtained. One correspondent, whose letter we print below, urges the advantages of a viaduct from Holborn-hill to Snow-hill, crossing the end of Farringdon-street, as proposed by Mr. Stead, and which certainly affords the main requirement. The financial details of the scheme we have not seen.*

Circumstances are favourable at this moment to the improvement of Holborn, and, it is to be hoped, will be taken advantage of. The Official Referees have just now confirmed the condemnation of some of the houses in Middle-row, unless certain specified works, amounting almost to a rebuilding, be done; and this, therefore, is the right time to treat for their purchase, with the view of getting rid of the whole block of houses which now stand so much in the way. To suffer them to be rebuilt, and the nuisance perpetuated, would be really disgraceful.

In Field-lane, too, as our readers know, many of the houses are to come down; and at the last meeting of the Court of Common Council, a motion,—"That the greater portion of the houses in Field-lane being condemned by the district surveyor under the Building Act, the same be included in the proposed bill for the improvement at Holborn-bridge,"—was referred to a committee for consideration.

Widen, however, and improve the roads through London as we may, we shall still be liable to stoppages, and the loss of time consequent on devious wanderings through back ways, until improvements are effected in our mode of paving, and we have a better arrangement of sewers, water-mains, and gas-pipes. The experience of the last twelve months is sufficient to appeal to; and the annoyance and loss from which we have just got free in Piccadilly and Fleet-street, through the repaving of the roads, may be partially forced upon us again in a week, should a larger water-main be required, or the escape of gas, now going on to an immense extent, enforce a general examination of the pipes; as it ought, unquestionably, to induce a better system of laying them, in all places where new ones are required.

A sub-way or tunnel, in connection with the sewers, wherein the pipes could be laid, and afterwards examined and repaired, without breaking up the road, would seem to be too costly to be expedient. We have little doubt, however, that in the long run, money would be saved to the community by such a course. How long it will be before we have railway-streets it can scarcely be said; it may not be long before we have, at all events, such as are required to connect all the existing lines into

* Since this was written a meeting has been held in the ward of Farringdon-without, Sir Jas. Duke in the chair, to oppose the proposed measure; and resolutions were passed to that effect.

* Athenæum Club, Oct. 24, 1846.

SIR,—As a constant reader and studier of your valuable publication,—valuable to the public and useful to the architect,—I have read the ideas of "A Citizen" on the thoroughfares of the city with pleasure. He does not, however, seem aware, that by a promising project registered by Mr. Stead, civil engineer, for a viaduct to demolish the nuisance of Holborn-hill, the proposed company will remove the projections complained of by your correspondent gratuitously, and without expense to the city. Having examined Mr. Stead's plans, I can say, that the hitherto difficult problem of removing the obstruction at Snow-hill for an easy communication betwixt the eastern and western parts of the metropolis has here been simply solved. Having a knowledge of most of the capitals of Europe, I can affirm with confidence, that London would then boast an uninterrupted line of traffic nearly across its greatest extent, from east to west, unrivalled in the modern as in the ancient world. St. Petersburg may boast its Prospects, but they run principally through woods and wastes. The Frederic Strasse at Berlin is long, but its sides have in a great measure only houses, or rather cottages, on each side. The *Cittie de* Toledo, at Naples, is open on one side to the sea,—in fact, only a magnificent shore-side promenade; and, not to weary your readers with instances, the Prado at Madrid is but a large ride, like Hyde-park. How then could they compare with the line beginning at Kensington Palace along Hyde-park, through old Oxford-street and its *superb* new promenade, on the site of ancient St. Giles's through Holborn, and, at the *fatal* hill, carried on a level through to the opposite side in Newgate-street, at various inlets on the Christ Church side, shew symptoms of enlargements, whence the magnificence of Cheapside, the Mansion House, Bank, and Exchange are successively passed in a straight line to the India House. I must confess, that as you say, the reduction of Middle-row, and perhaps the removal or widening the *strait* at the Poultry, are desiderata in this extent; but most of all, the not only unsightly but dangerous acclivity at Fleet Market, where a gradient is offered, to the largest traffic in the world, that is a disgrace to the country, and would not have been permitted in any other capital.

A COSMOPOLITE.

continuous roads, which are imperatively called for; and in the meantime active steps must be taken to improve the existing thoroughfares, and fit them for the increased traffic, and the sudden outpouring of large multitudes of persons, produced by the present railway system.

It should be remembered too, that the widening of thoroughfares involves the public health, as well as the saving of time and improvement in appearance. By letting in light and air we are assisting to lengthen life, and to increase the sum of human happiness.

"WE CAN BE USEFUL NO LONGER THAN WE ARE WELL."

ARCHITECTURE:

THE ART, THE SCIENCE, AND THE PROFESSION.*

IN seeking to elevate the ART of architecture, Mr. Kerr has entered upon a labour worthy all the enthusiasm he has displayed. To impart new life to the only branch of human ingenuity which remains an exception to this century in its intellectual advancement, was an undertaking demanding great judgment and accurate investigation of principles. It would be no crime to fail in such an endeavour. To most writers, faint glimpses of the truth at intervals are all that appear; few seek to remove the obscurity; but the merit of Mr. Kerr's attempt rests on better grounds than priority of effort. He has had an object which demands the attention of all who profess the art, and the Newleafe Discourses will, in a great degree, aid in producing it. Architecture, as an art, *is* little studied, and much misunderstood.

But, in the execution of his work, Mr. Kerr has left apparent the difficulty of the subject. The Discourses are marked by some inconsistencies, and by much that it is our duty to protest vigorously against. Admitting the want of consideration for *art*, we would say, that what Mr. Kerr defines as architecture, is but one of its departments, or means of exercise; and he is at pains to exclude so much from his acceptation, that some may be obliged to inquire what remains. To define the term architecture, —to explain the full scope of its comprehension, would be a task that we might lay before the oldest professor, with little prospect of accomplishment. "We do not," says the writer in the *Quarterly Review*, "pay due honour to architecture, if we consider her as the sister, and therefore the equal, of the mere imitative arts: she is their queen. We want a term to designate the intellectual rank of architecture, so closely connected with the imagination, that we can scarcely term it a science,—so entirely practical and subservient to our needs, that we can scarcely reckon it as one of the æsthetic arts. And yet the arts must all be coerced into the architect's service. Architecture, as a branch of human wisdom, constitutes a genus of its own. Sculpture and painting are entirely founded upon the imitation of nature; whereas the basis of architecture is utility—utility in every sense, from the lowest to the highest, whilst it is wholly conventional in outward arrangements and forms. Architecture may borrow many a principle from nature; but she consults nature for *lessons*, and not for *models*."

Mr. Cockerell is next quoted as to the use made of lessons from nature, in the spire of St. Bride's, and the domes of Santa Maria at Fiorence, and St. Peter's at Rome. Further, "In ornament, architecture must equally appeal to nature, to the graceful leaf, the binding tendril, the spreading herb and floweret bright; but the architect employs them all as elements, and in combination. Even as the living body assimilates to itself the food which gives it growth, and the air imparting health and vigour, and above all bears in its countenance the expression of the vivifying mind, so does architecture render all the material objects of which the building is composed, and all the knowledge requisite for their combination, and all their elegance and symmetry, subservient to her own dominion and empire. Hence the magnificent conception of Vitruvius—every branch of human knowledge is needed to constitute the perfect architect: literature, design, geometry, optics, arithmetic, history, philosophy, music, medicine, jurisprudence, astronomy. There may be somewhat of Platonic mysticism in these Vitruvian opinions. Still we always find them cleaving more or less to the great masters of the art. They are founded upon immutable truths."

Mr. Kerr rejects, one by one, the science and practice of construction, the preparing of plans and specifications, the superintendence of works, the grammar and practice of art in all ages, and much that goes to make up the sum of "architecture," and restricts the term to "the art of the beautiful in buildings." His question, therefore, he answers only in part;—but we will not now quarrel about words, and receive the definition for the limits of this article.—But in what conduces to the *art* we deem him to be equally mistaken. "Constructionism," "archæology and antiquity-rule," and "ecclesiologism" contain nothing which is necessarily opposed to art; they are materials out of which it takes its true and proper aids, and its highest excellence. They may become despots, but they are not less the matter of good government: even Scripture can be perverted, and the powers of intellect employed for the debasement of the human race. When Wilkins deciphered inscriptions, and Donaldson elucidated the plan of the Greek theatre; when the Camden Society systematized and improved our acquaintance with "examples," were they contributing to the knowledge of *architecture?* We say—yes! Mr. Kerr says—no!

It would not be unfair to ask the author of the "Discourses" to enter somewhat deeper into his explanation of the remedy for the present state of art. Mr. Heavyith'heel, indeed, does not badly state the question when he says, that styles have been always matters of slow growth. "Did Phidias copy the Parthenon from authorities?" *We* say, yes. The Grecian style, perhaps more than any other, progressed by minute stages. The old Hecatompedon was Grecian-Doric, and not in a great degree different from the temple which rose on its site. "Go to Nature," and *entirely* reject "authority," and architecture is at once reduced to a state in which it has never existed, but at the origin of building. "It is indisputably evident," says Reynolds, "that a great part of every man's life must be employed in collecting materials for the exercise of genius. Invention, strictly speaking, is little more than a new combination of those images which have been previously gathered and deposited in the memory; nothing can come of nothing; he who has laid up no materials can produce no combinations." The history of art in all ages is against the entire disallowance of "precedent." The *fact* of a style having been used may be "no authority at all;" but it is right that we should not forget who were the artists, and who the people, from whom the architecture of Greece came to life. And however we may condemn an adherence to precedent which allows no exercise of thought, we cannot think that this consideration even is not of some value. We cannot admit that "copyism," as it is called, or the use of precedent, was commenced at "the revival;" the adaptation of Grecian art by the Romans resembled in all important points that of Roman art by the Italians.

Indeed, the word "revival" is partly a misnomer; for it would not be difficult to shew that invention characterized the early Italian style in a high degree; whilst the earliest architecture of the Roman empire was in fact Grecian. But, under some difference of title, Mr. Kerr shews that the reverse of his first assertion came to pass. And he is not far from giving the whole object of architectural study, in saying, "that which the imagination produces, it produces by the combination of simples previously known." "Antiquity-rule," or precedent, archæology, and construction should, we can sadly admit, be greater aids to art than they at present are.

It matters not that there is little of real "art" in *ordinary* house building; that is not less the kind of material out of which art springs, just as the block of marble, roughly shaped for the statue, has no other connection with the *art* of the sculptor than as the means by which that art may, or may not, find language. In the strictness of the Newleafe definition, the compounding of colours, the setting of the palette, the manipulation of painting, and the repetition of the sketch and of matters of detail in the picture, would in no degree confer the title of artist on the operator; this would be given only, of the actual indispensible labour, to that small part which is invention or design. Yet these details are not less closely united to the *art* of painting than are those which are included in the profession of the architect. They make up the "calling in life," but they are equally inseparable from the *art*. Mere construction would not be "art," any more than the delineation of forms in the picture from the model; yet both are amongst those aids, more or less mechanical, without which there can be no "art."

Mr. Kerr admits, indeed, that "the art" of architecture, and the practice of construction may be followed by the same individual, but he wishes to shew that there is a line of demarcation, one side of which gives no right to the title of artist. He says, "what I complain of is this, that now-a-days the doctrine is vehemently urged that *Construction is Architecture.*"—"I make no complaint against him who is Architect and Constructor together. But I say that Architecture and Construction are two things, not one: and that there is no need for putting the one in antagonism against the other.

MR. HEAV. But surely the principles of Architecture include Construction?

MR. NEWL. The principles of Architecture are in part *based upon* the principles of Construction (properly so called); but Architecture has nothing whatever to do with what the Brick-people call construction;—the proportioning of lime and hair and sand; the dimensions and fall of drains; cesspools; bricks; the pargetting of chimney-flues; the mysteries of water-closets, and sinks, and dressers, and pipe casings; hay racks and mangers; straps, nuts, bolts, washers; air-traps, stink-traps; putty and whitelead; pumice-stone and knotting; the arcana of five-coat-work and four-coat-work and three-coat-work, and glazing, and flatting, and distemper, and whitewash; and dry-rot and rats; and bell-hanging; and paper-hanging; and the prices of everything which it can enter into the heart of builder to estimate or overcharge; with all this the Fine Art Architecture has *nothing whatever* to do,—it is *Building*, or at most *Surveying*. Architecture is Design of The Beautiful in Buildings. In considerable part (as I shall afterwards describe) this is influenced by the appearance resulting or derived from constructive propriety (properly so called); wherefore, an Architect must understand, so far as Architectural design requires, the principles of Construction; but the Construction itself, and especially that which is called Construction by the Brick-people—the Science of house-building, is not Architecture, any more than it is Music or Political Economy.

MR. HEAV. Then you disapprove of an Architect being able to superintend the execution of his own designs?

MR. NEWL. Now you use cant phrases against me;—the *execution* of his *designs*. Architecture has its province merely in *appearance;* the *architectural* design extends no farther: the constructive design and the design of convenience in arrangement of plan and so forth are not *architectural* matters, but matters of house-building. Now I disapprove, not of the Architect of the house being at the same time the contriver or designer of the arrangement and construction, but merely of his supposing that the construction and arrangement are *Architecture*—the Fine Art Architecture.

MR. HEAV. You would have one person to contrive the plan; and another to design the front?

MR. NEWL. The *front?* The entire *appearance*, external and internal, is the matter of Architecture. But I have not said that I would have the Architect and the contriver or planner of the house to be different persons. I have merely said that in the one and the other he is in two capacities, not one; in the former an Artist, in the latter not so: and that, consequently, he who employs himself in the latter alone is not an Architect, because Architecture is a Fine Art."

"The Fine Art Architecture, said I, and the 'business' of an 'Architect' are very different things. So they are. The 'business' of an 'Architect' happens to be this;

* "The Newleafe Discourses on the Fine Art Architecture," by Robert Kerr, architect. Second Notice.

he designs the arrangement of houses, and sheds, and stables, and breweries, and prisons, and all kinds of buildings, and their construction; he estimates, superintends, surveys; and, *perhaps* (if it should be so) he adds a little of *real* Architecture to all this. You count a man who could not write a Specification of works, or who could not detect frauds in building, not an Architect?

Mr. Heav. Certainly.

Mr. Newl. Then I do not. The Architect who writes a Specification does so in a capacity which, I hope I have shewn you, is not that of an Architect."

"And truly I think there is room for some improved division of labour here; whereby the real Architect might be relieved from the inspection of sewers and cesspools and wells, and the shoring up of old houses, and the rating of dilapidations, and the ventilation of foul cellars, and the fitting up of stables, and the curing of smoky chimneys, and the exclusion of rats, and all such like 'Architecture;' and entrusted with the design of much of the decoration which is at present confided to the painter, upholsterer, cabinet-maker. The *Art* of the house would thus be more thoroughly performed; and (however '*practical*' some 'Architects' may pretend to be) the other matters would be also more 'practically' effected by persons of different general calling."

Now it is not only practically and professionally that there is no such line of distinction, but it is our object to shew that an attempt to mark it would be prejudicial to that department which the author has sought to amend. Mr. Kerr has availed himself of the ordinary tactics of argument, and he might have extended his catalogue of the drudgery of practice to a much greater length. But, if the art of the Beautiful in building is to be a profession, and not merely a subject for discourses, as much drudgery will be found to be inseparable from it as from every other pursuit in life. In all, the art, the scientific invention, or the exercise of imagination, as the case may be, will bear a proportion small indeed compared with the actual work of hands, or with that order of intellectual work, which, from its nature, or its constant recurrence, is almost mechanical. The barrister might, we think, regret that the philosophy of law, and the inquiry into principles, could find little place in his attention. Amongst the routine of practice, the surgeon meets with few "interesting cases," which can either improve his own knowledge or admit of original treatment.

"O'er all, alas! the shade of earth will cling,"

and "art" must be a profession or "calling in life," and our inquiry must be, how it can be best advanced, through that which must remain its medium. We may regret, that many who usurp the title of artists have no claim from merit to rank with those of "our art," but the *real* artist, whether he have "the calling," or seek merely the improvement of art, must work with the sweat of the brow. It is the accompaniment of humanity, from which no pursuit and no "calling" is absolved, and many which we might deem free, are, could we look within, more mechanical and practical than the art of architecture. To what then would Mr. Kerr's arguments tend practically? He would raise up a new class of professors, who might be restricted to one department, but he fails to prove that the *art* of architecture even would be served thereby. Nay, we do not understand how the art could at all reach existence. "Anglo-protestantism," as Mr. Kerr himself says, to take an instance, "Anglo-protestantism, the established religion of England, requires *churches*. (I state the matter *a la* plain common sense). Those churches have certain requirements for the purposes of the services therein to be performed. The building is for the services,—the requirements of the services are the purposes of the building." Consequently, they require a certain arrangement, that is the first thing to be considered, and it admits of no sacrifice. Who is to be applied to? Mr. Kerr, if consistent, would say a professor of construction, *not* a professor of the art; *we* say the architect. From the first imaginary individual, out of many different arrangements, equally eligible, it would be matter of chance whether one would be capable of artistic treatment; from the second the *art* of the building with the constructive design would move *pari passu*. Mr. Kerr would say, we only take the balance of his arguments *pro* and *con*,—that, in the arrangement of the plan, the art of architecture was not called in:—the designer had little title to the rank of artist if it was not. As we have said in a former notice, it is not correct to say that architecture, even the "art," "has its province merely in *appearance*;" and does not the impossibility of detecting any boundary between architecture and construction compel, without use of arguments, the association of art, science, and practice in one profession. But Mr. Kerr has felt, that he had in some degree incurred the *onus* of explaining what were those "laws of nature and reason, the true standards of truth and the beautiful," which he inculcates, as the only source of art. And here he so far counteracts the tenor of his former arguments, that we cannot do better than give what so entirely agrees with our own views, in his words.

"The proper method of training *to forming the mind-mechanism for the design of Architecture* is a subject for deep philosophical inquiry; and is, I think, worthy of it.

The *Requirements* in a building must be made fundamental in the arrangement of it, and therefore in the arrangement of the Architectural design. And this has concealed in it much that may not at first sight appear. It is a fault with us that we arrange our plans too much by *model*, and too little by *requirement as a fundamental*. And I am convinced that if the true arrangements for the ends in view were to be carefully examined into, there would arise a variety in general and particular ideas, of plan, mass, and detail, which would be not only valuable but surprising. This, then, is one subject for study and education.

Construction must be a fundamental principle."

"These fundamentals, Requirement and Construction, are such as I call the principles of Nature and Reason. But they must be much more deeply studied, than our "Architects" study them, and very differently studied, before their usefulness can be discerned; and much more scientifically applied, before the good effects of their application can be seen. And it is by such principles as these, the true Rules of Architecture, that we are to criticise design."

He then alludes to other principles—those of *fitness and propriety*, pictorial *effect*, and *proportion*—and the result to which we at length arrive is, that Mr. Kerr's object and opinions, and our own, *must be* identical.

But it is, notwithstanding, our duty to consider what impression Mr. Kerr's book will have upon the minds of those who may not be ready, or able, to canvas the opinions it contains; and whilst commending its object, and the manner in which that object is in a great degree carried out, to counteract accidental errors in a manner not less prominent. We deem that there is much in the "Discourses" which would tend not only to the injury of the profession, but through that medium to the injury of the art. It should be our object to take every means of laying before the world the substantial benefits which the profession can render to clear away the ignorance which exists as to the nature of the architect's profession and labours. These benefits would be in matters which Mr. Kerr will not admit within the scope of architecture; but, practically, there would be a still further, a constant loss of opportunities of displaying the graces of the art. Few architects would say that the Institute is "too professional," however they might think as to Mr. Kerr's other grounds of cavil. Let the Institute set forth a proper statement of the course of education required for the architect, inquire what are the impediments to the success of architects, procure the recognition of architecture as a profession, set forth publicly its duties, its advantages, and its rights, and it will in this way not only disarm the attacks, for which now there may be reason, not only provide for excellence in construction, but in art, not only for personal benefit, but for the public welfare.

We have before endeavoured to shew that the comprehensive nature of architecture was a matter not sufficiently considered. It is, indeed, *all* that Mr. Kerr has set forth as *not* constituting "Architecture;" it is far more than that. Professor Donaldson was perfectly right when he used a few words of censure for the lack of what is called "engineering knowledge" amongst architects. Architecture includes engineering; and he might too have shewn how the art suffers from the existence of a separate class, seldom professing any knowledge of art; indeed, often contemning its principles, which might otherwise impose a salutary check upon extravagant outlay, and upon that mistaken view of the object of professional aid, which seeks the tortuous course only because it involves greater skill, often in preference to that which might produce greater beauty at less expense. Indeed, it seems to us that the union of art and science is a happy union for the advantage of each; and without the present combination of science and practice with art, architecture would be little more than matter for the *nuga* of pamphleteers, or the impossible compositions of an exhibition. The art of architecture does not exist on paper.—To ensure the advantage of the art the profession must be *maintained;* and this is often effected, and must always be, as in parallel cases, by matters having little of art in their composition. It is to *architects*—those who are actually engaged in practice—that we must look for sound criticism, not such as, for want of sufficient attention on their part, has become the staple of the newspapers, some of the set phrases of which Mr. Kerr has quoted. The artist and the constructive agent must therefore be the same individual; and Mr. Kerr shews that *he* is perfectly familiar with the practice of architecture. The forms which construction takes in every detail, make, or influence, the art; they are matters of work, are mechanical, but essential to both art and science, and must be under one direction. The architect *should* bestow more of his own labour on his designs; and if we add to this, the design of the internal decoration, of all that now falls to the hands of the upholsterer, and, indeed, of every thing requiring construction or design in the formation, fitting, and furnishing of buildings, it will be seen that our idea of the pursuit of architecture varies much from that which the "Newleafe Discourses" teach.

And if we are told that it is impossible for the human intellect to grasp all these various subjects, we answer, that no limit has yet been found to the capacities of genius. There is no extent of professional knowledge which good system in education would not grasp,—no amount of business or labour which industry and order would not get through. We like that saying of Reynolds, and would gild it in every school of art-education,—"Nothing is denied to well-directed labour—nothing is to be attained without it." The names of Michael Angelo, Da Vinci, and Raphael, in art, or of Shakspeare, in poetry, were not those of men whom we may not parallel,—names which the present age may not surpass.—But we must defer these important subjects, as sufficiently important to claim careful thought, for future notice, but will not conclude this article without again recommending Mr. Kerr's book to our readers.

IMPORTANT TO LONDON BUILDERS AND ARCHITECTS.

PROJECTION OF SHOP-FRONTS, &c.

In the case of a shop-front, put up in Roan-street, Greenwich, by Mr. Sugden, builder, the district-surveyor objected to "the cornice, &c., of shop-front and window dressings to the house nearest Skelton-street, overhanging and encroaching upon the public way contrary to Schedule E," and ultimately took the question to the referees.

At the meeting "it was admitted on the part of John Sugden, that the house referred to is a building built since the 1st January, 1845."

The referees awarded, "that the walls of the building in question ought to have been set back, so that all projections intended to be made therefrom should only *overhang or occupy the ground of the owner of such building, without overhanging or encroaching upon the public way;* and inasmuch as the walls of the building in question stand up to the public way, it was contrary to the said first-mentioned Metropolitan Buildings Act to erect any shop front before the walls of such building, of which the front wall stands, or of which any other walls stand up to the public way, so as to encroach upon such public way, or to put

any cornice to a shop-front in or before the front wall, or any other of the walls of such building, so that such cornice, or any part thereof, should overhang the public way; and that it was also contrary to the said Act to put any dressings to the windows in the front wall of such building, of which the cornice, or any other part thereof, should overhang the public way. And we do hereby find, certify, determine, and award, that a shop-front has been put before such building, standing up to the public way, so as to encroach upon such public way; and that a cornice to such shop-front has been projected from the front wall of such building so standing up to the public way; and that such shop-front, so far as it encroaches upon the public way, and such cornice, so far as it overhangs the public way, are contrary to the said Act. And we do hereby further find, certify, determine, and award, that in forming window-dressings to the windows of the third, or one pair story, a cornice has been projected from the front wall of such building so standing up to the public way, and that such cornice, so far as it overhangs the public way, is contrary to the said Act; but inasmuch as it appears to us, the said official referees, that the rule in Schedule E, of the said Metropolitan Buildings Act, headed, "Wooden shop-fronts and shutters," has been *misapprehended by builders and by many district-surveyors*, to authorize, or at least to permit, the projection of shop-fronts and their cornices over and upon the public way, in the cases of buildings built or rebuilt, notwithstanding the rule in the same Schedule E, headed, "Projections from walls of buildings over public ways;" and inasmuch as we have reason to believe that the building in question was built up to the public way under such misapprehension, and that no intimation was given by the district-surveyor in the case, that the building ought to be set back to the extent of any intended projections therefrom, until the walls of the building had been built up, we make no direction as to the irregular projections in question."

The rule in question, if enforced, will produce a bad effect on street architecture, and is to be deplored. Some inquiry into the way in which it will work should be made.

MR. A. H. LAYARD'S ACCOUNT OF THE RUINS OF THE PALACE OF AL HATHER, MESOPOTAMIA.*

THE following remarks will, I trust, be sufficient to give you some idea of this building, the chief claim of which to your attention is its uniqueness. There is no other perfect monument of the same period in existence that I am aware of. The fine ruin below Baghdad, usually called the arch at Ctesiphon, is, as you no doubt know, but a portion of the original building. The palace of Al Hather, however, as far as the ground plan is concerned, is entire. The edifice, too, itself is remarkably well preserved, and I have no doubt that a skilful architect would have little difficulty in restoring it, at least upon paper.

You will see a further account of the ruins, in the ninth and eleventh volumes of the Geographical Society's journals, and that will make up for any deficiencies in the notes I now send you.

But I must caution you against placing much confidence in the speculations, as to the Chaldean and astronomical origin of the city. The remotest date one could assign to the buildings, of which the ruins now remain, would be the time of the Arsacian dynasty (256 B.C.), or Parthian kings of Persia, but I am pretty well convinced that they owe their foundation to the Sassanian (A.D. 226).

Hatra, now called Al Hather, was probably founded, like Palmyra, as a station for caravans, crossing the desert by the great roads which connected Syria with Mesopotamia, Assyria, and Babylonia. The city must have risen to considerable importance at an early period; but its name is, I believe, first noticed in history on the occasion of the effective resistance which it offered to the army of Trajan. Ammianus graphically describes it as "in mediâ solitudine posita," and calls it an ancient city. At the time of Jovian's retreat (A.D. 363), it was deserted, and the ruins which now exist appear to me to belong to edifices constructed *after* that period. It is probable that after the cession of the provinces beyond the Tigris, after the treaty of Dara, by the Romans, the Persians saw the importance of Hatra, and rebuilt and strongly fortified the city; for, to whatever people it may have owed its foundation, I entertain little doubt as to the Sassanian origin of the palace, fortifications, and principal buildings now standing. So little is known of the history of the place, that much cannot be added to the above remarks. It is described by most Arab geographers, who preserve the tradition of a memorable siege, which it sustained under one of the Shapours (Sapores), and which attributes its fall to an event, which, however well suited to the genius of eastern romances, would scarcely bear recital here.

By an inscription repeated more than once on the walls of the palace, it appears that this building was restored by Azzuddin, ibn Mesud, ibn Maudud, ibn Tamanki, Atabek of Trak, in the year of the Hegira 586 (A.D. 1190). I am not acquainted with the period of its final desertion. The ruins are now the occasional encamping place of the Arab tribe of Shammar. Their position renders a visit to them at most times hazardous; they were first reached by Dr. Ross, the surgeon of the British Residency at Baghdad, but this gentleman was compelled to leave them after a very hasty survey. He revisited them in May, 1837, as published in the 9th volume of the "Royal Geographical Society's Journal," and Dr. Ross remarks, "That the ruins of Al Hather occupy a space of ground upwards of a mile in diameter, inclosed by a circular or nearly circular wall of *immense thickness* with square bastions or towers, at about sixty paces, built of large square cut stones. The upper portions of the curtains have, in most places, been thrown down, as have been also some of the bastions, but most of the latter may still be said to be in very fair preservation, each having towards the city vaulted chambers; outside the wall is a broad and deep ditch, now dry, and one hundred or one hundred and fifty paces beyond it is a thick rampart, now only a few feet high, going round the town; and at some distance beyond the fortifications, stand two high mounds with square towers upon them, one on the eastern side, and the other on the north.

In nearly the exact centre of the town stands the grand object of curiosity, *whether a temple or a palace*, observes Dr. Ross, *I shall not pretend to say*, inclosed by a strong, thick, square wall (partly demolished), with bastions similar to those of the city wall, fronting the four cardinal points, each face measuring three hundred long paces inside.

The square is, in its centre, intersected from north to south by a range of buildings *greatly damaged*, a confused mass of chambers, gateways, and one *built pillar*, reduced to about thirty feet. Between this range and the eastern wall appears to have been a clear space. The principal buildings occupy the western side, and consist of a huge pile fronting the east, and part of a wing fronting the north; the ground story only remains perfect, and consists of a range of vaulted halls of two sizes. The whole city is built of a brownish grey limestone, so closely fitted, that if cement has been used it cannot be seen, and almost every stone in the great pile has cut upon it one or more letters or marks, seemingly the builder's number, as they are seen in the midst of broken walls, where they could not have been exposed when the structure was perfect."

Mr. Layard continues,—"The ruins of Al Hather were subsequently visited (in 1840) by Mr. Ainsworth, Mr. Mitford, and myself. We were able to remain some hours amongst them, but deemed it prudent to return before we had been able to devote as much time to the examination of the remains as they deserve.

In the month of April last, the chief of the Shammar Arabs being encamped near Mosul, I seized the opportunity to make a second excursion; and having obtained an escort from him, and secured his protection, I was able to spend three days amongst the ruins without interruption. I was accompanied by Mr. Rassane, British Vice-Consul at Mosul, Mrs. Rassane, and a large party of native gentlemen. Al Hather has only been visited by the travellers mentioned above."

Sketches were exhibited of the principal edifice or palace. "The city contains no other building of any importance. The walls and bastions are in good preservation. They are nearly circular, and about three and a half miles in circumference. The other ruins are principally those of dwelling houses; these are of stone, usually of two stories, with small vaulted rooms, connected by narrow flights of steps.

The smaller chambers of the palace, on the ground-floor, are still nearly entire, and the large halls are so well preserved, that there is little difficulty in conjecturing their original forms.

No traces of the windows, which must have occupied the spaces between the large halls, and above the entrances to the small chambers, now exist, and I am at a loss to know how to restore them. They may have been grouped together and arched, as at the palace at Ctesiphon.

On comparing these two buildings, it will be found that a great resemblance exists between them, almost sufficient, indeed, to prove the identity of the epoch of their erection. Although the palace at Ctesiphon contains but one great hall, flanked by small chambers, the general design of the building is evidently similar to that of the palace of Al Hather. To this day, the mode of construction adopted by the Sassanian kings of Persia, has been preserved in most parts of that country, particularly in such provinces as are exposed to great summer heats, such as Fars and Khuzistan.

The centre of the house is usually occupied by a hall of large proportions, always vaulted, and completely open on one side (generally on the north) to the air. This hall is called the "*Aiwan*," and extends the whole depth of the building. It is only abandoned during the winter months, and is a cool and pleasant residence during the hot weather. The "*Aiwan*" is flanked by a number of small rooms, generally forming two stories. These are used for winter residence, and are at other times occupied by guests and servants.

The whole building stands in the centre of a court-yard, ornamented with gardens, reservoirs, and fountains, and is usually surrounded by a series of apartments used as offices, &c. The palace of *Al Hather* has three *Aiwans*, but in other respects resembles in its general plan (though, of course, on a very large scale), the modern House of Shushter, in Western Persia. The dependent buildings, which surrounded the palace at Ctesiphon, have long been buried in ruins—scarcely any traces of them remain—but it is possible that the "ensemble" was originally such as above described.

It will be remembered, that the palace at *Ctesiphon* was constructed of *brick*, while that at *Hatra* is built entirely of hewn stone. The height of the arch of the great hall at Ctesiphon is actually 106 feet from the ground, which may be somewhat raised by the ruins, whilst that of the outer hall of *Al Hather* could scarcely have exceeded 60 feet.

The *Aiwans* were furnished with great luxury and splendour. It was probably to the *Aiwan* at Ctesiphon, still standing, to which appertained the magnificent carpet, found by the Arab conquerors on the sack of the city.

This carpet, as stated by Gibbon, was of silk, 60 cubits square, a paradise or garden depictured on the ground; the flowers, fruits, and shrubs were imitated by the figures of the gold embroidery, and the colours of the precious stones, and the ample square was enriched by the variegated and verdant border.

Both at *Al Hather* and at *Ctesiphon*, the rings and nails to which lamps and tapestry were suspended, are found on the walls and ceilings. I was unable to find any remains of the capitals of the columns and pilasters. It is probable that a simple cornice, with an ovolo or some such ornament, ran round the whole building, and formed at the same time a kind of capital to the pilasters; such a cornice may still be traced on the outer wall, and on the square pilasters at the back and sides of the palace. The roof was evidently flat, and formed an extensive terrace, to which staircases led from various parts of the edifice.

The ground-plan exhibits a chamber 28 feet 7 inches deep, and 20 feet 3 inches wide; the entrance is 14 feet in width, and is formed by an arch richly adorned with human busts, inclosed by a narrow frieze. The head-dresses of these figures, which are both male and female, are extremely varied and peculiar. They generally resemble those found in Persia on

* Read at the Institute of Architects. See p. 529, *ante*.

monuments of the Sassanian dynasty, are elaborately ornamented with curls, and project considerably from the head. Many of the figures have helmets and caps of various shapes. The draperies are richly decorated with jewels and ornaments.

A cornice, with a double row of acanthus leaves, runs along the interior and exterior of the entrance, immediately below the spring of the arch. The cornice frieze and arch are similar at the entrances of the three outer chambers. A second chamber leading out of the last, 25 feet 9 in. by 20 feet 5 in., receives no light but by the doorway. There is a large hall, or Aiwan, 98 feet 8 in. by 49 feet. The ornaments over the arch differ from those at the entrance of the small chamber; two plain stones occur between each head or bust. The cornice has but one row of acanthus leaves, beneath which runs a spiral. Within the hall are six pilasters, three on either side, decorated with human heads. Four of these pilasters have two heads *beneath* and one *above*; in the others the order is reversed. The arch of the vault springs from the summit of these pilasters. A cornice with ovolos runs round the hall, about 6 feet from the top of the pilaster; and a second cornice, with a simple spiral ornament, occurs about 10 or 12 feet from the pavement.

In a chamber leading out of the Aiwan, 31 feet by 20 feet 9 in., the doorway is ornamented with a cornice, elaborately carved into a kind of net work. The chamber has no window.

There is an isolated hall, surrounded by a lofty vaulted passage. The entrance is blocked up by fallen stones, and I was unable to enter to take dimensions of the hall, but which I should say, may be about 50 feet square; and the width of the surrounding passage averages about 11 feet. This passage is lighted by occasional windows, but the inner hall receives light through the doorway alone. The cornice which crowns this entrance is richly sculptured with human busts and fabulous animals, which may perhaps have reference to the worship of the Persians.

[The other chambers were described by Mr. Layard, but we have not space for the account. The walls which form the outer and inner courts, and surround the building, are built of cut stone, and are seldom less than 6 or 8 feet in thickness. They form, consequently, a kind of fortification to the palace.]

There is little to be added to the above description. The two courts appear to have been paved with stone. The reservoirs were supplied by deep wells, which still exist. The water was conveyed through a small channel cut in the pavement, and crossing the court.

The stone used in the building is a fossiliferous limestone, said to have been brought from the Sinjar hills. The blocks are well cut, neatly fitted, and firmly united by a very fine and tenacious cement. The stone, from its nature, is subject to rapid decomposition, and the ornaments and sculptures have been much injured by exposure. The ruins have assumed that rich golden tint which adds so much to the beauty of the great ruins of Syria.

There are sculptures in very high relief, such as a ram with the tail of a fish, human busts, &c., on the face of the palace, the use of which is not apparent; they may have been simply intended for ornament.

Mr. Ainsworth, in his memoir, has mentioned the peculiar marks, which are to be found on almost every stone employed in the buildings of *Al Hather*, and has given representations of many of them. He seems inclined to attribute some mysterious meaning to them. I have found similar marks on numerous buildings of the Sassanian epoch: for example, at Bisuten and Isfahan. In the latter city I was first induced to look for Sassanian ruins by seeing them upon stones employed in modern edifices; and I soon succeeded in finding several fine Sassanian capitals. I believe these marks to be purely fanciful, and not to be the letters of any particular alphabet: letters from a variety of alphabets may be traced amongst them. They appear to have been used for building purposes, and not to have reference to religion or astronomy. They occur on the face of the stones, in the centre, each stone being provided with one mark.*

The want of symmetry in the architecture at once strikes the eye. The height of the arches, as well as the width of the entrances in the façade, varies—and it is not improbable that there were pilasters over the lower arches, as at Ctesiphon, where the same neglect of the rules of western architecture is observable. It is evident that the style of architecture itself has been borrowed from the West, and has been adapted to the taste, manners, and climate of the east. The same thing is visible in most of the Sassanian monuments existing within the ancient limits of Persia, and there are few travellers who do not attribute the elaborate sculptures of Tak-i-Bostan, near Kirmanshah, to Roman artists.

* It would be curious to compare these marks with the collection published by Mr. Godwin in the "Archæologia."

FOREIGN INTELLIGENCE.

Popular Traditions of Old Continental Buildings.— Strange are the reports which have reached our times, relating to some mediæval structures in those countries. It is difficult to conceive, in the first instance, how such piles as those cathedrals, bridges, castles, could have been erected, without any of the complicated *machinery* of estimates, contracts, tenders,— ledgers, cash and other *books*, which constitute no insignificant portion of our present *works*. This, however, will become somewhat more conceivable, if we come to know, that the wages of a labourer at the building of the bridge of Prague (14th century) are said to have been one *Groschen* a day, equivalent to five farthings English. One of the corners of the bridge is yet pointed out, where the architect (*Werkmeister*) sat every evening with his leather bag, and put the tiny coin in the hands of the men as they passed by. Himself and his assistants lived, most probably, in some convent or hostelry, and fared and messed together. Man had not become then a *quibbling* animal. The next tradition current at some of these places is, that the lime for the building of these piles was mixed with the white of eggs.

French Glass-makers in England.— The Belgian, and, subsequently, the French papers, have made a great *fuss* of late, regarding the *enticing* of French workmen in the newly-established glass manufactory at Hull. From Lille alone twenty men had already gone, and fifty were expected to follow. That our neighbour contemporaries should urge every *fair* argument to prevent French and Belgian glass-makers from coming here, is no more than could be expected. But they have stated a fact which we wish not to be true, and if so, to be refuted. It is said, that one of the overseers (*sous-maître*) from the manufactory of Clichy-la-Garonne had *taught* the society for which he worked (at Hull) some of the French proceedings, that the society attributed them afterwards to themselves, as their own invention, and made underhand steps for obtaining a patent. It is also stated that workmen, when ill, have been immediately dismissed, and would have died miserably if not assisted by the French consul.

The Catacombs of Paris.—It is well known that the districts of St. Jacques and the faubourg St. Germain, at Paris, are completely undermined by ancient quarries, known under the above name. As these subterraneous galleries became ruinous for some time past, works were undertaking for either filling them up, or securing them by walls. On the square of the College Rollin, there exists a pit, which goes right down to the catacombs, and it is by this opening that the building materials have to pass, for saving carriage, &c. For facilitating still more this operation, *débris* and other rubbish, and even large slabs of stone, are simply thrown down—which, however, lately caused the death of one of the workmen.

Hermann's Sketches of German History.— This artist, who, like Cornelius, has lived at Berlin for some years past, is executing an original idea, viz., to represent the chief events and phases of German history in a number of large sketches—about fifteen—to be executed in steel. The chief event to be placed in the middle—surrounded by lunettes, representing other co-ordinate events. The king is much interesting himself about this likely to become national undertaking.

CANINA'S WORK ON ARCHITECTURE.— We are happy to inform our readers that the library of the British Museum has acquired a copy of this costly work—six vols. in large folio. Rome, 1840-1844.

ASSESSMENT OF ST. JAMES'S PARISH.

IN consequence of an objection raised by Mr. Cafe, at the last petty special sessions, to the effect that the poorer classes occupying houses in the narrow and confined streets were rated on the actual rental, while the greater portion of the best streets, including Pall-mall and Regent-street, which had increased in value very much, were rated at two-thirds, and frequently at only half their rental; and from the evidence which was recently adduced, it seems probable that St. James's parish will be re-assessed.

Amongst other cases quoted were two houses in Oxford-street, returned to the income-tax at 180*l.* and 165*l.*, rated to the poor at 56*l.* and 61*l.*; three houses in Regent-street, returned to the income-tax at 400*l.*, 300*l.*, and 267*l.*, rated at 130*l.*, 120*l.*, and 87*l.*; three in Pall-mall, returned to the income-tax at 210*l.*, 275*l.*, and 525*l.*, rated at 90*l.*, 77*l.*, and 140*l.* respectively.

The Hon. Mr. Byng, the chairman, said the magistrates were of opinion the rating was not in accordance with the Parochial Assessment Act, and that after this intimation, the vestry would probably re-assess the parish. They adjourned the case to the next special session in January, to give them the opportunity, and the magistrates would then deal with the case accordingly.

"FAILURES OF RAILWAY WORKS, AND QUALIFICATIONS OF ENGINEERS."

FOLLOWING up a subject more than once recently broached in THE BUILDER, and which every week is more and more pressing itself into notice, we find the *Mining Journal* has been drawing the attention of its engineering readers to the subject, under the above title. "It has been often observed," says the writer, "that a sudden demand for a commodity, which much exceeds the supply, is apt to induce adulteration and deterioration for a time; and it must be admitted, we fear, that engineering is not exempt from the general rule. The incalculable extent to which the development of the railway system has increased the demand for engineers, would appear to have been, hitherto, any thing but favourable to the general character of the profession. The supply of engineering ability has declined, while the necessity for it has increased; and we seek in vain among the works of the present time, for a parallel to those of Telford, Rennie, and Smeaton. This is mainly attributable to ignorance and thoughtlessness on the part of those who have the employment of engineers. In particular, little or no distinction seems to be popularly understood to exist between an engineer and a surveyor; and hence it has of late years been no uncommon thing, to find impudent pretenders of the latter class, who never were in any office but that of a land surveyor, or measurer, assuming the title of civil engineer; and this, through aid, perhaps, of a few sycophant-loving patrons, and ignorance and inattention on the part of the many obtaining the direction of works requiring scientific knowledge and constructive skill. Such quacks set themselves up in opposition to the members of a profession requiring a specific and arduous education, superadded to the highest order of talent—they offer to the gullable directors of public works the bait of cheap engineering — they look sharp in all directions to pick up the contrivances of genius and science, conceiving that they can do every thing by imitation. They find themselves growing rich, and begin to consider themselves great men; when some change of circumstances—slight it may be—sets their imitative powers at defiance: disaster follows miscalculation, and their works and reputation crumble together.

Such is the system whose effects begin to be felt in different localities; and which, unless changed in time, threatens a great extent of the internal communications of Great Britain with the fate of the potato crop.

The way to safety for future works is readily found. Let the character and history of the engineer be traced to its very roots! First, as to original genius! for, if a man has not been born an engineer, he never can be made one; secondly, as to education—the history of which, in fact, will answer the first inquiry also."

CRESCENT CHAPEL SCHOOLS, LIVERPOOL.

MR. J. A. PICTON, ARCHITECT.



NEW SCHOOLS, SALISBURY-STREET, LIVERPOOL.

THESE very ornate schools are now in course of erection by the congregation of the Crescent Chapel, Liverpool, under the direction of Mr. J. A. Picton, mentioned last week, and are calculated to accommodate 400 boys, 360 girls, and 400 infants. The plan forms three sides of a quadrangle, the fourth side open to the yard.

The infants' school is 66 feet by 33 feet, over which is the girls' school, of similar size. The boys' school occupies the opposite arm of the building, 66 feet by 36 feet, one story only in height. Each of the schools has attached to it class rooms and cloak rooms. There are also an entrance hall, board room, library, and apartments for a resident keeper.

The style of the design, as shewn by the engraving, is Elizabethan. The walling is faced with a blueish grey stone, which rises in thin beds from three to six inches thick, the joints pitched off to a straight edge. The plinth, coins, window dressings, &c., are of red sandstone, the contrast between the two colours adding materially to the effect.

The cost, exclusive of the site, will be about 3,500*l.*

THE COLOSSAL WELLINGTON.

SIR,—If it is true, as reported, that Lord Morpeth has requested the Royal Academicians to give their opinions respecting the equestrian statue of the Duke of Wellington on the arch in Piccadilly, we may hope that after all it will be taken down, as one of the most eminent of that body has already recorded his judgment against its continuing where it is.

The question will then be, *What is to be its ultimate resting place?* I would take the liberty to suggest that Hyde-park will afford the most suitable of all localities, where no other preparation would be necessary than to take advantage of some rising ground, or natural elevation, and to place thereon the figure upon a simple platform of granite, so that nothing would interfere to detract from its colossal proportions.

Such an appropriate site will be found by taking a line east and west from Grosvenor-gate to Kensington Palace, intersected by one north and south from Albion-street gate to the Knightsbridge cavalry barracks; there, though the statue would not stand in the way of the troops when reviewing in the park, it would be seen by them; and in after-times, when the great captain shall live only in the memory of a grateful nation, his spirit would still seem to direct the evolutions of his country's troops as they will march by the effigy of the departed warrior, and the honours bestowed upon him when living, unparalleled by those paid to any other Englishman, will incite the beholders to emulate his deeds, though they may not hope to surpass them.

If no other objection existed to the statue remaining where it is, your remark upon the discrepancy of a figure in a modern costume being placed on a structure of classical design would be somewhat fatal to its repose. Another valid ground of dissent has been suggested, that it is a breach of etiquette to place a subject, however illustrious, over the privileged entrance to the abode of his sovereign; and as the great characteristic of the noble duke is his single-hearted loyalty, such a suggestion would have great weight with his grace, if his own feelings alone could be consulted.

If the statue is allowed, in defiance of public opinion, to continue where it is, we may expect to hear the observation made by Cassius on Cæsar applied to him who is now

"The foremost man of all this world,"

in a parody by some "envious Casca,"—

"Why, man, he doth bestride the narrow *arch*
Like a Colossus; and we petty men
Walk under his huge legs."

It is very remarkable that it should be the fate of nearly all our public statues and monuments, whatever may be their own intrinsic merits, to suffer by their position; for instance, the other glory of his country, NELSON, is mast-headed, hoisted among the clouds, half the year enveloped in fog, instead of being placed near the ground, where all might look upon the features of one whose memory is so dear to his countrymen. Thus all the efforts of the sculptor are marred the moment his work leaves the studio, by the ill-directed zeal of those who have the controul of its destination.

In its present situation the finish and workmanship of the equestrian statue cannot be appreciated; but in the position I have indicated, not only would it be seen to the greatest advantage from all parts of Hyde-park, but also from Kensington-gardens, where I still hope to see a new royal palace one day erected, and whence future sovereigns of England may look with gratitude on the effigy of him who served their ancestors so well both in the field and in the council, a lesson to all that the greatest in war may be also the greatest in peace, a character—

SANS PEUR ET SANS REPROCHE.

Whilst on the subject of the palace, I may be allowed to observe, in answer to a remark in the *Art-Union*, upon "those who had previously so much to say being now silent," that so far from having lost sight of the matter, I am publishing, in a pamphlet, the letters to which you kindly gave insertion, with some additional suggestions, with the view of distribution among the members of the houses of legislature. GEORGE RUSSELL FRENCH.

7th November, 1846.

*** The moment before going to press we received intimation, from a quarter likely to be correctly informed, that *the statue is positively to come down*. We take some credit to ourselves for the issue of this affair, and shall have a word or two to say on the part played by contemporaries.

ANCIENT CARVING FROM THE NEW INN, GLOUCESTER.

CHURCH OF ST. MARY DE CRYPT.

Our readers will probably remember Mr. Britton's interesting paper on the New Inn at Gloucester, read at the British Archæological Association in August last.* From this it appears that in the time of Abbot Seabrooke, who presided over the monastery from 1450 to 1457, the New Inn, in Northgate-street, was built by John Twining, a monk, and that the building, which is very extensive, is commonly said to be constructed entirely of chestnut-tree timber. Almost half of its material is wood, cut into large beams, and placed horizontally, perpendicularly, and diagonally, with the intermediate parts filled either with brick nogging, or lath and plaster. The whole building extends 137 feet from east to west, exclusive of the stables, &c., which continue 72 feet further.

In 1836, Mr. Britton published a view of it in the *Picturesque Antiquities;* but since then some modernizations have been effected, which have destroyed the antique air of the place. The side of the house forming part of the lane named after the hostel, is in nearly its original state, and the elaborately carved import here engraved, from a drawing by Mr. Fairholt, will give an idea of the richness of the original building. The lower part of the carving has been destroyed, either by weather or wanton mischief: perhaps both have had their share in its demolition, as the head of the angel bearing the scroll is evidently broken off. The lower part may have decayed, as the outer edge has done.

The pilgrimage to the shrine of the murdered Edward II., in Gloucester Cathedral, led doubtless to the building of such large houses of accommodation for travellers. That the monks had a share in their construction is evident, not only from what has been said of the builder of the New Inn, but also from an inscription, still remaining over a gateway in the same street, and which was formerly part of the old Ram Inn; this runs as follows:—

"En ruinosa domus quondam quam tunc renovavit
Monachus urbanus Osburne John, rite vocatus."

"Behold the once ruinous house which John Osburne, commonly called the Town Monk, rebuilt."

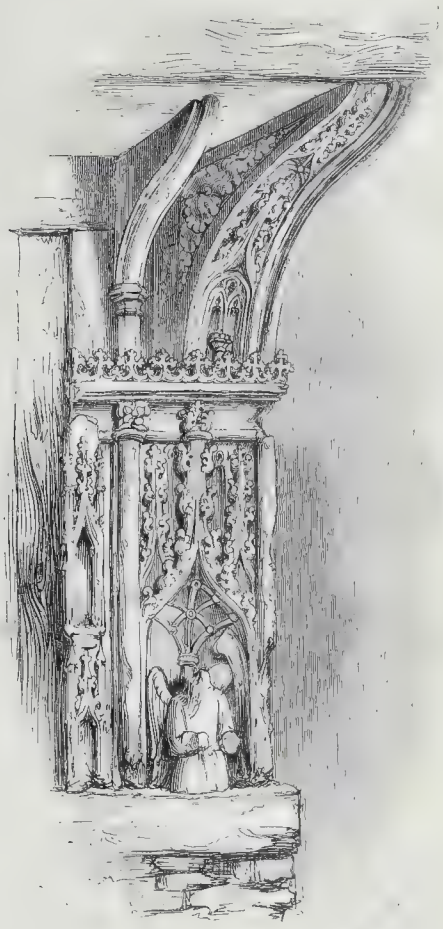
While speaking of Gloucester, we take the opportunity of pointing the attention of those who may visit this city to the very complete restoration of St. Mary de Crypt Church, which was effected at the end of last year, under the direction of Messrs. Daukes and Hamilton, mainly through the exertion of the Rev. A. Sayers, the rector, to whom the parish, as we understood, are still indebted for some of the cost.

The greater portion of the church belongs to the 15th century. The ground plan is a latin cross. The chancel is 45 feet long by 18 wide. The nave is of the same dimensions. In the centre are four piers, from which springs an elegant central tower surmounted by pinnacles and turrets, about 120 feet from the ground. The transepts are 16 feet square. There is a porch on the south side. The font, executed by Mr. Estcourt, of Painswick, is similar in its proportions and tracery to that in St. Mary Magdalene Church, Oxford.

The floor of the church is laid with tiles throughout. The roofs are all wood, and their general appearance harmonizes with the style of the whole building. The seats are of oak, and are all in the form of open benches, ornamented throughout with the linen pattern. The chancel is exceedingly interesting, displaying an eastern sepulchre on the north side, sedilia and piscina on the south, and mural paintings on both. The centre pillar on each side which carries the arches, separating the chancel from its aisles, is divided at the bottom and spread out on either side to form a doorway leading to the aisle, and produces a novel effect. At the west end is a Norman doorway under perpendicular windows, the work, of course, of two periods; and, in its original state, clearly recognizable as such. The whole of the west-end being now restored, however, with the same stone and same workmanship, a discordance is found which is not satisfactory to the observer. The proper course to be pursued under similar circumstances, is a point worth discussion.

* See p. 371, *ante*.

ANCIENT CARVING, FROM THE NEW INN, AT GLOUCESTER.



We learn from the *Gloucester Chronicle*, that public rooms are about to be built there, and that a new thoroughfare to the docks, from Southgate-street, is to be formed. One of the City Commissioners said wisely, at the meeting where this last step was resolved on:—"The improvement of a city helped the trade of a city, just as the improvement of an individual's premises increased his business; and if they looked at Liverpool, and other rising and prosperous places, they would see that the inhabitants had been very liberal in making improvements."

EXTRAS AND OMISSIONS.

CONTRACTS.

On the 10th inst., an action was tried in the Vice-Chancellor's Court, brought by Mr. Kirk against the Bromley Union, to recover the amount of certain works (290*l.* 18*s.* 6*d.*) done extra from contract. The contract contained a clause that it should be in the power of the Board of Guardians, or the architects (by the authority of the guardians), to direct such alterations to be made in the works as they might deem expedient, such alterations not to render the contract void, but to be made by the contractor according to such instructions as he might receive; the value to be ascertained by the architects, and added to and deducted from the original amount; but that "no allowance for extra work was to be made, except the same was ordered in writing," and that there should be no deviation from the original contract without the express sanction of Messrs. Savage and Foden (the architects employed by the guardians).

The defendants alleged that the alterations were made without their cognizance or sanction in writing as required by the contract.

The Vice-Chancellor said that the rule clearly was, that a contract, when made, solemnly bound both parties, but it was also true, that both might be equally bound by the conduct pursued by one and acquiesced in by the other, notwithstanding the contract. This appeared by the case of the "Duke of Bedford *v.* Moore," where silent consent was deemed sufficient to prevent a party from enforcing a contract. It was evidently the meaning of this contract that the corporation should incur no additional expense for deviations and alterations; this appeared by the written order being provided for; but the defendants were not thereby prevented from holding out inducements to the plaintiff to make such alterations by promises of payment. It was stated in the

bill that the plaintiff had communicated with the clerk of the works only, but considered that he was in fact acting under the direction and with the sanction of the defendants. Now this appeared to be the fact, and was admitted by the demurrer. His (the Vice-Chancellor's) opinion was, that notwithstanding the contract, the course which the guardians had pursued placed them under an obligation which was enforceable in that court.

NOTES IN THE PROVINCES.

The new Portland stone lighthouse at Shoreham is now completed, and in action, in lieu of the old wooden erection. Its construction was superintended by Mr. Samuel Sanders, the harbour-master of the port, who planned the fabric.—Mr. Ferrey, having made a survey of Sherborne Abbey Church, proposes—1st, To remove all the galleries, by which not only will the appearance of the interior be improved, but a far better accommodation be made for the congregation; 2nd, To take away the present incongruous altar-piece, and open the arches behind it, now closed up; 3rd, Either to scrape the walls and ceiling, to show the original stone, or if that prove unsuccessful, to give the whole, when scraped, a thin wash of one warm stone colour; 4th, To gild the fine bosses, and give the proper colours to such as bear heraldic devices. The estimated expense is about 5,000*l.*—Trinity district church, Yeovil, was consecrated on Wednesday fortnight. It is a cruciform edifice, in the early English style, of Yeovil stone, with a nave, north and south aisles, north and south transepts, and chancel; and is estimated to accommodate 1,000 persons; sittings chiefly free.——The new church of Illogan, Cornwall, noticed in our last week's Builder, was opened on Wednesday fortnight. It is said to be a very large and handsome structure, in the perpendicular style.——The Assembly Rooms at Cheltenham have been extensively repaired and embellished for the winter dancing campaign, which was opened with the first of a round of balls on Monday week.——The Halstead vestry lately met to consult on the necessity of lighting the town with gas, when, by a majority of one, this very select vestry voted for the light rather than the darkness. A contemporary suggests that, as these Halstead illuminati, who need no gas, are determined to propagate their sect, and at least to convert the "majority of one" back to their own old light, "the schoolmaster should be sent to Halstead to clear the way for the gas-fitter."——The parochial authorities of Clarbro', near East Retford, having liberally granted a larger rate than usual for the purpose of completely restoring the north wall and roof of their parish church, the work has been done, and the church, it is said, so substantially restored, that it will stand in need of little, if any, repair for many years to come—an example which some others in that district would do well to imitate.——The Doncaster Town-hall was to be pulled down in course of this past week, to make way for the new buildings. There seems to be a desire that the figure of Justice, which stands now, or which stood, on the top of the old building, and which is the workmanship of Nollekins' assistant, Guise, should occupy a like position on the pediment of the hall about to be built.——The Norfolk Railway Company have contributed the very handsome sum of 3,000*l.* towards the erection of the new church at Thorpe Hamlet, Norfolk.——The new works at Yarmouth Pier are of rather an extensive description. According to particulars furnished by Mr. William Teasdell, the deputy-engineer, they commenced about the middle of April last, since which time 920 piles have been driven, covering an extent of 1,048 feet. There are 30,378 superficial feet of piling, and the extent to which they are driven into the ground is 1,079 feet, or 3,360 yards. The extent will be more readily appreciated, from the statement made that very nearly two miles of wood have been driven into the ground in about six months. Similar works have been in progress at Lowestoft.——The new cemetery at Rotherham was consecrated on the 24th ultimo. It consists of about three acres of sandy soil, well situated on dry and sloping ground, three-quarters of a mile south-east of the town.——The first stone of the Victoria Dock, at Hull, was laid on Friday last, without much ceremony, as the opening of both the railway dock and of this more extensive undertaking, are to be held as more fitting occasions for public display. The stone was laid by the chairman of the Hull Dock Company, in presence of Mr. Hartley, the engineer; Mr. Murray, the contractor; and others, and the workmen were presented by the chairman with 20*l.* to celebrate the event.——The foundation-stone of a new church, to be erected with funds almost entirely contributed by working people, was laid at Preston on Wednesday week before last.—— The church recently erected at Aston-Magna was consecrated on Thursday, same week.—— From a semi-official statement, it appears that up to the close of week before last, 110,251 persons were receiving employment and wages in Ireland through the Board of Public Works, but owing to the riots of the idle and disorderly peasants of the county of Clare, the Lord Lieutenant has suspended for the present all the public works in that district. Large presentments had been made for works in the barony of Upper Tulla, County Clare, a great proportion of which (exceeding 20,000*l.*) had already received the approval of the proper authorities.

RAILWAY JOTTINGS.

In the case of the Tring, Reading, and Basingstoke bankrupt Railway Company, the directors will have to go through nearly the same unpleasant formalities as if they were individually bankrupt, although, by 7th and 8th Vict., cap. 3, sec. 2, such bankruptcy is not to be construed to be that of the individual. The supposed reason why no other railway companies have availed themselves of the act of last session (9th and 10th Vict. c. 28), for the facilitation of the dissolution of railway companies, subject to the provisions of the Act (7th and 8th Vict. c. 3), for winding up the affairs of joint-stock companies in general, is, that the directors have in general been strong enough, either in the confidence of the scripholders, or as scripholders themselves, to prevent scripholders from taking the management of the winding up out of their hands, by declaring the company bankrupt; which three-fifths of a meeting composed of one-third of the scripholders can at any time do. As to the rights of paying directors to recover from others, we may refer to previous jottings.——

—— A new, though previously-suggested, mode of applying the propelling power to carriages on railways has been reproduced or re-invented by Captain F. Freisauff von Neudegg, who formerly directed the studies of the sons of the Arch-Duke Charles of Austria. This consists in the conveyance of the propelling power of the engine to the axles of the carriages, so as to make the advance of the whole train independent of the mere adhesion of the locomotive's wheels to the rails, and thus so far to obviate the anomalous principles on which our whole railway system has been hitherto based. Each carriage will thus become a locomotive *per se*, or rather *in se*—only having its locomotive power legitimately imparted to it by the engine carriage, through appropriate machinery; not illegitimately, if we may so speak, through the mere influence of the ponderosity of the engine in griping the rails with its wheels. The advantages of such a system in the ascent of steep gradients would be obvious. The same officer has invented a break, by means of which a train may be conveyed down hill with perfect safety without diminishing the rate of speed. Carriages built on the principle of Captain Freisauff (previously patented, it is said, in this country by a Mr. James), have been already tested on a line with a rise of 1 in 40, and are reported to have drawn a dead weight of 600 tons at the minimum rate of 1½ German miles (8 English miles) an hour, and conveyed the same down an inclined plane with perfect safety.——Captain Brandreth, Royal Engineers, is appointed one of the Commissioners for the supervision and regulating of railways, with a salary of 1,200*l.* a year.——Sir John Tyrell has been highly distinguished by the Eastern Counties Railway Company, who, in honourable recollection of services long past, have accorded to him the unprecedented privilege of stopping any train for his convenience, at Boreham, where three is no station, by merely displaying a flag.——

A Liverpool correspondent of *Herepath's Journal* says that the Croydon Railway is to be again converted into an entirely locomotive line.——Lord Harborough and his redoubted engineering and other railway combatants have at length proclaimed an honourable truce. Indeed, while the tunnel line to the south of Stratford-park is to be abandoned, his lordship has agreed, for a consideration, that the railway is to cross a small portion of the park near the celebrated "battle field," itself, at Saxley-bridge. For this privilege, and for the land taken for the railway through his Leicester and Rutland estates, his lordship is to be compensated with the sum of 25,000*l.*——Something like an expense of 100,000*l.* is vaguely hinted at as being probably necessary to repair the breaches and keep out the sea from the South Devon line at the scene of the late disaster. It surely cannot be meant that the contractors are to pay for such enormous improvements. Indeed the company's engineer, Mr. Brunel, has formed an extensive plan of restoration, irrespective altogether, it would appear, of what was previously done, or ought to have been done, by the contractors, in the original construction of this part of the line; and the directors, it is said, will spare no effort or expense on what is deemed "a life and death affair to the shareholders and the public." Cargoes of limestone were of late continually arriving at the field of enterprize; 80 to to 150 men and 27 horses were employed, and 32 additional masons were required. A sandstone cliff of great height has been blasted off to the perpendicular, and other extensive works are in progress.——During the late storm, great damage has been done by the sea to a portion of the railway works at Penmaenmawr, on the Chester and Holyhead line. A considerable extent of the sea-wall, on the Bangor side of the cliff, has been destroyed; and all the materials, masons' tools, &c. washed away. It is said that 2,000*l.* will barely cover the damage.——On Thursday week the contracts for the York and Market Weighton line, forming the more direct route between York and Hull, were let by the York and North Midland Directors. The works for the formation of the line were let to Messrs. Jackson and Beau, who constructed the Bridlington and Hull railway. The construction of the stations and other buildings was let to Messrs. Burton and Son, of London.——The rain seems destined to break up and wash away the North British line entirely, as if it were so much structure reared out of ice and mud. One dilapidation follows another in regular succession, and some parts of the line must be a total wreck already. The *Newcastle Journal* gives the following as the most recent dispatches:—"A portion of one of the embankments at Lamberton, where the line approaches within a few yards of the sea, gave way yesterday week. One of the temporary bridges reported by General Pasley to have been secure, and perfectly satisfactory to him, has also been swept away. This occurred on Saturday; and on Monday the large wooden beams, or piles, were picked up some distance from the spot where they had been placed, and were to remain as enduring monuments of mechanical legerdemain and paradoxical science. But the disasters are not confined to the embankments and the bridges. The Whinstone cuttings have been in many places ruptured by the recent frosts and thaws, trifling as they have been, and masses of stone and earth have descended, like vast avalanches, on the line, burying the railway, and interrupting the progress of the trains. Only on Thursday morning a train from Edinburgh was on the point of being buried by one of these displacements, the escape being almost miraculous."—— The Barentin viaduct, on the Rouen and Havre line, was opened on the 25th ultimo. "The solidity and beauty of the work, says *Galignani*, drew forth the warmest commendations from gentlemen who, as directors of the most esteemed railways in England, may fairly claim a judgment on the merits of such constructions; and when the extent of work, upwards of 100 feet in height and 1,500 feet in length, rebuilt in a short time (six months) is considered, it will be acknowledged that the energetic exertions of the contractors deserve the highest praise."——Such is the demand for Irish labourers on French lines, that they can earn from 5f. to 6f. a day, while the native workmen only receive from 3f. to 3½f.

——The Loire, in the late inundations deluged the Orleans and Bordeaux line, sweeping away the station; covering the line with a vast lake between Amboise and Vauvray, and tearing away 100 yards of sleepers and chairs.

CENTRAL ORGANIZATION OF THE ELECTRIC TELEGRAPH.

This highly interesting work is now in rapid progress. For the present, if not for perpetuity, there is to be something like a two-fold centre in the metropolis, one at the Royal Exchange and Lloyd's, for behoof of the city and the mercantile world at large, and the other in the Strand, for behoof of the West-end, the legislature, and the general converse of the country with its metropolitan head. The busy work of laying down the wires between the station of the South Western Railway, at Nine Elms, and the grand Strand centre, has been begun. The nerve-like tubes are being run along Vauxhall-street, Kennington-lane, and Waterloo-bridge, towards the vital centre, where the wires from every railway telegraph are to meet, in one unbroken inter-communication between the most distant parts of the country. Every precaution is being taken to keep the wires dry, and to preserve their total isolation. They are bound with yarn, water-proofed, and enclosed in leaden half-inch tubes, two of which in succession, inclosing four copper wires, pass through a series of iron pipes, coated inside and out with heated pitch, as the exterior of the leaden tubes also are. The whole apparatus is sunk beneath the surface to a depth of about eighteen inches, and run along, as the ordinary gas and water-pipes do, like the nervous fibrils amongst the arteries and veins of the living body.

The Eastern Counties Railway Company are to extend their telegraphic wires in a similar way to the Royal Exchange and Lloyd's, so that instantaneous communication with Liverpool, and other points in the radius of the circle, will be forthwith established in that centre. Proofing posts are being erected at certain distances, in order to keep the wires in working order, and engineers are engaged in completing the electric wires along the branch lines from Ely, Peterborough, Stamford, and Syston, to Derby; and thence along the present Derby, Birmingham, and Manchester lines to Liverpool.

NEW BUILDINGS IN GLASGOW.

The National Bank and Stock Exchange, in Queen-street, Glasgow, forming one pile of building, are nearly completed, and, according to the *Glasgow Citizen*, produce a satisfactory effect. "The style of the architecture of the Bank is Italian, of the Venetian school, with Ionic columns and pilasters, having enriched angular capitals. The windows are arched, ornamented in alternate courses of vermiculated masonry. On the key stones of the front windows are carved, in *alto relievo*, masks, representing the five principal rivers of the kingdom; that over the entrance being intended to represent the Clyde. The Stock Exchange is of the Florentine school of Italian architecture." Mr. Gibson, of Westminster, is the architect. The ornamental portions of the work are by Mr. Thomas, the modeller employed at the new Houses of Parliament.

Mineral Wealth of this Country.—In the course of a lecture to the general classes of King's College, by Mr. Tennant, on mineralogical geology, the lecturer stated, that the annual value of the mineral produce of this country amounts to about twenty-five millions. Of this, 9,100,000*l.* is from coals, 8,400,000*l.* from iron, 1,200,000*l.* from copper, 920,000*l.* from lead, 400,000*l.* from salt, 390,000*l.* from tin, 60,000*l.* from manganese, 35,000*l.* from silver, 22,000*l.* from alum, 8,000*l.* from zinc, and 25,000*l.* from the various other metals, as antimony, bismuth, arsenic, &c.

Coal for Metropolitan Gas.—On an average during the darker months, 890 tons of coal are every day consumed in the metropolitan gas-works.

Toon Wood Admissible Free.—The above wood, the produce of Aracan, is decided to be a furniture wood, and to be added to the "free list."

IMPROVEMENTS IN HATFIELD HOUSE.

The recent visit of her Majesty to Hatfield House has directed attention to this interesting specimen of domestic architecture. It was erected in 1611 by Sir Robert Cecil, on the site of an earlier building, and is amply illustrated in Mr. Robinson's "Vitruvius Britannicus." The architect is unknown; Mr. Robinson ascribes it to John Thorpe. The expense of erecting it is said to have been no more than 7,631*l.* 11s. 3d., including fencing in two parks and other works. Some items from a record of the expenses will serve to shew the prices of materials and labour at that time.

	£	s.	d.
Item, for 60 tunne of Caen stone, at 30*s.* per tunne	90	0	0
Item, for the making of 7 hundred thousande of bricks, at 7*s.* 9d. per thousande, besydes carriage	341	5	0
Item, for the cuttinge of 48 stone lyons, which stande on the open work of masonrye about the house, for xi. tafferils more, for the carvinge the pew heads in the chappell, the stone pedestells in the open worke before the house, the chimney-piece in the upper chappell, and the Corinthian heads which stand on the top of the stayrecase, on the North side of the house—all which comes to	130	14	2
Item, for the frett seelinge in the long gallerye Item, for the architrave, freeze, and cornish in the Kynge's bedchamber	48	10	1

During the last two years, the present Marquis of Salisbury has made many additions at the cost of about 30,000*l.* We avail ourselves of some particulars furnished by a correspondent of the *Morning Herald*, not pledging ourselves to the praise given.

The suite of rooms on the principal story are approached by the east staircase from the cloisters. It forms one of the greatest attractions in the interior of the mansion. The staircase communicates with the great hall on the ground floor. It is ascended by a flight of five landings, and occupies a space of 35 feet by 21 feet in dimension. The balusters are massive, and boldly carved in the Italian form, and above the hand-rail are represented various genii with musical instruments and other emblems. The ceiling exhibits a diversified taste, and the upper division is enriched by a very beautiful pendant in the Florentine style, all of which has been recently coloured and relieved by gold and silver enrichments. On ascending the staircase the first apartment entered is the great chamber, called King James's room. It is a noble apartment, being nearly 60 feet long by 27 feet wide, and is lighted from the east by three immense oriel windows. The noble owner has been lavish in his expenditure in the embellishment of this saloon, and it must certainly rank among the most gorgeous apartments in the kingdom. The ceiling defies description, so elaborate is the decoration, and the spaces alternating with the portraits are filled by panels in colours of the Florentine style, just finished by Mr. Sang and his artists. From that room is entered the gallery which extends the whole length of the southern front to the library. It is above 160 feet long, and 20 feet wide. At each end is an Ionic screen, the entablature and attic of which break the extreme length of the room, which is altogether so highly enriched with architectural ornament as to produce an imposing and unique effect. The ceiling especially displays a great variety of combination and intricacy in its numerous compartments, and is executed with masterly skill. The ground is now entirely gilt, the intersections being ornamented in colours. It is pronounced to be unrivalled in this country, and is only equalled on the continent by the celebrated ceiling in the same style at the royal palace, at Munich.

The great Hall, or as it is called, the Marble Hall, is a conspicuous apartment, from its noble proportions and the general character of its architecture. It is lighted by three bay windows rising the whole height of the hall, besides the oriel at the upper end near which the lord's table stood in the "golden days" of our ancestors. A massive carved screen runs the whole length of the hall at the east end, with an open gallery, highly enriched with carving, amidst which are introduced lions, forming part of the heraldic insignia of the family bearing shields of the cartouche form, on which are blazoned the family arms. The room is panelled with oak, and the walls lined with splendid tapestry lately brought from Spain. The parts under the galleries have been decorated under Mr. Sang's superintendence.

The chapel and a suite of ten rooms have been completed at vast expense by his lordship in the old baronial style, and each room differs, from the panelling being of various woods—some being of oak, walnut, ash, sycamore, &c.

ST. THOMAS'S CHAPEL, AT BRENTWOOD, ESSEX.

The chapel of St. Thomas à Becket, at Brentwood, is in a state of decay and neglect. Some of the mullions of the windows seem crumbling away. It has been completely stripped, and hardly any thing is left but walls, windows, and roof.

It consists of western tower (supporting a small spire of wood or slate), nave, and south chapel (built as a south aisle), under one roof, a well developed chancel, and north porch.

Exterior.—The tower is situated at the west end of the north side of the nave, the west side of the tower standing flush with the west end of the nave and south aisle. Close up under the parapet, on each side, are two ogee-headed lights, quite plain. These are the only windows in the tower, with the exception of two square insertions on the west side. The nave, has on the north, a three-light pointed perpendicular window, with good tracery and drip stone; and a plain dormer window. In the south aisle is a similar pointed window to that on the north. Here is also a plain four-centred doorway. At the west end are two buttresses, one against the tower, and the other at the end of the south aisle; between them is a small pointed window, now bricked up. The north porch is quite plain, and plastered up to the eaves, so that if there is any original work remaining, it is effectually concealed. The gable is of high pitch, and it is entered by a square-headed doorway. The chancel contains, on the north, a plain two-light pointed perpendicular window, with meagre tracery, and the jambs composed of large shallow cavettos; and a two-light square-headed early perpendicular window, with tracery and dripstone, and a plain dormer window. The east window is four-light pointed perpendicular, with tracery. On the south are two two-light pointed windows, the same as that on the north.

Interior.—As I said before, the interior has been completely stripped; hardly any trace of its originally sacred character remains. The floor has been levelled, and the chancel roof has been ceiled and whitewashed. In the south wall at the east end is a double piscina; the pillar or mullion which divided it is gone. One of the principals of the nave roof remains; it consists of horizontal tie-beam, with king post and struts. At the west end is a large gallery.

The only remain connected with the chantry altar in the south aisle, is a single cinquefoiled piscina at the east end. The origin of this is given in the historical particulars. The bell from the tower has been moved into the new church, which was built a few years back. There are no monuments, as burials and baptisms could only be performed in the mother church of South Weald. The chapel is now used as a school.

HISTORICAL NOTICE.

William de Wockendon * gave some lands in the parish of South Weald to the abbey of St. Osith, soon after it was founded; † and they were confirmed to them by Henry II.

In the fifth year of the reign of Henry III. (1221), a chapel was founded, and dedicated to St. Thomas à Becket, by David, abbot of St. Osith (for the convenience of his tenants at Cost Hall, as this manor was then called), with the consent of the Bishop of London, it being in his see; and the abbot and convent of Waltham, who owned the principal manor in South Weald. The chaplain was presented by the abbot of St. Osith.

Of this chapel there are no remains (with the exception of the piscina in the chancel), it

* Probably William de Ockendon, in this county.

† By Richard de Beaumeis, Bishop of London, in 1118, at St. Osith, 11 miles south-east of Colchester.

having been either rebuilt, or entirely new windows and doors were inserted on the occasion about to be mentioned.

A chantry was founded in this chapel for the repose of the soul of Isabel, countess of Bedford, daughter of Edward III. Richard II., in the twelfth year of his reign (1388), granted licence to Edmund, Duke of York, and Sir Robert de Plessington, to give one messuage and 220 acres of land, in this and the adjoining parishes, to a certain chaplain of the chantry, at the altar of St. Mary, in the chapel of Brentwood, to be founded by the said nobles. A chaplain was instituted and admitted in 1393, presented by Edmund, Duke of York, and others.

This chapel remained in the abbey of St. Osith till the dissolution, when it was granted to Cromwell, Earl of Essex. On his attainder, it was granted, with all the messuages, lands, &c., adjoining, to John Cocke, and Anne, his wife. In 1553, it was in the possession of Sir Antony Browne (buried in South Weald Church); but his heirs alienated it to several others, by the name of the manor of Cocksted.

Oct. 26, 1845. AMATEUR.

SPLENDID EXTRAVAGANCE IN NEW-YORK SHOPS.

THE *New-York Herald* seems to have borrowed a leaf out of "Aladdin and his Wonderful Lamp," in the gorgeous account of a "dry goods store" whence the following faint outline is modestly drawn:—The front is of white marble to begin with. The main entrance is between two windows, each consisting of a single plate of glass, 6 feet broad by 11 feet 2 inches high. The other windows consist of four panes of massive plate glass, in frames of iron. The visitor enters a spacious hall, on each side of which are low counters of mahogany and shelves of maple. This entrance hall opens into another circular hall, over which rises a graceful dome, the apex of which is about 90 feet from the ground. Round this circular hall are counters of highly polished mahogany, and shelves and drawers of maple. The wall opposite the visitor on his entrance is to be lined to the height of the ceiling with mirrors. These mirrors will not, probably, be finished before a month. The ceiling is supported by columns, with stuccoed capitals of exquisite design. The main arch, dividing the entrance from the circular hall, before-mentioned, is supported by Italian marble columns, consisting of a single shaft, fluted, and polished to the highest state of finish. The design of the capitals, which are not as yet finished, is of the most chaste and graceful character, consisting of a cornucopia intertwined with the caduceus of Mercury, the god of commerce. This beautiful device is apparent in all the ornamental painting and other embellishments of the building. The walls and ceiling are painted in fresco, and the tinting and design are exquisitely chaste, classic, and tasteful. There is one large chandelier in the main hall that is not surpassed in beauty by anything we have ever seen. All the chandeliers, which are from the factory of Cornelius and Son, Philadelphia, are of exquisite finish and design. The gas fixtures are of a new and beautiful pattern, and are by the same makers. The building contains five stories, including the basement. The goods laid out for the inspection of the public on the opening, were all new, and their value amounted to 600,000 dollars. To attend to this immense business, there are upwards of 100 clerks. We have thus attempted to give our readers some faint idea of the magnificence of this immense establishment. The grandeur and style of its internal arrangements are not equalled by those of any similar establishment in the world. Its decorations in general and in detail, are of the most chaste and classic description. There is no gaudy gilding or tinsel show to disgust refined taste, but every thing is ornate and elegant. "*Simplex munditiis*" might be adopted as the motto of the establishment. This simplicity is the more gratifying to those of pure taste, as the decorations, both external and internal, give indication of the most costly expenditure. The latest improvements in every department of science, called into play in the construction of the building, have been adopted, in the minutest details. Even the shelves are made to turn down on hinges, after the new Parisian plan, so as to protect the goods from dust. The building is to be warmed in winter by furnaces beneath the basement, from which pipes ascend to every portion of the house. New York can now boast of the most splendid dry goods store in the world.

FOREIGN ARCHITECTURAL AND COLLATERAL WORKS LATELY PUBLISHED.

GERMAN WORKS.

Vogell, Count, Architect. Kunstwerke.—Ancient Art-works from Lower Saxony. Hanover. Fol. 6 pl. coloured. Part I. 3s.

Voit, Prof. Aug., Kunstdenkmale.—Monuments of Art for the Survey of their Development from first art trials up to the present time. Stuttgard. Obl. 4to. Part I. tables, 7s. 6d.

Wolfer, M., Anweisung.—Practical Instruction to Build Dwellings and Manufactories perfectly Fireproof. Quedlinburg. 8vo. 8 plates, 3s. 6d.

——, Handbuch.—Practical Handbook of Road, River, and Dike Building, according to J. S. *Lehmann's* principles. Ibid. 8vo. plates, 6s. 6d.

Zahn, W., Ornaments.—The Choicest Ornaments and Mural Paintings of Pompeii, Herculaneum, and Stabiæ. Berlin. Imp. fol. lithographic plates, each part 1*l.* 7s. 6d.

Zeitschrift.—Journal for Practical Architecture. Edited by J. A. *Romberg*. Leipzig. Gr. 4to. with engravings in royal fol. Each vol. 1*l.* 7s. 6d.

——. — technical for Blacksmiths, Brassfounders, &c. Edited by T. *Retz*. Berlin. 4to. plates, each vol. 1*l.* 5s.

——. — for Engine Manufacturers, Millwrights, and Fire-engine Makers, &c. Edited by Dr. *Hartmann*. Weimar. 4to. plates in fol. each part 2s. 6d.

——. — archæological. Edited by E. *Gerhard*, Co-director of Archæological Institute of Rome. Berlin. Gr. 4to. plates, 14s.

——. — for Railway Affairs, Steam-navigation, and Steam-engines. Edited by Dr. *Hartmann*. Berlin. 4to. plates, fol. each part 4s.

Zeller, Architect, Gebäude.—The Private Structures of Stuttgard, erected from 1806 to 1844—selection. Stuttgard. Royal fol. plates, each part 8s.

Altarbilder.—The Altar Paintings of Barthol. Zeytblom. Published by the Art Institution of Ulm. Ibid. Royal fol. plates, 9s.

Zumpt, C. G., Prof., Einrichtung.—The Structural Arrangements of the Roman Dwelling. Berlin. 8vo. plate, 2s.

Fulger, A., Abbildung.—Views of the Principal Buildings of Old German Architecture. Munich. 8vo. 50 lith. plates, 9s.

Ackermann, Dr., Portrait-mahler.—Sir Godfrey Kneler, the Painter, considered in relation to the Art of his Times. Lubeck. 4to. 1s. 6d.

Beiträge.—Materials for Northern Antiquarianism, containing the Sepulchral and Sacrificial Monuments of Waldhausen. Lübeck. Gr. 4to. plates in fol. 5s.

Schultz, civil engineer, Bauzeitung.—Popular Architectural Gazette. Weimar. Gr. 4to. plates.

Beschreibung.—Description of Patents and Improvements in the Austrian States, now expired. From 1841 to 1843. Vienna. Gr. 4to. with pl. in fol. Complete, 28s.

——. Description of the Town-halls of Zitta. Ibid. 8vo. 2s.

Bruckmann, Capt., Luftheizung.—The Heating by Air, and its Novel Apparatus in the Gymnasium at Heilbronn. Ibid. Gr. 4to. plates, 3s.

Bühler, Super. Build. Councillor,—der laufende Schwamm.—The Running Fungus of Buildings, its Origin, Cure, &c. Stuttgard. Gr. 8vo. 4s.

Capitäler.—The Byzantine Capitals from several Churches of Germany, France, and England. Munich. Gr. fol. each part 4s.

Daffner, Baubüchlein.—The Little Book of Building, an Advice to Masons, Carpenters, Farmers, and every one else—to construct solid, cheap, and healthy Habitations. Schaffhausen. 8vo. plates in fol. 2s.

TENDERS FOR SEWERS.—On Friday last, November 6th, 1846, the following tenders were delivered at the Sewers' Office for Westminster division, for sewers to be built in and about:—

	Grosvenor-square.	Little George-st., Westminster.
Crowshaw (late foreman to Bennett's..	£5,650	..
J. Hill.....	4,800	.. 140
Cotsworth.....	4,650	.. 144
Dethick.....	4,400	.. 130
Hill and Son.....	4,316	
Yeomans	4,244	.. 122
Curtiss	3,944	
Jay	3,870	
Starkey.....	3,705	.. 120
Humphries		.. 140

The lowest tender accepted for both. The difference between highest and lowest is frightful.

COMPETITION AT LIVERPOOL.—The directors of the Royal Fire and Life Office at Liverpool, have selected the design of Mr. Grellier, the subject of a competition, and appointed him to carry it out forthwith. Report speaks well of the design.

Correspondence.

ROMAN CEMENT.

SIR,—Working mouldings in Roman cement is greatly prolonged in cold weather, by the cement not setting so quickly as required. Probably some of your correspondents can say, if any liquid can be used to make the cement set quickly, without injuring the quality of the cement.

Chichester, Nov. 2nd, 1846. F. H.

Miscellanea.

CHURCH BELLS.—A correspondent of the *British Magazine* thus describes an invention lately made by Mr. John Bottom, St. Philip's-road, Sheffield. It is a circular plate or disc of steel, as a substitute for the ordinary church bell which has hitherto been so cumbersome and expensive an article. Through numerous difficulties, and discouragements, and disappointments, this enterprising man has persevered, and at last perfectly succeeded. These steel plates have a much louder tone, and are heard much farther off than the common church bells of the same weight or the same price. Thus that which I have, weighing about 50 lbs., is heard much farther off than an ordinary bell of much greater weight; its cost was 4*l.* 10s., and no bell which could be got for 10*l.* would have nearly so good a tone. These plates could be rung with bells also, thus affording an easy way of considerably increasing the number and efficiency of our present peals of bells.

GLASGOW CATHEDRAL.—The renovation of this cathedral, according to the *Glasgow Constitutional*, "is now going steadily forward and a good idea may now be formed of what it will be when the work is completed. For our own part," it is added, "we think that for true elegance and beauty, there will be few to compare with it in this country. The Lady Chapel is also being renovated; and the roof, pillars, and flooring cleaned and repaired. The great modern western window is to be removed and replaced by one in the style of the building. The glazing is also progressing briskly. The door of an entrance at present in use, will be turned into a window, as of old, when the noble west entrance-door is opened. The town council have agreed to memorialize the Woods and Forests to remove the old tower; but this would render the erection of a belfry necessary."

HEALTH OF TOWNS' ASSOCIATION.—This association has just now published an elaborate report, drawn up by Dr. Southwood Smith, on Lord Lincoln's Sewerage Bill, which deserves the most serious consideration. The doctor justly remarks, in a letter to us:—"There is not a single individual in the community whose interest is not deeply involved in the matters here discussed; while, to say nothing of their moral well being, the health and even the life of hundreds of thousands of the people depend on the view which is taken of the sanatory question by the public and the legislature. It is therefore of the last importance to give a right direction to opinion on this subject; but unfortunately the number of those who at present understand it, is small indeed." We shall return to this report in an early number.

PUBLIC SAFETY.—For the last three days, workmen have been employed in demolishing the upper part of a new house, at the corner of Hart-street and New Oxford-street, the necessity for which we have foreseen for some time past. Is it impertinent for us to inquire how it happens, that spite of the Act, which will not suffer you to touch a brick wall without an overlooker, spite of the official referees, the registrar, the district surveyor, and the self-interest of the builder himself, a costly structure may be erected which will not stand 'till it is finished?

ENLARGEMENT OF THE POLYTECHNIC INSTITUTION.—Considerable enlargements are about to be made in this popular institution, including the construction of a commodious theatre. The admirable manner in which this institution is conducted, entitles the directors to our warmest praise.

DRAINAGE.—An important sewer is now being constructed at Camberwell, nearly three-quarters of a mile in length, under the direction of Mr. Newman, the surveyor of sewers for that district.

LATHS.—An improvement in the lath-cutting machine has been patented in America by Solomon F. Finch and James Wheeler, who found their claim on the division of "the carriage which carries the bolt or block to the knife into two parts, moving on each other, and connected together by a spring, or analogous device, so that the bolt is griped whilst being carried against the edge of the knife, and still griped until drawn back off the edge of the knife, and then liberated."

LESLIE'S NEW GAS BURNER.—We mentioned Mr. Leslie's invention some time ago, as promising to be of great advantage to all gas consumers. The works for the manufacture of it are now in operation, and the result fully bears out our anticipations. The gas issues from a number of capillary tubes, placed concentrically, by which means very perfect combustion is ensured.

NEW BANKRUPTCY COURTS.—Application has been made to the city, on the part of the Lord Chancellor, for the purchase of the ground lately occupied by the Fleet Prison, for the purpose of erecting upon it the proposed new Courts of Bankruptcy.

VENTILATION OF COURT OF COMMON PLEAS.—Formal complaint has been made against the ventilation of this court (by Dr. Reid), in the hope of obtaining some improvement in it.

FONTHILL.—We hear that it is intended to erect a splendid mansion on the site of the existing remains of Fonthill Abbey, which are now in course of removal.

NOTICES OF CONTRACTS, &c.

THE authorities of the Stamp Office having given us notice to discontinue the insertion of our list of contracts, &c., excepting as advertisements, we, in deference to their wishes, omit them for the present, but have taken steps to place the facts of the case properly before them, and, as we hope, remove their objections. In the meantime a list may be seen at our office.

TO CORRESPONDENTS.

"*Westminster Abbey.*"—A correspondent (Mr. Parry), suggests that piers of the present size might be rendered equal to the support of the required spire, by the use of cast-iron cased with marble or stone.

"*Dr. L.*"—The pamphlet reached, but by a rare chance has been mislaid.

"*Amicus.*"—The unfitness of the marble arch for our climate has been already stated. As, however, we have it, it should not be thrown on one side.

"*A. B. C.*"—Our arrangements are made for the meetings in question.

"*H. E.*" (Gray's-Inn).—We are not authorised to give the name required.

"*W.*"—The expression "Reinstate Dilapidations," is a common one, and though not strictly correct, is defensible.

"*R. B. W.*"—Thanks. The subject will not justify engraving. The drawing shall be left at the office.

"*Inquiries.*"—The Eidograph is generally preferred to the Pentograph. Elliott, of Holborn, makes them. Smith, of Pimlico, near Eccleston-bridge, has machinery which will make by steam a set of wheels (four) in from forty to sixty minutes.

"*Gas on Comte de Val Marino's principle.*"—We can refer our correspondent to a gentleman who will give him information.

"*Country Reader.*"—From 15 to 20 per cent. *used* to be thought fair. The majority are now satisfied with 12.

"*W. P.*"—A contradiction has appeared.

"*G. T. J.*"—The drawing shall be engraved.

"*J. E.*" (*November.*)—Our attention was directed to the quotations by a correspondent. It is contrary to our practice to give up names.

"*Modelling.*"—A Correspondent asks for a recipe for preparing a composition for modelling, which has not wax for its basis, or for tempering ordinary modelling clay, so as to adapt it for working very small figures in.

"*Fresco Painting.*"—We are compelled by press of matter to postpone Mr. Buss's second lecture till next week.

Received.—"L.," "J. I. M.," "Civis," "Young Architect" (we don't quite understand:) "W. J." (Westbourne-terrace), "Steintz," "Turning and Mechanical Manipulation," by Chas. Holtzapffel, Vol. II. Cutting Tools and Machines; (The Author, Charing Cross.) "City, Town, and Country Architecture," by S. H. Brooks, architect; (Williams, 193, Strand).

"*Books and Addresses.*"—We have not time to point out books or find addresses.

*** Correspondents are requested to address all Communications to the EDITOR, 2, York-street, Covent-garden.

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FIRE BRICKS, Stourbridge, Welsh, and Newcastle; also Lumps, Tiles, and Clays, a large Stock of the best made Goods are selling at very reduced prices (a great reduction having taken place in freights) at WARD'S Honduras Wharf, Bankside. Windsor Nonsuch, and Town-made Oven Tiles, PF.N. and Circular Red Fire Bricks, Country Pan, Plain and Ridge Tiles, Paving Bricks, Corn Drying and Patent Malting Tiles.—Country Builders promptly supplied. Rough River Ballast for Concrete and Thames Sand, above and below bridge, by freights or loads. Prepared Sand for Plastering.

G. ELL'S ADJUSTABLE SCAFFOLD, OBSERVATORY, or FIRE ESCAPE.—This Machine consists of a series of hollow rectangular frames, sliding one within another, after the manner of the tubes of a tellescope, is applicable to a variety of purposes, but is especially adapted to that of Land Surveying, ornamenting the walls and ceilings of lofty buildings, hanging chandeliers, fire escape, or for elevating persons for any purpose whatever, as it may be adjusted to any height within its range, and supports itself with safety, independently of any attachment to the walls.—To be seen at G. ELL'S, Adjustable Scaffold, Ladder, and Barrow Manufactory, New Road, St. Pancras.



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DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.
TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Crannge, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Pantiles.

T. ADAMS (from Byron and Co.), late S. Dare, Mahogany, Timber, and Deal Yard, New-road, Bermondsey, near Bricklayers' Arms, has always in stock mahogany, cedar, wainscot, elm, beech, oak, &c. Pantile oak and fir laths, scaffold poles, pudoge, &c. Wheelwright's goods, veneers, cut deals and scantling of every dimension. Also a large assortment of SEASONED FLOORING, MATCH BOARDING FIT FOR immediate use, and MOULDINGS prepared by machinery, all at reduced prices.

MUIR'S PATENT  PLANING MACHINERY.
SAW MILLS, GILLINGHAM-STREET, PIMLICO.
TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.
Address to HENRY SOUTHAM,
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Gillingham-street, Pimlico.
N.B. Estimates given for Sawing and Planing.


TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.

THE GENERAL WOOD CUTTING COMPANY continue to receive the most satisfactory assurances from all who have given their improved machinery a trial, that there is no method of preparing floor-boards, matched linings, skirtings, &c., by which accuracy, dispatch, and economy of material are so certainly obtained. In shooting, or groving and tonguеing a board (although curved), the machine follows the edge, removing no more than the skin of the wood, and by the use of a peculiar saw for deep cutting, the board comes off with a perfect surface, thus obviating the necessity of reducing its thickness in order to plane out the hollows. The Company being neither builders nor timber merchants, unconnected with any trade but that of sawing and planing, and depending solely on the public for a moderate interest on their capital, are determined, by an assiduous attention to the interests of their customers, both as regards workmanship and general business arrangements, to merit a continuance of their support.

VAST TREASURE.—The private Expedition is rapidly fitting out for recovering, by AUSTIN'S GRAND BUOYANT APPARATUS, certain treasure-vessels, sunk in an easy position on a neighbouring coast, containing gold and silver coin and bullion to a vast amount. A few proportions of 100*l.* each are still open.—Apply or address to Mr. AUSTIN, 9, Artillery-place, Finsbury-square.

VARNISH, COLOURS, WHITE LEAD.

Genuine White Lead .... per cwt.		27*s.*	0*d.*
Seconds	,,	25	0
Thirds	,,	23	0
Linseed Oil..... per gallon		2	3
Turpentine.....	,,	4	6
Putty ..... per cwt.		7	6
Patent Dryers	,,	36	0
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Varnishes equalled by none:

Fine Oak ..... per gallon		10*s.*
,, Carriage	,,	12
,, Copal	,,	18
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,, Gold Size	,,	10
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Painters' Brushes, and every article in this branch, at the Manufactory, 87, Bishopsgate-street, Without, London.—THOMAS MILLINGTON, Proprietor.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.
Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.
In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.
Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 10*s.* per gallon.

TO ARCHITECTS, BUILDERS, AND THE PUBLIC IN GENERAL.

GEORGE JENNINGS, of 29, GREAT CHARLOTTE STREET, BLACKFRIARS ROAD, begs to call the attention of Architects, Builders, &c., to his REGISTERED FASTENING for SHOP SHUTTERS, &c., which entirely supersedes the use of shutter-bars. Thereby effecting a great saving of labour, as by the old method, the bar has to pass through the hands of some one upwards of six hundred times in twelve months, which tends to deface the whole front more or less every time the bar is put up or removed. The fastening is secret, simple, and sure, in its action, and can be affixed to any shop-front in two hours, without any alteration to the shutters. New fronts fitted at a less expense than a shutter-bar would amount to. A liberal allowance to the trade, and any further information may be obtained by inclosing a postage stamp to the above address.—A Model may be seen at the office of "The Builder."

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters for both security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

INJUNCTION.

BUNNETT and CORPE'S Patent REVOLVING IRON SHUTTERS.—Since the verdict found in favour of the Patentees, in the Court of Exchequer, in the action tried by order of the Court of Chancery, that Court has granted a perpetual Injunction for restraining all infringements of this Patent, and therefore all parties are hereby cautioned against infringing the same.

THE PRICES ARE GREATLY REDUCED, and BUNNETT AND CORPE'S PATENT IRON SHUTTERS ARE THE CHEAPEST AS WELL AS THE BEST. They are made with convex laths, if required. The worm and wheel motion for raising and lowering revolving iron shutters (as secured by this Patent) is the only safe and durable mode of effecting that object. In large shutters it is indispensable.

Some thousands of Bunnett and Corpe's Shutters have now been put up, without a single complaint of their want of strength or security, and nine years' practical experience (during which they have adopted every real improvement) enables the Patentees to challenge comparison with any others. They will guarantee all Shutters put up by them to keep in order, and last twice as long as any with thin convex laths.

B. and C. also manufacture REVOLVING WOOD SHUTTERS (the Patent for which has expired), at the same prices as other makers, but greatly superior, being fitted with their patent raising gear, and proper metallic hinges, without which no shutter can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop-fronts fitted with Iron Shutters, Patent Brass or Zinc Sashes, Plain or ornamental, handsomely Engraved, Moulded, Stall-board Plates, best Plate Glass, and Internal Brass Fittings of all kinds, superior in quality and workmanship, and lower in price than any other house.

Contracts taken in Town or Country.

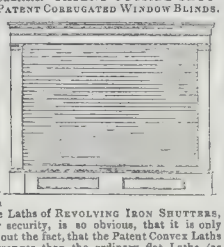
Metal Drawing and Stamping for the Trade.

Office at No. 26, Lombard-street, London; Works, at Deptford, Kent.

Steam-engines, Sawing, Planing, and Moulding, Cutting-machines on Improved Plans, especially adapted for Builders' purposes, may be seen in operation at the Works.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.—Patent Panelled Iron Safety Shutters. PATENT OUTSIDE SHUTTER BLINDS.—PATENT CORRUGATED WINDOW BLINDS.

The attention of Architects, Builders, and Blind Makers is requested to the IMPORTANT PATENTED IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD & Co. 115, Old Street, London.



The great importance of strength and stiffness in the Laths of REVOLVING IRON SHUTTERS, when required for security, is so obvious, that it is only necessary to point out the fact, that the Patent CONVEX Laths are twelve times stronger than the ordinary flat Laths (as shewn by the engravings and description), to insure their general adoption.

The Patentees invite attention to their greatly improved Gearing for Raising and Lowering their patent Shutters, which, possessing all the advantages of the endless screw (worm and wheel), cannot, even by wear, be liable to run down, and entirely avoids the necessity of using the ratchet wheel; it is at once simple and THOROUGHLY EFFECTIVE, and is SAFER and MORE DURABLE than any plan yet adopted for that purpose, thus rendering their patent Revolving Shutters the SAFEST and MOST EFFICIENT in use. These Shutters are fixed horizontally (either above or below the window or door), or vertically, for which position the great additional strength of the Convex Laths renders them peculiarly suitable.

REVOLVING IRON SHUTTERS, MADE OF THE COMMON FLAT LATHS, at a considerable reduction of price.

CAUTION.—The Patentees beg to caution all persons against Making or Using RENT OR CONVEX LATHS for REVOLVING IRON SAFETY SHUTTERS (whether winding horizontally or vertically), so as to obtain increased strength and stiffness, as they thereby render themselves liable to legal proceedings for infringing this patent.

Engravings and Prospectuses will be forwarded on application.

DRAWN METALLIC SASH BARS, ASTRIGALS, MOULDINGS, STALL BOARD PLATES, &c.

Patentees and Manufacturers, R. HOWARD and Co., London.

LIGHTNING CONDUCTORS FOR BUILDINGS.

A. SMITH'S PATENT COPPER WIRE ROPE is being daily employed for the protection of CHURCHES and other buildings from the effects of thunder storms; it possesses important advantages over other forms of conductors. References can be given where it has been applied for some time past to CHURCHES, PUBLIC and PRIVATE BUILDINGS, &c., &c. Its general adoption in the Naval and Mercantile Marine of this and other countries is the strongest possible EVIDENCE of its EFFICIENCY, &c.

A. SMITH begs the attention of those engaged in building to his IMPROVED PATENT PANELLED AND REVOLVING IRON SHUTTERS,—Also, the Patent Weather-tight Fastening and Gill Bar, for French Casements, which are so much admired for their security, simplicity, cheapness, and efficiency. Of the merits of his

Patent Double and Single Action Door Springs,
Improved Flooring Cramps,
Patent Wire Sash Lines, &c. &c.,

Little need be said, as they are pretty generally known and appreciated.

Manufactory for Iron Suspension, Sliding, and other Doors, Strong Rooms, Plain and Ornamental Palisading, Gates, and Columns.—Also, Metal Sashes, Shop-fronts, Stall-board Plates, Brass butt, and other Hinges. Buildings heated upon a new, safe, and superior plan.

Estimates given for every description of Metal-work.

A. SMITH, 69, Princes-street, Leicester-square, London.

GAS LIGHTING.—Churches, Factories, Railway-stations, Offices, &c. &c., fitted up for Gas with the very best materials and workmanship. Every description of Gas-lamp Furniture Manufactured on the Premises. Estimates given, and Suitable Patterns, or Drawings submitted.

JOHNSTON, Brothers, Gas Apparatus Manufacturers and Gas Fitters, 9, Cursitor-street, London.

TO ARCHITECTS, BUILDERS, &c.

GAS LAMPS, GAS BRACKETS, GAS PILLARS, BURNERS, &c. &c. In calling the attention of architects, builders, &c., to their assortment of Gas Furniture in general, C. DEBAUFER and SON respectfully announce they continue to fit up premises of every description on the most approved and newest system of gas fitting. An experience of forty years justifies us in making the above assertion.—P.S. Country orders attended to with dispatch.—10 and 11, Creed-lane, St. Paul's.

GAS.—From 40 to 60 PER CENT. SAVED.

CONTRACTS taken for Lighting Towns, Villages, Mansions, Mills, Factories, Railway Stations, Signal Lights, Dockyards, Lighthouses, Churches, Colleges, Hospitals, Theatres, Public Institutions, Prisons, Barracks, Asylums, Schools, Unions Poor-houses, Public Gardens, &c., with pure and brilliant GAS by FRANCIS' PATENT GAS LIGHT APPARATUS, either by rental or purchase.—Applications at the office and factory, 112, High Holborn, and Eagle-street, Red Lion Square, London, where the gas can be seen manufactured on the principle of this invention, from Ten till Four daily. Prospectuses and every information may be obtained.

TODD'S PATENT PROTOXIDE PAINT, manufactured by CHAS. FRANCIS and SONS, CEMENT WORKS, NINE ELMS, LONDON.

The properties of this Paint are peculiar for preventing ron from oxidation, wood from decay, and masonry from damp; it neither cracks nor blisters with the hottest sun, and is therefore most valuable for Railways, Boilers, Steam, Gas, and Water-pipes; Hothouses, Forcing-houses, and for Shipping. Its adhesion is so great to iron and wood, that the hardest friction will scarcely remove it. It prevents vegetation on stuccoed buildings, and is not affected by spray of sea-water.

PROTOXIDE PAINT is sold ground in oil, and, compared with white-lead, its property of concealing is as 75 to 50, so that one hundred weight is equal to one and a half of lead. It works well under the brush, and forms with oil an unctuous and cohesive mixture. If blended with other paints it has a softer tone than white-lead. For houses painted during occupation it is most preferable, being perfectly innoxious.

CHEAP PAN FOR WATER CLOSETS, With Trap, in one Piece.

DOULTON and WATT'S, Lambeth Pottery, High-street, Lambeth, London, Manufacturers of the above in superior glazed STONE WARE, price 7s. 6d. each. They are of the most durable ware, and are recommended in preference to iron on account of their cleanliness and cheapness. If preferred, they can be had in two parts, the pan at 4s. 6d., and the Trap at 3s. N.B. Manufacturers of RAIN-WATER PIPING for houses.

By Her Majesty's Royal Letters Patent

WILKINS'S "SILENT" WATER-CLOSET.—To Architects, Surveyors, and Builders.

Gentlemen,—Your attention is respectfully invited to the above "Closet," the peculiar qualities of which are, that it is perfectly silent in the action of the Machinery and the supply of Water, and may be fixed in any convenient place in the House, without communicating the sound of a Water-closet to any of the adjoining Apartments, while it retains all that is useful in the ordinary Closets, it does away with the Ball Levers, Wire, Cranks, &c., which cause much of the noise to which the old closets are liable. The want of a Water-closet more suitable for the present mode of fixing them in the internal parts of Dwelling Houses and Office Apartments, has long been felt, and the benefit to be derived from one that is "Silent" in the action of the Machinery and supply of water, is sufficiently obvious to render unnecessary any lengthened comment in its favour.

This Closet is simple in its construction, the whole of the apparatus (including the trap), being completed between the floor of the room and the seat of the Closet, thereby rendering it quite easy to remove any noisy Closet and fix the "Silent" one in its place, without interfering with the old trap, which is generally embedded between the floor and ceiling below the Closet. The "Silent" Closet is also clean and so free from any effluvia, as to allow of its being fixed in any bed-room (where there is a convenience of fixing a pipe down the outer wall of the house) without occasioning the least unpleasantness whatever.

May be viewed Daily, and Orders taken at No. 26, Gower-place, University College, London, from 8 in the Morning to 9 in the Evening.

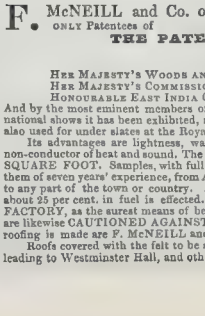
FEATHER BEDS PURIFIED BY STEAM

HEAL AND SON have just completed the erection of Machinery for the purifying of feathers on a new principle, by which the offensive properties of the quill are evaporated and carried off in steam: thereby not only are the impurity of the feather itself entirely removed, but they are rendered quite free from the un; pleasant smell of the stove, which all new feathers are subject to that are dressed in the ordinary way.

Old Beds re-dressed by this process are perfectly freed from all impurities, and by expanding the feathers the bulk is greatly increased, and consequently the Bed is rendered much softer. The following are the Prices of New Feathers:—

Mixed, per lb.	1s. 0d.	Best Foreign Grey Goose	2s. 0d.
Grey Goose	1s. 4d.	Best Irish White Goose	2s. 6d.
Foreign Grey Goose	1s. 8d.	Best Dantzic White Goose	3s. 0d.

HEAL and SON'S LIST OF BEDDING, containing full particulars of Weights, Sizes, and Prices, sent free by post, on application to their Establishment, 196, opposite the Chapel, Tottenham-court-road.



NOTT'S PATENT STOVE,

FOR

CHURCHES, HALLS, WAREHOUSES, &c.

THE PATENT having expired, the present Proprietors are enabled to offer these excellent Stoves at

THREE-FOURTHS OF THE PRICES HITHERTO CHARGED.

Engravings of the Patterns, with

THE REDUCED PRICES,

will be forwarded on application to the Warehouse,

80, GREAT QUEEN STREET, LINCOLN'S INN FIELDS.

N.B. Hot-water Pipes can be attached to the Stoves for warming distant apartments, Conservatories, &c.

CHEAP AND DURABLE ROOFING.

By Her Majesty's Royal Letters Patent.

F. McNEILL and Co. of Lamb's Buildings, Bunhill Row, London, Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronized by

HER MAJESTY'S WOODS AND FORESTS,
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HONOURABLE EAST INDIA COMPANY,
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HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing also used for under slates at the Royal Agricultural Society's House, in Hanover-square.

Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, AS THE ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW, LONDON.

Roofs covered with the felt to be seen at the Factory, also the new Vice-Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the new Houses of Parliament.

A Liberal Discount allowed to the Trade.

The Builder.

No. CXCVIII.

SATURDAY, NOVEMBER 21, 1846.

THE fall of three large unfinished houses on the evening of the 12th instant, in Alfred-place, Thurlow-square, Brompton, when a labourer, James Casey, was killed, coupled with some similar failures elsewhere, has considerably excited the public. Mr. Mills, the deputy-coroner for Middlesex, with a very intelligent jury, opened an inquest on the body at the Hoop and Toy, adjoining the spot, on Saturday evening, and continued it on Wednesday morning last with considerable patience and care. The daily papers have probably made the majority of our readers acquainted with the details of the accident: we shall therefore confine ourselves to those points in the unfortunate occurrence which our duty to the public forces us to consider; and we may say at starting, that the remarks we may have to make, are intended to apply to the system rather than to individuals, and that we are anxious, on this occasion, to avoid injuring or even hurting the feelings of any individual concerned in it. Mr. Holmes, the builder of the houses, is a very respectable man, and has executed some dozens of houses under our own eyes.

The houses were four stories high above the ground; they were built in between other houses previously erected; and when the disaster occurred, the bricklayers were preparing to top the chimneys. Fortunately all the men had left with the exception of three, or the sacrifice of life would have been frightful.

Mr. Holmes deposed at the inquest on Saturday, that he had employed Messrs. Emmins to find the lime and labour in erecting the houses, he (witness) finding the bricks. The erection was commenced about two months ago, at sixty-five shillings per rod by measurement, to be finished in a workmanlike manner to the satisfaction of witness. The works were visited by Mr. Donaldson, the district-surveyor, and by Mr. Blore, the ground landlord's surveyor—the latter almost daily. Witness objected to any materials he disapproved of, and deputed Mr. Chapple, his foreman, to do so in his (witness's) absence. Mr. Chapple had done so with respect to a hundred houses which witness had erected. Mr. Chapple had never complained to witness that the work of those houses had not been done properly. Never received any complaint from the district-surveyor on the subject. Gave the usual notices required by the Building Act to the district-surveyor, which was evident by his attending. The landlord's surveyor had expressed a wish that hoop iron should be used to tie the walls, which was extensively done. Attributed the falling of the houses to the wet weather and the number of men who had been running up and down the ladder and scaffold for some days before, which, added to the wet weather, occasioned the toppling of the chimneys, which would bring down the whole of the building with it, as it was all tied together. Another fact was to be considered:—formerly persons building could put wood in party-walls, but since the new Building Act had come into operation, not an inch must be put in. In witness's opinion, as a builder, party-walls are not so sound now as they were before. Had heard many other builders say so. Buildings were more substantial with wood bond, and far more safe, for hoop-iron bond will bend. The reason for leaving out wood was to prevent the extension of fires, and therefore thought the benefit derived from the alteration was greater than the injury. The bricks used were Cowley bricks, which were considered the best of bricks. The mortar was good, for he had seen worse on other buildings.

Mr. Donaldson being called, said that he had found no occasion to complain of the materials used or the mode of erection, except that they put bats, which are small bricks, at the foundation, when he wished them to put good bricks there. His duty was only to attend to the thickness of the wall. Mr. Holmes was building under an agreement with Mr. Alexander (the owner of the property), and Mr. Blore, his surveyor, was the person to object to any materials. Thought the lime used good. Could not prevent builders using bats. He had only to do with the quality of the bricks used, and not with the form or size.

Mr. Holmes observed that he had had several walls not raised very high fall, and so had other builders.

Mr. Donaldson further said, that a house might as well be run up in six weeks as in six months, and therefore he could not complain in this case of haste! The chimneys above the attic floor, for the 20 feet, were 1 foot 10 inches thick, and when that toppled over, it took the attic joists with it, which caused the front and back walls to double in, being in a green state. As to the prohibition of wood, he and about twenty other surveyors were applied to, by both members of the Lords and Commons, for their opinions on the subject, and it was decided that keeping wood out of party walls would effect a great saving from fire. If a building was examined after a fire, it would be seen that the wood was all burnt out, and only holes left in the walls. Thought an iron hoop tie was as good as a wood one. No wood was now permitted in a party-wall. Thought more timber might be put in front walls. Wet weather had a great effect on buildings that were going on. He considered that the oscillation of the men running up and down the ladder and scaffold, was very likely to have caused the toppling of the chimneys when the scaffold was removed, which the deceased and Collins were engaged in doing at the time of the fall. Mortar when used ought to be let set; for when it is moved by the oscillation he had spoken of, it gets rotten.

Mr. Blore, in answer to questions put to him, said he saw the buildings on Tuesday last, when he complained that there was not sufficient bonding in the wall, and told the workmen that they must take five or six courses of bricks off. He was of opinion that it had not been done, as the wall had, before it fell, been carried up to a great height. Did not stay to see that it was done. Preferred bond timber, but iron tying does for it. Wood bond was liable to fire. Thought, when he was last there, that they were getting on too fast, but he had no power to stop them! In his opinion wood was the best bond and tie to a wall that could possibly be had.

At the resumed hearing on Wednesday, Michael Hockwell deposed that he was foreman over the bricklayers, and had been engaged on the row of houses for the last six months. The three houses in question had been in hand about six weeks. Had been told to do the work in a workmanlike manner. Had never complained that there were too many bats, and that they were bad. Had not complained of the mortar to any one. It worked very easy. Thought too many bats had not been used. Had he been building his own house, he should have used more. Had used worse mortar on Government building. Had he made the mortar, he should have used three barrels of sand to one of lime, which he considered would be sufficient for any thing. If one more barrel of sand was used to that, the mortar would be inferior. Inferior mortar was sometimes used for party-walls. Could not account for the fall of the houses. Had worked for Mr. Grissell. Had used worse mortar, and had used better, but then it was nearly all lime. Good mortar would stick to the bricks if it had stood long enough to set—say four months, but bad mortar would not. Could not say if it was the bricks, the mortar, or the iron tying that first gave way. The wall was held by iron hooping, which ran along throughout it. It was tied wherever they could do so. Did not think iron tying so safe as wood. Thought the want of wood bond had nothing to do with the falling of the houses.

Patrick Marra, a labourer, deposed that he made the mortar, but had no directions as to the making of it. Thought about four bushels of sand to one of lime was the quantity he used, and, as no complaint or fault was found with him about it, he went on so from first to last. Had made mortar at the Great Western Railway, and for Mr. Hoof, but had there done so under the direction of a foreman, who, when he did not like it, told witness to put in more lime.

Thomas Hanniland, a carpenter in the employ of Mr. Holmes, says he was engaged on the works; Could not say how the houses came to fall. Thought they had been run up too quickly in damp weather. They had been only five weeks in erecting, when they ought to have been two months. Had not complained about the quickness, as that was not witness's place. When they were got up to about the first floor, the weather was very wet; and he thought that the lower part was not sufficiently set to bear the weight of the upper part. The walls were tied by irons which were torn out. Could lay the accident to nothing but the dampness of the walls. Considered the second floor gave way first. There was a great deficiency in the bond, as the law does not now allow timber to be used, and iron bond does not stand. That was the opinion of all working men. No wood is now used in party-walls, as a bond. All the wood that is now put in must be as a rest, and not longwise. Considered the chimneys could not have given way at the top, as the scaffold was a support to it. Should say the chimneys were run up about 40 feet above the top flooring. Considered the wall would not have buckled had bond timber been used in it.

Mr. Blore said, that if he was building for a gentleman, he should require in both cases that stock bricks should be used, and that the mortar should be made in the proportion of two and a half sand to one of lime, or of three to one. Thought four to one was not a fair proportion of ingredients. That was witness's opinion; but Dr. Higgins, an eminent writer on buildings, was of opinion the proportion might be seven to one. Had since tried the mortar, and found it substantial. Had complained to Mr. Holmes of bats being used, having found them being put even in the chimneys. The difference in the price of stock bricks from bats was 6s. per 1,000. The other houses were built more carefully than those in question, double the time having been taken, and the materials having been better. Had no authority, if he disapproved of the material and haste, to stop the work, but could withhold his certificate when they were finished. Had no doubt but that haste was very prejudicial. Mr. Donaldson, the district-surveyor, had the power to stop the building by giving the proper notice, when the matter would be referred to the referees, who have the power to order what is bad to be pulled down, or the builders to be indicted.

Mr. Bloomfield, the deputy district-surveyor, begged to inform the jury that the district-surveyor had, under the 18th section of the New Building Act, the power of stopping buildings, only when irregular as to the dimensions.

Mr. Blore said he attributed the cause of the accident to the reckless system of running up a heavy weight of materials to the height of twenty feet or more, without any support, and to a number of men running up a scaffold with a wall in such a state. He also thought the materials were not of the best description.

After consulting an hour and a half, the jury returned the following verdict:—

"That the deceased, James Casey, was killed by the sudden falling of certain houses in Alfred-place West, and that the houses so fell because they were not securely built; and in returning this verdict, the jury express their consideration (founded on the evidence and opinions laid before them) that the said houses were built more rapidly than they ought to have been built, considering the dampness of the weather, the height of the houses, and the directions of the Act of Parliament, which compelled the builders to construct the party-walls without bond timber. At the same time, the jury hope that next year the erection of party-walls with, and without, bond timber will be made the subject of legislative investigation,

through the evidence of practical working builders, carpenters, and bricklayers, with a view to ensure a safer mode of erecting places constructed chiefly of bricks. The jury, moreover, cannot separate without stating their conviction, that an effectual supervision of the work, in all its divisions, was not exercised by the persons having authority over it, at the time when the houses in question were being built."

Specimens of the mortar have been submitted to us by several parties; we had, however, examined the ruins immediately after the occurrence, and are compelled to say, that the work was far from what it ought to have been, and at the same time to acknowledge, with some of the witnesses, that it was no worse than is to be found in many other cases. The whole was lying a mass of rubbish on the ground; the bricks had separated entirely from the mortar, and were as clean as if they had never been used.

We have on various occasions pointed out the imperfect manner in which bricklaying is now performed in England, and the causes which have led to this state of things. "Operatives, speaking generally, have ceased to feel interested in the production of good work; all they desire is to get over the ground, and very often this is the case with their masters too." "Hasty bad work, induced by competition and the operations of speculative builders, has become so much the habit of our bricklayers, that it is difficult to find men capable of producing superior work; or, at all events, it is difficult to induce them to abandon their hasty, careless mode of proceeding, and exercise the skill they possess."* Use begets indifference: whatever has answered the purpose once, will do so again, it is thought; and so men go on, house after house, in the same defective course, without once thinking of its inefficiency, or making any efforts at improvement. The use of hungry sand dug on the spot, little fitted for the purpose; mortar joints three-fourths of an inch thick; upright joints one over another, and scarcely any headers running through the wall,—are defects to be found in half the buildings erected: and we mention them here, not with reference particularly to the failure under notice, but to the present state of house-building generally. The wonder is, not that an accident does occasionally, too often, indeed, occur, but that structures so raised should stand at all. We repeat our agreement, therefore, with those who said the work in Alfred-place, bad as it was, was not worse than in many other houses, and we are not disposed to give more blame to the workmen engaged where it did fall, than to those who were concerned where it happened to stand.

The surveyor employed by the ground landlord is the same gentleman who recently thought fit to advertise an impudent piece of special pleading, to contradict a fact stated in our columns. Were we actuated by motives such as he was silly enough to ascribe to us on that occasion, the present occurrence would offer opportunity far too tempting to be passed over. In order, however, that we may run no chance of being misinterpreted, we withhold comment on his share in the transaction.

In the case of the district surveyor, Mr. Donaldson, we can speak without the probability of misconception; and even if it were not so, should still feel bound to express our opinion on a part of the statement made by that gentleman, involving as it does a question in which the public are importantly concerned.

Mr. Donaldson said "that his duty was only to attend to the thickness of the walls. The landlord's surveyor was the proper person to object to bad materials. He, the district surveyor, could not prevent builders using bats. He had only to do with the quality of the bricks used, and not with the form or size." Now, from the inference to be drawn from this, and other parts of Mr. Donaldson's evidence, namely, that the district surveyor has nothing to do with the stability of the structure under his superintendence, so long as he finds that the bricks are good, and the walls of the thickness prescribed, we entirely dissent; and if this opinion be held by the district surveyors generally, as we *know* it is by some, it is quite time that a proper understanding on the point should be come to.

Unless the Act provides for the public safety, it does nothing, or, rather, worse than nothing. Why are we willing to pay ten shillings, to the proper officer when we put on a four feet chimney-pot, and another ten shillings when we want to cut an opening for a window in the back wall,—to say nothing of the three guineas when we first built the house,—but on the ground, that by the arrangement which compels this, we get rid of the risk of a neighbour's pot falling on our heads, or another man letting down his wall at the moment we are passing. If, however, notwithstanding the payment,—payments to the extent of 20,000*l.* in fourteen months, be it remembered,—a man may still so form his roof as to thrust out the front of his house, or our neighbour so construct a wall of bats without bond, that it will fall in upon us before it is finished, away goes all assurance of safety; and the question naturally arises, what are we paying for? It cannot be for imposing on ourselves annoying regulations;—certainly not to provide incomes for a certain number of surveyors. If it is not for the general safety, it is for nothing.

What says the Act itself? It is for "regulating the construction of buildings;" the surveyors appointed are to be in "possession of due scientific and practical qualifications,"—(what for, if not to determine when work is properly or improperly done); they are to see that every external and party-wall is "based upon solid ground, or upon other sufficient foundation;" that every external wall and party-wall "be built of sound bricks or of stone, laid in and with mortar or cement in such manner as to produce *solid work*," and that every chimney breast "be of sound bricks properly bonded, and the joints of the work filled in with *good* mortar or cement;—so that it is clear district surveyors *are* the proper persons to complain if the materials or workmanship be improper; and in fact, if they do not do so, are neglecting the duty they have solemnly declared they will faithfully perform. Their real office is not to raise difficulties and obstacles by a quibbling reading, or a capricious adherence to the letter of the Act in every unimportant particular,—not to manufacture reasons for obtaining fees, but to see the great purpose of the Act properly carried out, namely to protect the public and promote the general welfare.

Leaving the general question, we would say a few words on Mr. Donaldson's remark, that "a house might as well be run up in six weeks as in six months," and we do so because we fear it is calculated, expressed thus without modification, to have a bad effect. If a house be built in good weather; with sound stock bricks, and not more than enough mortar, of Thames sand and stone lime; if the arches be put in, and four or five courses of bricks all round the building, be carried up in Roman cement (without which iron hoop bond is unquestionably less efficient than the old wood bond, with all its faults), then it may be done without risk with great rapidity. In the case, however, of the mass of houses built on speculation, in five instances out of six, none of these requirements are attended to, and the haste alluded to would obviously be dangerous in the extreme.

The latter part of the verdict will doubtless lead to some discussion, many of the best houses erected in London during the last ten years, having no wood bond; but we cannot now go further into the subject.

* P. 193, Vol. III.

PRACTICE OF FRESCO PAINTING.*

HISTORICAL AND DECORATIVE ART.

Mr. Buss commenced his second lecture by giving a hasty sketch of the progress of fresco in Italy, from the revival of art under the Greek painters, to its highest point of excellence at the period of Michael Angelo, Raffaelle, Leonardo da Vinci, and Corregio; from thence to its gradual decline into mere allegory, dexterity of manifestation and conventional display; and ultimately, to its comparative disuse in assisting the architect to adorn the interior of public buildings, or the mansions of the nobility. Fresco was superseded by the use of oil, which latter, by its superior power of mere imitation, mainly assisted in producing the abandonment of fresco painting.

The depressed state of art, especially that employed to embellish ceilings, staircases, halls, and churches, was at length so distasteful to the French artists, that as a school they endeavoured to improve it, by having recourse to the treasures of antiquity; and, losing sight of nature, produced under David and many of his school, mere imitations of the antique statues, with little or no appearance of vitality in the figures they introduced upon their canvass. In Germany the artists having experience of the vicious style of David and his followers, sought for a renovation of their school, by studying profoundly the works of the early Italian painters preceding Raffaelle; which works they considered purer in sentiment, and essentially befitting a style of art professing to be truly Christian, and unmixed with the classic forms, allusions, and allegories, which afterwards became engrafted upon the arts. Cornelius and other German artists explained their views, and the Chevalier Bartholdy immediately gave them an opportunity of carrying out their intentions, by having his villa painted. This example was followed by another patron, and was approved by the king of Bavaria, who, when an occasion offered, became the liberal encourager of Cornelius and his friends, and has given existence and renown to the present German school of art. At the time when Chevalier Bartholdy laid the foundation-stone of the German school, by having his villa painted, at a very moderate remuneration to the artists, there were many English artists and English noblemen in Rome; but so great an example was not then considered worthy to be followed.

In France, fresco appears to be superseded by encaustic painting, in which latter style the Madeleine Church, and that of Notre Dame de Lorette, are painted. Some frescoes are to be seen in a few churches which have a good effect, those in St. Sulpice excepted, which are, in choice of subject and arrangement of light, shade, and colour, quite unsuited to fresco, and extremely vulgar in sentiment; fortunately they are dropping off the walls and ceilings. M. Delaroche has lately executed a surprising work in the hemicycle of the Ecole des Beaux Arts; this is painted in oil upon an absorbent ground of plaster, so that the surface of the picture is almost entirely free from gloss. In this country, fresco has been formerly much used in the decoration of churches, public edifices, and even dwelling-houses, as discoveries prove on occasions, when surviving good taste, and a love for ancient monuments, have removed the cumbrous screens, false ceilings, wainscotings, and other architectural abominations, which ignorance, bigotry, or churchwardenism, had thrust before some of our finest antiquities.

* See p. 518, *ante*.

Many of our churches possess clear evidence of the frequent use of painting, either in fresco or tempera—probably a mixture of both—on the vaulting, walls, and pillars. At Durham Cathedral, in the Galilee Chapel—at Canterbury Cathedral, also in the crypt; and there are traces of a picture in an arched recess in the choir at Preston Church, Sussex, at Mid Lavant Church, Sussex, and at Melcombe Horsey Church, Dorset; and many other specimens of painting have been discovered. Oil painting appears to have been seldom employed for mural decoration. Whether the mode employed was fresco, or mixed with tempera, is of little moment; we have unquestionable authority to prove, that painting was most extensively employed by the clergy and the architects of the middle ages, to the extent of entirely covering the interior of churches with pictures and ornamental colour. This mode of decoration is being partly revived in the restored Abbey of St. Denis, near Paris, and some other churches; in London, at the Temple Church; and it is stated to be the case at the Round Church, Cambridge.

It must not be omitted to mention the fact of the Painted Chamber at Westminster, and St. Stephen's Chapel, having been painted by Englishmen in the reign of Edward III. The remains of these pictures, which existed a few years ago, shewed them to have been brilliant in colour, and most interesting to the artist and antiquary.

In dwelling-houses, tapestry (which is painting with worsted instead of lime or white lead) was much used, probably from the increase of comfort by its warmth, the convenience of removing it from place to place, and the ease with which it was rolled up and packed away until wanted again.

The Reformation came, and with it the destruction of our ancient works of art. Sledge-hammers battered to pieces saints, their shrines, their canopies—and what hammers could not effect, yellow-wash and white-wash completed. This taste became universal, and has to this hour been swallowing up every remnant of our ancient pictures.

Fanaticism and bigotry scared painting entirely out of our religious edifices; but it was found that decoration was still required in the royal palaces and the mansions of our nobility. Painting was then proposed, and at once adopted in its debased state; acres of surface were covered with oil painting, by Verrio, Laguerre, Thornhill, and others. Allegory became the rage; gods of the heathen mythology, heroes, ancient and modern, smiling complacently in the costume of Cæsar with the flowing wig of Charles II., and goddesses perched on brassy clouds, clad in shot silks, and leering like the beauties of the merry monarch's court. Of such taste, the royal palaces and mansions of the nobility afford many examples.

Fresco at this time was nearly forgotten, or heard of but seldom. Guiseppe Borgius in 1750 painted some frescoes for Lord le Despenser. Mr. Barker at Bath painted one. Rigaud, the royal academician, also painted in fresco; and Mr. Aglio, an artist from Italy, has, during a residence of forty years in this country, executed some frescoes at Moorfields Chapel; in the town-hall, Manchester; and the curved surface over the altar in the new Catholic chapel near the City-road.

The burning down of the Houses of Parliament was an event that, almost instantaneously, exposed the weakness of the British school of art in historical painting. Historical art had been nearly starved out of the country, by the indifference shewn for efforts in this style. Patrons felt high art had not been encouraged, concluded it could not exist in this country, and talked of sending for Germans! but as in this country it is usual to try the accused before final condemnation, trial exhibitions were solicited and granted, with the most favourable results. At the same time, his royal highness Prince Albert invited some of our most eminent artists to make trials in fresco, for a summer-house in the gardens of Buckingham Palace. As might have been expected, the success of these gentlemen differed, having to do with an entirely novel mode of proceeding, and with very limited capabilities compared with those of oil, to which they had been accustomed. But these trials, followed up by the exhibitions of fresco painting and cartoon drawing, held at Westminster Hall, sufficiently proved, that the English school only requires encouragement to attain an equal rank with the continental schools of art; and the fresco executed by Mr. Dyce, in the House of Lords, as a specimen, appears to have given entire satisfaction to her Majesty's Commissioners of Fine Arts; so much so, that Messrs. Maclise, Cope, and Horsley, are commissioned to proceed with three other frescoes for the House of Lords. But an entire change in the subjects of patronage will be required, before high art can arrive at any degree of excellence in this country

The lecturer then proceeded to cut the superfluous plaster, or intonaco, from the portion of the fresco painted during the preceding lecture, and directed his assistant to lay fresh plaster close up to the picture which remained. During the time the plaster was being laid, Mr. Buss explained the method of adapting the outlines, so as to coincide with and conceal the joints of the old and new plaster, and by diagrams exemplified the judicious and injudicious contrivance of these joints. When the intonaco had properly set, the lecturer proceeded with the background (having traced the forms from the cartoon), and in a few minutes, sufficiently covered the picture to shew the mode by which the artist in fresco joins the work of one day to that of another. He then stated, it must be quite evident that great skill and a completely arranged subject, are absolutely necessary to ensure success in fresco painting (which ought to be pure fresco without retouching), so that each day's work on a picture should be so complete in itself and in relation to the entire composition as not to require to be again touched. Our limits will not permit us to enter upon the arguments for and against the practice of retouching fresco, but it would appear that the pure state of fresco is far preferable to one that is retouched, for the conditions of permanency of colour. Freedom from gloss on the surface, and capability of cleaning (especially the latter) required by her Majesty's commissioners, can only be fully complied with by employing *pure fresco*. Encaustic, tempera, its modifications, and oil-painting, were then described and compared with each other, and references made to various works in these different methods of painting. To Sir Joshua Reynolds is due the merit of having explored the depths, and transparent richness, peculiar to an oil or varnish medium, which in this respect has raised the English school above those of the continent; but a change in the public taste has been gradually brought about for light and delicate arrangements of colour, and effect of light and shade, produced most probably by the lighter style of architecture and decoration in use for domestic edifices for several years past. Of fresco applied to external decoration many specimens exist, and *sgrafito* or scratched work,—consisting of a thin coat of white plaster over a black ground, which white plaster being removed or scratched through, in forms similar to a hatched drawing, produced an effect approaching to bas-relief,—was also employed by Polidoro da Caravaggio on the exterior of buildings. But fresco was extensively employed on the outside of even private dwelling-houses, and among the eminent names of the artists who executed them, are those of Titian and Tintoretto. In Germany, the Isar gate, the pediment of the theatre at Munich, and other examples, exist of external painting.

In this country, Rigaud, a member of the Royal Academy, painted some frescoes on the outside of Sheringham's house, in Marlborough-street, and a few examples of modern external ornamental painting are to be met with, but surely an application of art which was not beneath the notice of Titian, Tintoretto, and the disciples of the school of the Caracci, in Italy, and of Rigaud, who was eminent in his day, might be made available to the artists of the present time.

Extraordinary advances have been made within a few years, in the internal and external architectural arrangements of houses for the purposes of trade. Architects of eminence have directed their attention to this subject, and some beautiful shops now adorn our towns; and a tradesman about to commence business on a grand scale might, by engaging an architect and a painter, have a beautiful design tastefully executed, at a cost much less in amount than the methods of advertisement resorted to in almost every instance. When the splendour of the Parisian *cafés* is remembered, it must be admitted that latterly, in this country, painting has been but sparingly employed in aid of architecture.

Fresco is particularly adapted for a good effect in entrance-halls, colonnades, conservatories, piazzas, cloisters, panels, and other large compartments either on the outside or inside of public or private edifices: and in the present crisis of art in this country, every exertion should be made to introduce this method of painting, by all who possess any power to do so. For without a liberal encouragement from the Government, or private or public encouragement, the present movement in art will pass away, comparatively impotent in working those changes in the English school, which are most earnestly desired by all who wish well to the arts of this country. Our public institutions, corporate bodies, colleges, and art-unions, possess great powers to advance the cause of high art. In this way the Town-hall at Elbufeldt, the Franciscan church at Süttegart, and the town-hall at Frankfort have been decorated with frescoes. It is to be hoped that great efforts will be made, in order to effect a permanent advance of historical art in England.

Historical art has, on this side of the channel, been synonymous with poverty; and the fate of Barry, Fuseli, Blake, Hilton, Briggs, and others, must be remembered with pain, sacrificed, as they were, in an endeavour to keep alive the expiring embers of historic art.

In all departments of science and literature England has maintained a proud position; and it cannot rationally be supposed, that with due encouragement in historic art, English artists would not equal those of other nations. In that department of art which has been encouraged in this country, they have ever been found equal to the demands on their talents. In portraiture, landscape, and pictures of social or domestic life, and in the art of engraving, this country may claim a superiority over other nations.

Let the artists of England have equal opportunities with those of Italy, France or Germany, and with the impetus afforded by the Royal Commission of Fine Arts, a school of historical painting will arise worthy of the country, and we shall hear no more of sending for a French or a German artist to depict the virtues of an Alfred, or the achievements of a Nelson or a Wellington.

DECORATIVE PROJECTIONS.

METROPOLITAN BUILDINGS ACT.

Sir,—The award of the Official Referees, relative to projections of shop fronts, &c., published in your journal of the 14th instant, involves matter of the most serious importance, not only to the profession, but also to the owners of ground in the metropolis. Without reference to the particular case, the principle therein enunciated is no less than this,—that in almost every case of a rebuilding in the city of London, where every inch of ground is so valuable that the houses are split up into small tenements, the owner must, without compensation, or even without any adequate benefit to the public, as I shall subsequently shew, give up a portion of his ground, or forego all attempt at architectural decoration. The statement made in the award, that the rule has been "misapprehended by builders, and many district surveyors," the unwillingness of the Official Referees to act upon the assumed legal construction of the clauses in the case submitted, and your editorial remark at the conclusion, all evidently shew that the construction of the Act, suggested by the award, would, if correct, entail great injustice and injury on the profession.

I have alluded more particularly to the city of London, as the part of the metropolis where the effects of this award would be most severely felt; for there the "general line of fronts in the streets" are most frequently tangential with the line of the public way. Under this award, therefore, if a citizen is desirous of having a window-cap or cornice to his house (I will not at present allude to shop-fronts, which form a distinct class), he must set back his house 10 or 18 inches, as the case may be, in order that the said cornice should not overhang the public way. Suppose it done, and the house set back, what advantage is gained?

I cannot imagine that the Legislature, by a side-wind, intended in this irregular manner to widen the thoroughfares, as it would thus only be done piecemeal, at the option of the building owners; and the lines of streets would present a serrated jagged appearance, like an awkward squad regiment, and be full of nooks and nuisance corners. On the other hand, if the house is set back, the paving committee will take possession of the ground surrendered, pave up to the line of the house, and the inconvenience, if there be any, of projecting cornices, will exist, to the same injury to the public as before.

Such, I apprehend, would be the working of the Act, if the interpretation which is given by the award is correct; but I would submit to the Official Referees, with much deference, supported, however, by the opinion of many professional brethren, that this legal construction of the clauses is inconsistent with the obvious practical tendencies of the other enactments in Schedule E., which authorise projections, and which I now propose to examine.

The first clause in the schedule relating to the subject, "as to copings, parapets, cornices to overhanging roofs," &c., *expressly sanctions and permits* all such architectural decorations to project beyond the "general line of fronts in any street or alley." The next clause, also, "as to all balconies, verandahs, porches," &c., in the like manner expressly permits such projections beyond the general line of fronts, with the proviso that they shall not overhang "the ground belonging to any other owner." I presume that in this clause the word "owner" includes the ownership of a public footway (though the interpretation clause of the term might suggest a doubt thereon), and the difference, therefore, between the two clauses is evident, viz., that all *architectural* projections are allowed, but that all *constructive* projections, though allowed, must not stand or overhang any other than the building owner's ground.

Now if these two clauses stood alone, there would be no difficulty in the case, and they seem fully adequate for the due protection of the public. They prevent porticoes, verandahs, shop-fronts, &c., being thrust out over the adjoining owner's property, but they allow all cornices, and other architectural decoration connected therewith, to project;—but then follows a clause, enacting that all projections from the walls of buildings, including steps, cellar doors, and area inclosures, must be set back so that "they shall only overhang or occupy the ground of the owner of such building, without overhanging or encroaching upon the public way."

Though we are accustomed to strange anomalies in Acts of Parliament, yet in this case one can scarcely suppose that the legislature had enacted that a thing might be legally done by one clause, and that it could not be done by almost a successive clause. There would surely have been some exception or proviso made in the first to meet the contingency in the second; but there is, however, none. The Act expressly enacts that cornices may project beyond the line of houses, a case that occurs most frequently in the city, but the official referees say no; the subsequent clause nullifies the first.

It appears to me that there is an ambiguity in the word projections, which I submit is used in three different senses in the three clauses; in the *first*, it is applied to architectural decorations, which are allowed; in the *second* to projections which do not form a portion of the building, such as balconies, verandahs, &c., and which are also allowed, with a proviso; and in the *third* to projections which do form essential parts in a building, such as projections on plan (a wing and centre for instance), or projections in elevation, such as bay windows or corbelled rooms. These are prohibited unless the house is set back.

I do not propose this as an ingenious reading of the Act, but as a construction of the clauses, which has been held reasonable by many persons who have endeavoured to rake out sense from obscurity. Indeed, during the two years' experience of the Act, I believe this construction has been adopted in most of the districts, and acted upon in some cases by the district-surveyors themselves. If a different interpretation is now to be enforced, it would be advisable to obtain at once a revision of these clauses, which will otherwise inevitably cause the greatest dissatisfaction and bitterness. Judging from the modifications which the official referees have suggested on other points, where the Act has been found impracticable, and from the disinclination which they evince to follow up harshly the many ill-considered enactments of the Act, I should imagine they would throw no obstacle in the way of obtaining a modification on this point, and thus prevent what they as practical men must feel, much inconvenience to all building parties, without adequate advantage to the public.

I fear, however, that this award adds only another instance to the many already developed, of the danger of legal legislation upon building matters, without a careful preliminary investigation by all parties interested therein.

I am, Sir, &c. T. L.

IMPORTANT TO THE MAKERS OF DRAWING PENCILS.

Can any one tell us where good pencils may be bought? We have speculated at artists' shops from Rathbone-place to Cheapside, and have tried over and over again every maker that once had a reputation in the profession, and at last we throw down the blunted stump, and declare there is no refuge but in pen and ink. So, having consigned our last dozen to a truly useful purpose, that of firewood, we just use the only other instrument, in the manner in which it best accommodates itself to our hand—videlicet, writing, and beseech all our readers to help us, if they can, out of the difficulty. Really, what we have endured since "the mine" first began to "fail" passes all belief. Every thing has been tried; good penknives for cutting would give now and then a tolerable point, but at the first touch upon the paper off it broke, though we had pressed scarcely hard enough for a single trace. We have long since abandoned all minute work and sketching, as involving far too much labour, and preserve every scrap that we thought lightly of when our first gross of pencils was unexhausted, now with peculiar care, as we should works of the old masters. We have arrived at the conclusion, that much of the day can be far more profitably spent than in cutting wood. We know not yet whether we may try lithographic chalks, as being likely to retain a point better, and to require less cutting than the present quality of pencils, or whether we shall recommend some maker to use "gravel and gas tar," as a far better substitute than coal ash, for black lead. Ink lines *can* be spunged out, but for pencil drawing now-a-days there is no manner of speedy removal. India-rubber used to be the fitting implement; there is now no chance but to scratch out with the knife. What can be the reason of this falling off in the manufacture, of which every one in the profession is complaining? Makers are numerous, and they are able to shew letters of recommendation from artists, yet architects cannot get a pencil having any one of the qualities which they require. We could not wish for better pencils than we were supplied with about ten years ago; now, the same maker tells us that the lead cannot be got of equal quality, and that if he adds any other ingredient to improve it in one respect, the mark cannot be rubbed out. But we fear that the manufacturers do not know what are the particular qualities requisite in a pencil for architectural purposes; it would be well worth their while to find out, as the evil is so commonly felt, that really good pencils would meet with an extensive sale. Such as are made are perhaps quite sufficient for schools and drawing-masters, but certainly are not at all adapted for careful and minute work, or for plan drawing, which can hardly be got through without frequent alterations. The pencils are perhaps fit for sketching on a large scale, for foliage, or may have a good tone of black, and these are all the qualities that the testimonial writer, who tries them on a scrap of paper with a blunt point, thinks of inquiring into; he never drew any thing more architectural than a rustic cottage; for such a purpose they may do well enough. Now we think we may render an acceptable service to pencil makers if we specify what are the requisites of a pencil suited for architectural drawing. It must be recollected that there is no kind of drawing which requires so many different qualities in perfection; and the pencil which *might do* for one purpose, it is quite possible would be useless for another. This is the reason, though pencils good enough for some purposes may be met with, why we still complain; and surely the precise nature of the want needs only to be explained. Modern skill has never yet failed, when the object has been directly entered upon with a perfect understanding of the nature of the want. Every pencil, then, should have these qualities:—

It should admit of being cut to a point as fine as that of a needle, without risk of breaking in the cutting.

It should be firm under the pressure requisite in drawing, and should mark a clear even line without *crumbling* away.

It should contain no grit.

It should admit of being easily erased by the rubber, without leaving the slightest mark upon the paper; yet the lines should not be smeared by paper or ruler passing over the drawing.

The various kinds of lead should be carefully sorted, and great care should be taken that each pencil is marked with the proper letters. If the last point be unattended to, much time may be lost by the draughtsman, and a good pencil may often be condemned without sufficient reason.

Lastly, all these qualities are required in every pencil, whatever its mark, the HH being by no means the only one that the architect uses, though the lists which the manufacturers publish would have it so. Those lettered HHH, H, HB, and B, are in constant use for one purpose or another. The harder kinds of lead should also be made into small pencils for the bow compasses, &c.

We believe that if a pencil have these several qualities, it will be satisfactory to most architects; nevertheless, it is possible that essential requisites not here mentioned may occur to others; and if so, it is very desirable that they should be communicated through these pages, in order that the whole case may be fully in the hands of the makers.

For drawing on wood a very hard pencil is generally preferred, and for mere outline, or plan drawing the advantages are very remarkable. HHHH and HHHHH pencils are therefore prepared by some makers, but we have never yet detected any difference in hardness between such of these kinds as we have used. In these pencils the same requisites are needed as in those used on paper, except that as lines cannot be taken out with India rubber, it is not essential to provide for that kind of correction. The grit which is frequently found in these kinds should be carefully avoided, as it is desirable that the pencil should make a clear even line upon the wood, but without any furrow. But we have often found a common pencil, fit for no other purpose, answer admirably for wood.

We trust we have now said enough to induce the manufacturers of pencils to take greater care in the preparation of an implement so essential to every architect. Though the supply of Cumberland lead may have proved exhaustible, we are convinced that this loss will be supplied as soon as the makers know exactly what is wanted, and that there would be sufficient patronage from the profession to bring them a handsome return for whatever exertions they might make. The present want of good pencils, all our readers will agree, is becoming an evil quite intolerable.

PORTRAIT OF SHAKSPEARE.

A picture, which is believed by some, well qualified to judge, to be a contemporary portrait of the great bard, has come into the possession of the excellent Bishop of Ely. It was found in an obscure broker's shop, where nothing could be learnt of its previous history. It has no name on it, but cleaning has made apparent in one part, "*Æt.* 39, 1603," which agrees with the age of Shakspeare in that year. We have not yet seen the picture, and cannot at once, after so many disappointments, give implicit credence to the statement; what we know, however, of those who have examined the portrait, and of the judgment of the Right Rev. Bishop himself, induces us to believe it will be found correct, and that a great discovery has indeed been made.

REMARKS ON NORMAN SARACENIC ARCHITECTURE

IN THE ISLAND OF SICILY.

"Europe is the glory of the earth, Italy the glory of Europe, Sicily the glory of Italy, and the country seen from hence, the glory of Sicily."

Such are the sentiments displayed in an inscription on the stones of the terrace of the Saracenic palace of La Ziza, at Palermo; and few travellers to this spot fail to concur in the truth of the last of these comparisons. It is impossible to describe the rich and glorious scenery, or convey an adequate notion of the heavenly climate, of this island gem, dropped into the Mediterranean, between Europe and Africa, as a pearl out of the diadem of nature. The country teems with the best and richest gifts of Providence; but, like everything beautiful, the possession of which is always coveted, it has experienced numberless vicissitudes. At various times it has fallen into the possession of different people, envying the advantages enjoyed by their predecessors; and monuments still remaining, stand prominently forward as so many hoary witnesses of the despotic masters who have swayed in succession the sceptre in this land.

A knowledge of the events which have chiefly affected the condition of any country is indispensable in the study of its architecture. The character, habits, and religious feelings of a people, are strongly indicated by their public and domestic edifices. Every nation, as it has arisen out of insignificance, has adopted in its buildings some peculiarity of style and construction; and no revolution has occurred, by which the ruling dynasty of any country has been changed, which has not been attended by some architectural transitions more or less distinctive and scientific. As preliminary to the remarks we have to make on the Norman edifices in Sicily, we shall therefore venture to survey some of the most important features connected with the history of the island.

From time to time various powers have invested this small *earth* with remarkable interest; leaving, scattered throughout the country, evidence of their existence and ascendancy. A familiar acquaintance with the rise, progress, and fall of each of these powers will materially assist our present inquiry.

During the heroic ages, the fierce and cruel Lœstrigones possessed Sicily; the Sicani from Spain followed, who in turn yielded to the Italian Siculi: Trojans, Candiotes, and Cretans, subsequently arrived in the island; and between two and three centuries after, as nearly as we can ascertain from the imperfect chronology of those remote ages, when the Greeks continued to migrate in colonies, the country fell into the hands of this enterprising people. The Romans, no less successful in their day, subsequently obtained possession, and after subjugating the inhabitants, annexed the island to their vast dominions. Under this new rule it continued without interruption, until the time of Justinian, when at the division of the empire it fell to the lot of the eastern emperors: but being at this time invaded and seized by the Goths, it remained subject to their power during an interval of seventeen years, at the expiration of which the island was recovered by the prowess of Belisarius.

The Sicilians, however, were not destined to remain long under the rule of the Greek emperors. The progress of time had been developing, with unusual rapidity, a power of extraordinary magnitude. Different parts of Europe had already been invaded by the Saracens, whose attention was at length turned to Sicily. After a siege of considerable duration, these people completed the conquest of the island in A.D. 830. A fleet, issuing from Kairoan, probably the Cyrene of the Romans, a city fifty miles south-east of Tunis, assailed the country, under the command of Assad; and the descendant of these Saracenic conquerors maintained their ground in the island during a period somewhat exceeding two centuries.

The events connected with this invasion are of a curious and interesting nature. At the commencement of the ninth century Sicily became agitated by various troubles, which eventually produced the overthrow of the imperial power in the island. Ebn-el-Kattib, the Arabian historian, has given in his chronicles an interesting account of this important revolution.

The emperor of the east, he tells us, had bestowed the government of Sicily upon Constantine Patric. Phima, the governor's general, a bold ambitious man, of a marauding disposition, consonant with the character of the times, took occasion to ravage the coast of Africa. Employing some vessels of his master, it was surmised, with some appearance of truth, that he engaged in the enterprise at the instance of Constantine himself. The emperor, hearing of this disloyal expedition, despatched orders to the Sicilian governor for the immediate dismissal of the general. Phima, hearing of this command, and entertaining a suspicion that he might be surrendered to the emperor's displeasure, returned with all speed to Syracuse, where, seizing upon the city and subduing Constantine, he proclaimed himself king. He had not been long in possession of the island, before a retribution awaited him for his treachery. Returning to his old pursuits for the gratification of his predatory habits, he left Sicily for a time, having placed the government in the hands of one Plata, a soldier, who had served with him in various expeditions, and had obtained a place in his confidence. But in his absence the deputy revolted, and he had himself to repine as a victim to perfidy, not a little resembling the treason by which his own master had been overthrown. In such a strait, subdued and driven from Sicily, but with a spirit still unconquered, Phima addressed himself to the Saracens. He implored and gained the assistance of Ziadeth Allah, the king of Kairoan. This sovereign supplied him with a hundred vessels, which, in addition to those he possessed, formed a fleet of a sufficiently formidable character to terrify the rebellious Sicilians into submission. The Saracens, however, had their own course of policy to pursue, and Phima, to his surprise and dismay, was not permitted to lead the armament, which he supposed was to place him on the throne of Sicily. To Assad, the son of Farath, a Saracen, was committed the sole management of the expedition. Ten thousand infantry and seven hundred horse composed the whole force.

Landing at Mazzara, in A.D. 828, the Musselmans gave battle to Plata, near the city. After a short but obstinate resistance, the renegade was overthrown. Seeing no prospect of redeeming his fortunes, he fled at once to Calabria: but his career soon drew to a close; he was pursued, overtaken, and slain. Assad, the general of the expedition, had been killed at the commencement of the siege; and Phima, in support of whose rights the armament invaded Sicily, appears to have been altogether forgotten.

Mohammed, the son of Aboul Dgiouari, succeeded Assad in the command, and laid siege to Syracuse. The news of the Sicilian revolt had reached the eastern capital, and the emperor resolved on sending an armament to reduce the power of the Saracens, and regain possession of the island. When the preparations were fully made, the force left Constantinople, and arriving in Sicily gave battle to the Musselmans, and succeeded in relieving Syracuse, the siege of which was immediately raised. The Saracen army was not sufficiently powerful to cope with that from Constantinople, and retired into different parts of the island, forming into several detachments. From this time commenced a desultory warfare, the Saracens fighting obstinately in their intrenchments. The besiegers were usually victorious in the numerous engagements which took place. On several occasions the Saracens were reduced to the greatest straits through hunger; and so hopeless appeared to be their condition, that day by day their assailants expected to receive overtures of peace, which, by anticipation, they resolved to grant only on the terms of total submission and immediate evacuation of the island. But the turbaned soldiery, resolute in their severest extremities, continued to harass their opponents, and to wear that confident appearance which shewed they had not wholly relinquished their hopes of final success. Measures had been adopted, as soon as they discovered the superiority of the Constantinopolitan armament, to procure a reinforcement of their own troops. An embassage had been despatched to Spain and Kairoan, and they were no less surprised than disappointed that assistance had not already arrived. At length the day for their deliverance drew near. Ashag, the son of Vakil, with whose name a hundred victories were associated, came to their succour. New life and courage were infused into the Saracenic arms. Supplies poured in from Africa; and, in a short period, their condition, which appeared one of hopelessness, was converted first into success, and ultimately into security and peace. Ashag arrived in A.D. 830, at which time Ziadeth Allah was nominally the governor of the island. When the peace was confirmed, the administration of affairs was delivered into the hands of Mohammed, a descendant of the Aglabite dynasty. Mohammed assumed the title of king of Sicily, deceasing after a reign of nineteen years, about A.D. 850. By his establishment on the throne came the island under the dominion of the Saracenic branch of the Aglabite sovereigns, who succeeded in establishing themselves during a long period. The Phathimite princes followed, Sicily falling into their possession, after they had wrested from the Aglabites the government of the Saracenic empire in Africa.

The uninterrupted occupation of Sicily by the Saracens, during a period exceeding two centuries, gave sufficient opportunity for the encouragement of the arts of peace. Stately buildings, palaces, and mosques arose in different parts of the island, distinguished by the novel features and appointments which were employed in their erections in other countries. Their taste and invention were expended chiefly in the construction of intricate and complex ornament, and in fantastic arrangements, not unfrequently exhibiting marks of singular, though peculiar ingenuity. The symmetry, unity, and nobility of a classical edifice was rarely discoverable; but there was no neglect in the proper adaptation of materials, in the selection of sites, and the contrivance of plans, all of which seem manifestly to have been regulated by the peculiar wants and habits of the people. In some measure only do we observe modifications of their usual style, which is sufficiently accounted for in their employment of the remains of Roman edifices.

The Normans gained possession of Sicily after numerous adventurous exploits, and may be said to have completed their conquest of the whole island in A.D. 1071, although they had acquired superiority in many parts of the island since A.D. 1043. The reader will find a detailed account of their invasion in a work on Sicily by the late Mr. Gally Knight. According to the authority of Leo Ostiensis, Drogo, a Norman chief, on his return from a pilgrimage to Jerusalem, landed at Salerno, in Italy, with about forty companions, in A.D. 1003; and his entrance into this part of Italy subsequently led to the capture and occupation of Sicily by his countrymen.

The Saracens, in their piratical expeditions, made frequent incursions on the coast of Italy, and at times attacked the Salernitans. On one occasion the Normans, who had just arrived, and were enjoying the hospitality of the Duke of Salerno, flew to arms, under the direction of their leader, attacked the marauding invaders with complete success, and drove them from the town and neighbouring territory. Grateful for such timely assistance, and struck with the prowess of the strangers, the duke pressed them to remain in his dominions, offering to maintain them honourably as auxiliaries. The pilgrims excused themselves at that time, promising, however, to return. In the following spring, with a band much augmented, Drogo retraced his steps to Italy, and entered the service of the Duke of Salerno. The bold adventurers as they came, declaring to fulfil their stipendary engagement with this Italian prince, nevertheless inspired such awe, as gave rise to suspicions of the gravest nature. The duke feared that the day might come when he should have to reproach himself for the haste with which he had invited the Normans to his dominions; and his anticipations were not long in being confirmed.

During the first ten years, as the number of Normans increased, they gradually laid aside their stipendiary character. Banding themselves together into lawless companies of freebooters, they at length became the most furious and uncontrolled pillagers of Italy. Their growing power began to alarm many of the petty independent states; and the Prince of Capua, whom they threatened, either to appease their desire or gain their interests, ceded to them a district between Capua and Naples. Here they built the town of Aversa, on the site of the ancient Atella. Thus they obtained

ARCHITECTURE IN SICILY:

DOORWAY AT LAGABIA, GARGENTI.



a footing in the country which they first visited as pilgrims. Their next step was to invite their kindred from Normandy. Many came; some joining the new colony, others entering the service of the Italian princes.

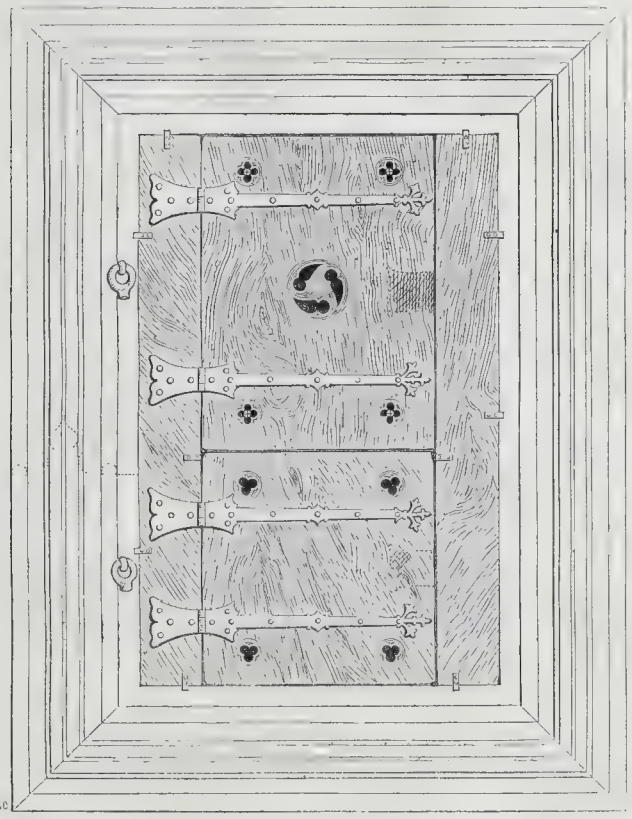
Maniaces, the Byzantine general, in A.D. 1025, invited the Normans to join the imperial standard on the approaching expedition against the Saracens in Sicily, whose usurpation of the island was not forgotten, nor intended to be left unavenged. The proposition was immediately accepted. The Normans at once chose for their leader William, the eldest son of Tancred de Hauteville, and enlisted under the eastern banner. William so signalized himself by his chivalrous behaviour, that he became an universal favourite. He obtained the surname of "Bras-de-fer;" and, among his numberless exploits, the transfixing with his lance the Saracenic governor of Syracuse, may not be reckoned the least important. The success of the Normans appears to have excited the jealousy of their eastern friends; and a lengthened series of commotions ensued, owing, it should seem, to the treachery of Maniaces and the suspicions of the Byzantine government; but the Normans gained strength, and in A.D. 1043 considered their superiority sufficient to permit them to venture to decide for themselves with reference to the acquisitions they made in conjunction with the eastern army. They appointed a council for the regulation of their affairs, and began to assume the appearance of formal government. The council consisted of two members, under the control of a chief magistrate, and every affair or question of consequence was brought before the superior court. Bras-de-fer was the first called to the magistracy; he took the title of Count of Apulia, and placed his capital at Melfi, in Italy.

The records of the bravery, courtesy, and religious character of the Normans, notwithstanding their predatory inclinations, in which, it must be confessed, they only imitated their neighbours, are, wherever they settled, full of the deepest interest. The valorous deeds of their chiefs, the indomitable courage of their soldiery, and the virtues of their fairer companions, seem fitter for the pages of romance than the rough and heartless annals of real history. The achievements of the noble Robert Guiscard, the generosity of King Roger and his beauteous consort Eremburga, are not the least attractive topics in Norman story. This people present the most brilliant examples of valour and devotion which are to be found in the records of those unsettled times. Europe redounded with their exploits during the crusades. But though occupied in the pursuit of conquest, they appear to be no less favourable to the cultivation of those arts which are usually considered as peculiar to peace.

WALTER L. B. GRANVILLE.

*** The annexed engraving of a doorway at Lagabia, Gargenti, will be referred to in a following portion of this paper.

AUMBRY IN COLOGNE CATHEDRAL.



AUMBRY IN COLOGNE CATHEDRAL.

The accompanying engraving represents an aumbry in the south aisle of nave of the cathedral of Cologne. There are three in this aisle, but only one with the doors and iron-work remaining. It is remarkable both for its having two doors (that is, one for each shelf), and also for the quatrefoils and trefoils, with which they are perforated. The locks are gone, as are the iron bars which reached across each door.

Few aumbries, either on the continent or in this country, have not been despoiled of their doors; this is the more to be regretted, as much greater care and attention appears to have been bestowed on them than on the aumbry itself. G. T.

PUBLIC SAFETY.

THE FAILURE IN NEW OXFORD STREET.

Sir,—My attention having been drawn to a paragraph in The Builder of last Saturday, headed "Public Safety," in which the conduct of all the officers appointed under the Metropolitan Buildings Act is impeached, in reference to certain buildings in New Oxford-street, described as now being taken down in consequence of their defective construction, and such impeachment of neglect being without foundation, I trust you will give me an opportunity, through the pages of your journal, of stating what the facts of the case really are.

The works were commenced in September, 1845; and, at that time, the drawings approved on the part of the crown being shewn to me, the great height to which the buildings were intended to be carried, and their ponderous projections, attracted my observation. As regards the former, I had no right to interfere at all, so long as the prescribed thickness of the walls was maintained; nor as to the latter, unless the projections became from any cause dangerous to the public, or overhung the public way. I did, however, make several suggestions to the builder on both these heads, and pointed out the propriety of applying to the Commissioners of Woods, Works, &c., for permission to alter the design. I had no power to do more. I was always assured, as to the projections, that they would be secured by the superincumbent weight placed upon them, or in some other efficient manner; and when it became obvious they were not so secured, I interfered successfully, for the objectionable parts are now in course of removal.

Undoubtedly some delay took place in my proceedings, but this was owing in the first instance to a severe accident the builder met with, which caused his death, and subsequently to the difficulty that arose in winding up his affairs and disposing of the property. Directly it was sold, I put myself in communication with the purchaser's surveyor, Mr. Thompson; and it is due to that gentleman to state that he anticipated my suggestions, and rendered any application to the official referees unnecessary, by securing and subsequently removing the objectionable parts.

I think it right to add, that the failure in the upper part of the building, and the consequent necessity for re-constructing a portion, arose not alone from the projection of the cornice, but was caused in a great measure by the defective construction of the roofs. For this defective construction I am not responsible, nor could any of the officers under the Act exercise a controlling power over the design, or interfere at all with it until some danger was caused to the public.

As regards the comment in the paragraph in question, on the conduct of the Registrar and Official Referees, it cannot be necessary that I should state to you, Mr. Editor, or to any person acquainted with the provisions of the Act, that these officers could have nothing to do with the matter,—that I alone was responsible, and that whatever proceedings it might have been necessary to institute, must have emanated from me. I believe in this case I did take all such proceedings as were necessary to protect the public; and the restoration of the defective parts, coupled with my refusal, up to this time, to certify that the buildings have been properly completed, is the most conclusive evidence I can offer of the fact.—I am, Sir, &c.

Geo. Pownall,
District Surveyor, St. Giles-in-the-Fields, and St. George Bloomsbury.

7, Bedford-row, Nov. 16, 1846.

*** On consideration, Mr. Pownall will see, that his statement, which we insert with much pleasure, in no way impeaches the propriety and intention of the inquiry we made last week. Some remarks in our leading article of to-day will apply.

Roman Cement Stone in Scotland.—A stratum of stone fit for Roman cement has been discovered at Newfield, in the parish of Blantyre, Lanarkshire.

THE ARCH AND THE STATUE AGAIN.

Apollo and the Nine be praised! the statue, it appears, is positively to come down. Few questions in matters of art have agitated the public so much, and so long, as the impropriety of the present conjunction, and if we may judge from the pile of communications on the subject, received by us within the last few days, the excitement is far from having subsided.

The course taken by our powerful contemporary, *The Times*, has excited the ire of many of our readers, as it certainly has our own astonishment.* But "good Homer sometimes sleeps," why should we wonder at a doze on the part of even the most potent of journals.

The dissents from Academicians, it is reported, were thirty, the approvals two. We are unable, however, to confirm the statement. At the Institute of Architects, the council were unanimous, and in reply to a request to that effect from the Government, forwarded the following

REPORT.

Resolved, That the effect of the equestrian statue of the Duke of Wellington on the top of the arch at the entrance to the Green Park, is unsatisfactory, and its position there most objectionable.

The Council, in the first place, deem it proper to observe, that the following opinions are given as those of the Council only, there not being time sufficient to submit the question to a general meeting of the Institute; but a well-grounded impression prevails, that few, if any, dissentient voices would be found among the members, to the judgment of the Council in this matter.

The Council next refer to the strong opinion expressed by the architect who designed the arch, and who has supported his objections with much of sound and excellent reasoning; and they consider it a recognised principle amongst artists, that the architect who designs a successful work is by far the most competent authority upon a question as to the propriety, size, and character, of any sculptural adjuncts or decorations, proposed to be added to his own design.

Independently of the valuable opinion referred to, the Council feel that the statue is by far too large for the mass it was intended to decorate, and discordant with that harmony of proportion which is indispensable between the structure and its sculptural embellishments. The size of the arch is apparently diminished by the colossal dimensions of the statue. The elegant screen of columns towards Hyde-park, and indeed all the contiguous buildings are alike affected, and the grandeur and importance of the principal approach to the metropolis is thus lessened, by the false scale produced by the colossal size of the statue.

The most celebrated statues of colossal or heroic size, were all placed with suitable plinths or pedestals on the ground, and not applied as crowning ornaments to buildings. The Jupiter at Elis, the Minerva at Athens, the Marcus Aurelius in the Roman capitol, and the group on the Quirinal, may be cited among many other ancient statues; and of modern times, the statues in the square and loggia at Florence; of San Carlo Borromeo, at Arona; Peter the Great, at St. Petersburg; and George III., in the Long Walk, at Windsor, may be instanced.

In conclusion, the council feel that if the statue were removed to an approved site, and the arch enriched with appropriate sculptural decoration, under the superintendence of its architect, such decorations being accessorial and subordinate, it would then no longer be subject to the severe criticism of artists, foreign visitors, and persons of acknowledged taste."

In acknowledging the receipt of it, Lord Morpeth expressed his gratification in finding, that the opinion of the Institute agreed with that entertained by the Government.

It seems to be generally understood that the statue will be placed in the area opposite the Horse Guards; but nothing certain is yet known. One of our correspondents writes as follows:—

"The Commissioners of her Majesty's Woods and Forests are about to construct a new street from Northumberland House to Whitehall-place, at which last-named point the new Westminster-bridge is to be commenced. I would propose that a suitable pedestal be provided, and that the statue be erected at the junction of the *bridge*, the *street*, and the *river*, where it would form a noble and commanding object from Trafalgar-square and all the bridges."

Sir,—The advocacy of *The Times*, if its self-neutralized articles of the 4th and 14th instant can be so called, for the continuance of the statue where it is, after all the just criticism that paper has offered to the contrary, reminds one of the people who go to Harrowgate to drink the rotten-egg waters. At first they exclaim, how filthy! what a horrid taste!—but bearing with this for some weeks, they, becoming accustomed to the nasty stuff, at length observe, "Well! these waters are not so much amiss after all!" just as *The Times* does of the statue. But that will not prevent every fresh mouth being equally disgusted with the nauseous fluid, nor every fresh eye with the vile taste which has placed the statue on the arch, to be the laughing stock of foreigners, and the contempt of men of sound taste in the fine arts of our own country. Can it be *allowed* to remain there? I had hoped the committee, long before this, would have been convinced of the palpable demerits of its present situation, and the atrocious disproportion of the statue to the arch; but as they either will not, or cannot understand this, I feel compelled, though reluctantly, to reiterate the inquiry made by you, and by *The Times*, do the committee consider it to be in good taste, having formed a statue in honour of a great military hero, to raise it to a place to be always close before his eyes, every time he looks from his window or leaves his house? As *The Times* gives us a precedent for putting an equestrian statue on an arch, in the modern arrangement, that of Marcus Aurelius at Wilton, so, I suppose, we shall have cited as a precedent for this, the Achilles at the immediate rear of the duke's house. Again, do the committee consider it in good taste to place the statue on a pedestal which is so surrounded by buildings, &c., as not to be seen on any side beyond a very few yards from its base? And those who view the statue from Piccadilly, whence ninety-nine out of every hundred see it, *must* do so from quite beneath it, and have, consequently, as *principal view, the entire under-part of the horse!*

Now, Sir, I ask, ought any committee to be permitted to force such a sight thus prominently, mainly, on public observation?—to say nothing of the disgust increasing in proceeding to pass through the arch, when that portion remains the *only* ostensible part in sight, except the sole of his Grace's boot,—another proof of the reflective judgment of the committee, in placing the statue on a passage archway, the road all must pass to the royal palace; and the public, in the common ingress and egress through the great western entrance to the metropolis, from their peculiar necessary position as beholders, have not any possibility of escape. Sir, I am not a fastidious nor a squeamish person, and there are many, aye, very many, who feel with me, that the public should be protected by the proper authorities, against having thrust into general notice any view which propriety, so far from seeking, would desire to avoid.

An Inhabitant of May Fair.

Sir,—I am induced to send you a few lines in gratitude for your unceasing exertions to promote a right feeling on the subject of the great Wellington statue.

In common with others, I imagined from the "shock" the public experienced when the profile of the figure was set up over the arch, that the matter was settled, so incongruous did the whole thing appear; and now that the Duke of Rutland has insisted, in spite of the opinions then expressed, to hoist the bronze in its place, what does the *tout-ensemble* present, but a gigantic model of a French toy—a colossal *pendule;* fill in the arch with a dial-plate, and let the pendulum vibrate beneath, and you have it complete—but how ridiculous!

A difficulty is said to exist, as to the provision of a suitable site for so magnificent a design; and certainly we have no street, or crescent, or piazza, at all commensurate with its proportions; it is quite certain that every building, public or private, would be destroyed by its proximity, while the figure itself would appear monstrous, from the impossibility of seeing it at a proper angle of vision, whether placed on a high or a low pedestal. But, Sir, colossal figures require a different treatment to those of life, or even heroic size. Did the Belgians squat their colossal lion on the ground of the field of Waterloo? No; they raised a lofty artificial mound of earth, on which it was placed, and thus produced a very fine monument. Again, the colossal figure of George the Third is well placed, and well seen at the extremity of the three-mile walk in Windsor Great Park. But it is said, we can produce nothing like those two instances in London. Yes, we can; there is a spot prepared by the hand of nature for the purpose, and a spot requiring the embellishment which such a majestic monument would confer;—that spot is the summit of Primrose Hill. Monument and site so appropriate to each other, that the effect would rise to the sublime! Moreover, I would have a vault beneath the pedestal, consecrated, in which the remains of the hero would repose when his earthly career is ended.

A colossal groupe on the summit of this beautiful and remarkable hill would be visible from every part of the metropolis, from the shipping passing up and down the river, and to the passengers by the Great Northern and Western railways; it should be placed upon a pedestal from 20 to 25 feet high, according to the design, (I watched the hoisting of the statue, and I found the effect to be better at that height than at any other, either higher or lower); the pedestal should be designed by an architect; no sculptor can design a pedestal, as witness their abortive efforts all over the metropolis. It should be built of Irish limestone, from the quarries of Lord Monteagle, or Lord Lansdown. It is one of the errors of the day to suppose that granite is durable in our climate; granite is not a homogenous mass, and therefore disintegrates; witness the state of Waterloo-bridge, and that of the public buildings in Dublin, in which city the granite wears away much faster than the Portland stone, often mixed with it in the same building. On each side of the pedestal should be a bronze

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* Sir,—Will you allow me space in your journal for a few remarks in advocacy of the removal of the Wellington Statue, which it appears is now really contemplated by the committee?

If we are to believe *The Times*, who inserts this week two rather flippant letters in vindication of its own lately promulgated encomiums on the combined arch and statue, the public *are well satisfied with it.* "It is not so much amiss," quoth the editor, who, in his article this morning, assuming higher ground, brands, *ex Cathedrâ*, R. A.'s and all other "competent persons," whom he is pleased to sneer at, with want of taste, should they dare to gainsay his editorial dictum.

Now, albeit *The Times*'s public are very well "satisfied" with this testimonial, I must crave your space, Sir, as one of the public, to declare myself totally *dissatisfied* with it. The two works of art, the arch and the statue (conceding to the latter the propriety of a sideways position) are altogether out of proportion one to the other;—more, far more painfully so, than I could have conceived, when the question was first agitated. That the public, as a body, are satisfied with it, I deny; for who recognizes in the statue the colossal work it really is? Nay, few persons, now that it has been hoisted on "that bad eminence," are found to believe that it is twenty-seven feet high, and that a mounted life guardsman may ride under the belly of the horse. How few recognize, or profess to recognize, in the principal figure the well-known features of our great captain. Somebody—to use the words of a clever critique—"somebody on horseback has got upon the arch." And this, Mr. Editor, with, by the bye, *The Times*'s consolatory salvo, that "'tis not so much amiss," is all that the public are to gain by the vast outlay that has been incurred.

The Times complains bitterly that the statue, after all this heavy expenditure of scaffolding, dray-horses, ropes, and pulleys, *is to come down.* But why not, Sir, since all this bronze and talent will, otherwise, have been spent so fruitlessly? Is it not better that the committee should now judiciously retrace their steps than, after having incurred all this cost, and by the very vastness of their testimonial drawn down (if I may say so) the attention of Europe to the combined structure, suffer this monstrous solecism in art to remain for ages?

One word as to the "competent persons," whose opinion *The Times* considers Lord Morpeth unhappy in having sought. Surely *The Times* will allow the term to be applied to the aggregate body of Royal Academicians, backed, as their opinion will doubtless be, by the majority of our most eminent painters, sculptors, and architects without the walls of the Academy! With respect to the alleged delinquency of the "competent persons" in not having, ere this, given utterance to their protest, you, Sir, who have already written so much upon the subject, and have made the same remark, will of course agree. Still I would ask, are not the Earl of Ellesmere, as an amateur, and Mr. Cockerell, as a professor, "competent persons?" Did not these both write, and to *The Times*, on this topic, *long ago?* In fine, have not "competent persons" of all kinds heaped letter on letter, "Ossa upon Pelion," against the scheme? And yet, despite of all, there it stands at last, statue upon arch—soon, I rejoice to hear, like the French king's twenty thousand men, to "march down again."

Once down, there will be no difficulty whatever in constructing a suitable pedestal for the testimonial. But, pending that event, I must persist in joining in the general hubbub—down with it.—I am, Sir, &c.,

W. Young.

London, November 12, 1846.

alto-relievo, representing some notable event in the hero's life, in the style of Giotto's Baptistery doors. "Doors," said Michael Angelo, "worthy to be the gates of Paradise." These bronzes should be affixed to the pedestal in an *artificial* manner; not an absurd cutting up of the stone into carpenter's work, of framed rails, and styles, and panels.

I am dictating this letter from a bed of sickness, and you will therefore excuse my adducing farther arguments in support of these views. I have no doubt but that yourself or some of your intelligent correspondents will do so in a far abler manner than myself.

I am, Sir, &c.,

WILLIAM BARDWELL.

4, Great Queen-street.

FOREIGN ARCHITECTURAL AND COLLATERAL INTELLIGENCE.

Munich. — Porcelain Paintings. — King Ludwig of Bavaria, on his assuming the reins of government, conceived the idea of having the pictures of the royal collections, especially those of the Pinakothek, reproduced on china, so that if by any chance, those invaluable and unique art-specimens should be destroyed, posterity should not miss them. In the first instance, the pictures were copied on vases and plates, to form a sort of show-service for royal usage. Thus, some vases and seventy-two plate-formed specimens arose—which, however, soon made room for a more appropriate form, viz., *tablets* of different size and form, in accordance with the originals, which they were destined to represent. In these tablets, especially, (there are ninety-four ready at present), we see all manners of painting, all art-schools and their prominent masters represented in a worthy form. Their value is, as matter of course, very diverse, according to the artists and circumstances by and under which they were made. As one of the best, shines the portrait of Albrecht Dürer from the Pinakothek, made by Mr. *Christian Adler*, who also copied previously a portrait of Raffaelle in the same way. Mr. Adler has been employed in the royal china manufactory since 1811, and may be said to represent the element of historical painting in this novel art-branch. The rare force and tint-depth of the Dürer original, was difficult to be rendered on china—but for genius nothing is difficult, save to be commonplace. The plates painted previously by Mr. Adler after Leonardo da Vinci, Correggio, Pietro Perugino, and Raffaelle, are of similar beauty and perfection. Besides Mr. Adler, the royal china establishment possesses also other distinguished artists, as Mr. Nachtmann, the flower-painter; Mr. Heinzmann, the landscaper; Lefeubure and Wanbenger, animal-painters, &c. As the introducing art in the sober and guarded enjoyments of life, is a topic so much dilated upon at present, we may mention a table-service of china, ordered by King Ludwig—original in thought and execution. Amongst richest as well as choicest ornaments in gold and colours, we behold painted, grey in grey, on vases, plates, and dishes, of truly antique shape—copies of the finest and choicest *sculptures* of the Glyptothek; a set of specimens, to which none may be found equal in the whole history of art and industry.—[The improvement of the porcelain manufacture in England, is a subject we have much at heart. We shall seek an early opportunity to refer to the use of porcelain in buildings.]

Embellishments of Berlin.—The large space in the Thiergarten, hitherto used for military manœuvres, and, therefore, called the Marsfield since the time of Frederic the Great, is now to be appropriated to more reasonable purposes. It is to be partly built over by large structures, partly converted into parks. The king has had constructed, amongst others, some houses in the Italian style, in which the collections of Count Raczynski and Cornelius are to be placed.

Roman Structures discovered by Railway Excavations in Bavaria.—The works which have been undertaken at Augsburg for constructing a central terminus have been of very great extent; from only forty-four acres of the Rosenauberg, 10,000,000 cubic feet of earth have been removed, and used for the great embankment on the Wertach—whose main height is 27½ feet, its basis 172 feet, and its central breadth 36 feet 7 inches. At the slight depth of 6 feet a Roman pavement was found, and at once created great hopes, as this was the very site of the Roman *Augusta Vindelicierum*. The road from Augsburg to Pfersee was also an ancient road, along which sepulchral monuments had been placed, but thrown into the Wertach after the battle of A. 271, under Emperor Aurelian. The sepulchral monuments, some of them of good workmanship, are made of the marble of the Oberland. Amongst the other relics found, that of a sepulchral lamp, in the shape of a fine lady's foot, is remarkable. On the so-called Nordendong graves-field, also, 365 sepulchres of Romans, as well as of the aborigines (the *Vindelicii*) were found. These relics are deposited in the Augsburg Museum.

Arts, and Royal Speeches!—In reference to the building of a new picture-gallery, and other art-grants made by the Saxon Chambers, H.M. the King especially expressed his thanks in the speech from the throne, delivered at the closing of the late session of the legislature. These were H.M.'s words:—"I thank you for the readiness with which you not only voted the means for the current expenses of the state, but also those destined for the better preservation of a worthful treasure of art."

Completion of the Dome of Florence.—The Art-Union of Munich have, of late, exhibited the plan of Mr. J. Müller, a Swiss architect, for completing the façade of the above cathedral. The idea has occupied much of the attention both of the government and the artists of Florence; and it seemed that the Italian public inclined towards the plan proposed by Mr. Architect *Matas*, of Ancona. A glance at this plan, however, shews that Mr. Matas has, it is true, adhered to the general style of this ancient structure, but confounded the character of the *main* front with the lateral ones. The plan of Mr. Müller, on the other hand, is the produce of a deep study of the spirit, tendency, and form of mediæval Italian architecture; and even conceding that this plan may not be the very acme of a completion of this huge structure, planned by an Arnolfo, a Giotto, and Brunelleschi, still it is evident that the German artist has gone the right way towards its realization.

Salzburg, Austria.—H. R. H. Prince John of Austria has caused to be published one hundred and fourteen lithograph plates, representing mediæval structures of the duchy and city of Salzburg. As even in Styria, some of the finest *high* mediæval (*hoch-mittelaltrigen!*) structures have been demolished for railway purposes, the above undertaking is the more meritorious.

Sovereigns' Residences on the Continent.—As the question of royal abodes abroad compared with those of our sovereign has been repeatedly mooted of late, we subjoin a list of some of the royal residences on the continent. The Emperor of Austria possesses, besides the huge mansion called *die Burg*, at Vienna, the châteaux of Schönbrunn and Laxenburg, both with parks of miles in extent. His Majesty possesses one or two castles, appertaining to his private estates, in Upper Austria; besides which, there are in every of the provincial capitals, the once royal residences of the former sovereigns: at Milan (Monza), at Pesth, Prague, Brünn, Grätz, &c. The King of Prussia has two palaces at Berlin (one a huge pile of buildings), besides Charlottenburg, and Sans-souci; in Silesia, Erdmannsdorf; on the Rhine, Stolzenfels. The Grand Duke of Saxe-Weimar has, besides the palace at Weimar, the *Lustschloss* (pleasure-palace) of Belvedere; then Tiefurth, Kromsdorf, Ettersburg, and Dornburg. Although the latter ones cannot be properly called *huge*, they are so, comparing Weimar with England, the population of the former being about *one-half* of that of London.

Amongst the royal residences in France, all hitherto *enumerators* have omitted *Compiegne*, one of the finest palaces imaginable; on whose decoration, pictures, and furniture, Napoleon spent twenty millions of francs.

Mr. Lepsius.—H. M. the King of Prussia has named the above deep searcher of Egyptian antiquities, Regius Professor of the University of Berlin, at a salary of 2,000 dollars, equivalent to 600*l.* a year in London, besides an equal sum, which he may and will derive from his lectures. The king also conferred on him the knighthood of the Red Eagle of Prussia.

MISS COUTTS' CHURCH IN WESTMINSTER.

THE fact, that Miss Burdett Coutts had devoted the sum of 30,000*l.*, through the Bishop of London, to the erection and endowment of a church, with parsonage-house and schools, in Westminster, has been known for some time. The noble intention has been held in abeyance through circumstances, but will now be speedily carried out. A site has been purchased in Rochester-row, and Mr. Ferrey has prepared plans in accordance with Miss Coutts' views. In the first instance, the sum of 6,000*l.* only was set apart for the church, and 3,000*l.* for schools and parsonage; the endowment, purchase of site, &c., requiring the remainder.

When, however, it was represented to the founder that with this sum comparatively little could be done, Miss Coutts at once extended the commission, and desired that every thing should be executed in the best manner. The style of the design fixed on is decorated; the roof will be covered with lead, and the woodwork will be of oak.

NOTES IN THE PROVINCES.

HER MAJESTY has given 100*l.*, and the Prince Consort 50*l.*, towards the erection of the contemplated Infirmary at Windsor in connection with the Windsor Royal Dispensary. The subscribers have resolved to proceed.——The light of public notice shed upon the dark doings of a select portion of the Halstead Vestry has happily dispelled the darkness at once, and the town is to be forthwith placed in its proper light, amongst the illuminated congregations of the 19th century. Other places to be similarly improved are Alcester, which is to be lighted with gas, and Southport, with naptha.—— Government, it is said, has just concluded the purchase of about fourteen acres of land for 25,000*l.* on the east side of Birmingham, for the erection of the contemplated great central barrack for England. In *Aris's Gazette*, the site selected is said to be about half way between Birmingham and the Collieries, and the report that Government had preferred a site on the Saldley side of Birmingham, is declared to be incorrect. These barracks, at all events, are to be so situated, that troops may be sent thence, by railway, to any part of England in a few hours, on intimation by electric telegraph, which is to be brought here also, in the heart as it were of the empire, into a common centre, communicating with all parts of the country by extensions along every line of rail that may be made. The barracks are to be the largest yet built.——The inhabitants of Birmingham are preparing a numerously subscribed memorial to the Lords of the Treasury, praying for the removal of the duties on foreign copper ore.——Most of the nailers who had struck work in the vicinity of Dudley and Kingswinford, have resumed their occupation. A rise has been given by some nailers on small work, but the large Dudley masters have not agreed to the scale.——Many of the contracts for the execution of the Hull General Cemetery, have been let. Barrel drains are being formed to empty themselves into a large tank or reservoir, which in its turn is to be emptied into the Cottingham drain. Much of the underground work, it is expected, will be completed before the winter sets in.——The contractors for the Sunderland Docks are proceeding rapidly with the construction of the groynes, near the pier. The valuation of the dilapidated and other property in the way of the entrances and approaches to the docks, is being made, and an early completion of the work is anticipated.——A second importation of Irish marble (thirty blocks) to the metropolis is announced, in furtherance of the experiment recommended by his Royal Highness the Prince Consort, as president of the Society of Arts. ——In the week ending 8th instant, 150,268 persons were employed on public works in Ireland, chiefly in Clare, Roscommon, Limerick, Galway, Mayo, and Tipperary.

ROMAN CEMENT IN COLD WEATHER.—We omitted by accident to mention at the foot of an inquiry which appeared, that if Roman cement be mixed with hot water it sets more quickly, and is not injured.

WORKS IN DOVER HARBOUR.

On the 13th, when the Duke of Wellington presided at the Harbour Sessions, a new swing bridge was opened for the first time, and was named the "Wellington Bridge." Mr. Walker, the engineer, and Mr. Hardwick, the architect to the board, were in attendance. Considerable improvements have been made here since 1844, when they were commenced. They consist chiefly of an extension of the outer harbour to the eastward; the additional surface of water thus obtained, covering upwards of four acres. To gain this space a number of houses standing on the ordnance property, and nearly the whole of Union-street (except Latham's bank) have been pulled down. The new dock walls, rendered necessary by this extension, are built in a substantial manner, and faced with granite. The next principal feature in the improvements is a new entrance to the "pent," or inner harbour. This entrance opens from the new excavations, and is nearly double the width of the old northern gates, measuring nearly 60 feet wide, and having 3 feet more water, thus admitting vessels of a far greater burden than heretofore. It is provided with lock gates formed of massive cast-iron ribs, with planks on each side to render them buoyant. Across this entrance the swing bridge above alluded to is thrown, having a span of 60 feet, and a roadway 16 feet wide. It has been cast under the direction of Messrs. Hunter and English, of Bow-creek. The other works consist of a stone apron, which has been thrown up between Cheeseman's Head and the South Pier, for the purpose of protecting that portion of harbour; the excavation of the "pent," or inner harbour, to make it available for larger vessels; the removal of the pilot house further west, and the erection of a sea-wall from the terminus of the railway to the harbour; the latter work having been undertaken by the directors of the South-Eastern Railway Company, who are about to erect a new hotel immediately adjoining the pier head. Mr. Bray is the contractor employed. Great efforts are being made by the inhabitants to obtain a low-water pier, or by other means to render the harbour accessible to steam-vessels at all times.

RAILWAY JOTTINGS.

There were ninety notices of applications to be made to Parliament, next session, for railway bills, in an extra number of the *London Gazette*, published on Saturday last, which was followed up, on Monday, by another extra number, containing upwards of 130 notices. ——The new Railway Board of Commissioners appears, from the *Gazette* of Friday last, to be now complete. The members are, the Right Hon. Edward Strutt, the Right Hon. Granville George Earl Granville, the Right Hon. Sir Edward Ryan, Knight, and Captain Henry Rowland Brandreth, R.E. The board entered upon its duties on Monday, the 9th instant.—— Another bridge has just tumbled down on the Berks and Hants branch of the Great Western line, and the lives of three men have been sacrificed, and several others left in a precarious state. They had been ordered to remove the bricks from the arch, which had been for some weeks previously pronounced to be in a dangerous state, and supposed, correctly, to be even incapable of standing till its parts were huddled together into a finished form; and accordingly, while engaged in taking off the parapet wall on the top of the erection, the whole mass suddenly gave way, and the victims were sacrificed. A verdict of "accidental death" was given in each case, "but not without some strong remarks from the jury on the culpable neglect, as well as the responsibility of the railway contractors, with regard to the erection of bridges on this line; as no less than four lives have been lost, and other accidents occasioned, as well as the works much retarded from their falling in along the line."

Illustrations of Bristol.—Mrs. R. R. Pocock has commenced a work, illustrative of the most ancient and picturesque portions of architecture remaining in this city, under the title of "Sketches of Bristol in the olden time." The views we have seen, made upon stone by Mrs. Pocock from her own sketches, are exceedingly clever.

Correspondence.

"LANTERN" FOR WESTMINSTER ABBEY.

Sir,—I am much obliged by the notice in your "correspondence" of my humble plan—"Iron Central Piers Cased with Marble," of which a *grey dove* incrustation might be particularly appropriate. If the iron be safe from "expansion," which appears not to exclude its use elsewhere, there can be no objection as regards possibility. Dr. Buckland's experienced dictum must be more than just; for to erect any thing heavy on the present overlight though graceful piers, and not expect an early fearful "smash" might be the most fatal constructive blindness on record.

But the next best resource certainly, and perhaps, under all the circumstances, a better still, would be a light dwarf *lantern*, or lantern spire, in the centre, such as is seen in many continental churches. Any one looking from the Millbank quarter (of which St. John's Church affords one of the best views), would instantly allow that the clumsiest thing of this sort, were it only, to take the *minimum*, to rise twenty-five feet above the present apex of the roof, would be a "telling" addition. This idea is so simple, that it may be wondered at as not having been broached before. But, as

——"A fool may teach a wise man wit,"

candid individuals will at last look at a suggestion which might be improved to any degree of elegance and completeness.

I am, Sir, &c., J. D. Parry.

TENDERS.

Tenders delivered for building the Custom House, New Dock Company, Southampton:—

Piper	£7,930
Grimsdell	7,785
Nicholson	7,618
Grissell	7,555
W. Cubitt	7,487
Baker	6,853

Tenders delivered on the 12th inst. for rebuilding the Green Man and Still, Oxford-street, for Mr. Duncan Sinclair; Mr. N. Joll, architect:—

Soward	£1,776
Cooper	1,752
Mason	1,687
Jay	1,676
J. and T. Ward	1,665
Wilson (accepted)	1,577

Miscellanea.

Oxford Architectural Society.—The first meeting in the present term was held in the society's room on Wednesday evening, the 4th of November; the Rev. the President in the chair. New members having been elected, and other business transacted, the report of the sub-committee for conducting the restoration of Dorchester Abbey Church was read: it mentioned that the great east window was now in course of restoration, that the present low roof of the sacrarium was about to be replaced by an excellent open one, and that the example of raising terminal subscriptions in particular colleges for the restoration of particular parts, which was set by some members of Oriel, has been followed by members of Exeter and Trinity colleges. Mr. E. Freeman, of Trinity College, then read a paper "On the History of Geometrical Window-tracery," illustrated by a large collection of drawings and engravings. The paper gave rise to some remarks from Mr. Ruskin, of Christ Church, and others; after which the meeting, which was numerously attended, dispersed.

Removal of Westminster Bridge.—The new bridge is to be formed near the end of Whitehall-place. A street is to be opened from Charing-cross, Northumberland House being one corner of it, passing through Craig's court and Great Scotland-yard, down to the new bridge. There are loud complaints from the other side of the water.

Royal and Antiquarian Societies.—The meetings of these societies were resumed on Thursday evening last.

Archæology.—The British Archæological Association, and the Archæological Institute, have also commenced the session; the former in new rooms in Sackville-street, Piccadilly.

Cost of Baths and Washhouses.—At a recent meeting of the Marylebone Vestry, when it was resolved to establish baths and washhouses in that parish, in accordance with the Act of Parliament passed last session, Mr. G. Daniel said, that "as the expense of any new undertaking was the most material feature in the eyes of many men, he would give them an estimate, founded upon the average outlay expended on the existing establishments of the kind in different parts of the country. For a building containing twenty-five baths, two warm baths, one vapour, forty-five tubs, and two drying closets, the estimated outlay would be 3,000*l.* The salaries—namely, a clerk at 100*l.* per annum; housekeeper, 80*l.*; servants, 140*l.*; and incidentals, 30*l.*—would amount to 350*l.* The working expenses of the establishment would be more than defrayed out of the fund raised by the proposed trifling charge of 2d. to each person using the baths or washhouses. This, at least, had been the case in other districts. Looking to the population of Marylebone, and comparing it with that of districts in which these establishments were now in operation, he had estimated the number of bathers per month at 10,000, which, at the rate of 2d. each, gave them a total of 83*l.* 6s. 8d. The washers, estimated at 1,500 per month, would bring 12*l.* 10s., making a total receipt of 95*l.* 16s. 8d. per month."

New Streets.—Notice is given for the construction of a new street from the west end of Long-acre to King-street, Covent-garden, coming out into that street opposite Bedford-street; it will cross Rose and Hart-streets, and destroy a great many small courts and alleys. Another improvement is to form a new street from Westminster Abbey to James-street, Buckingham-gate, by the destruction of those dens of infamy lying between Tothill and Orchard-streets. Going to the east end of London, the most important is the formation of a carriage-way from Great Tower-hill to Little Tower-hill, by the removal of Postern-row, a person at the present time wishing to get from the former to the docks having to make a circuit of a mile and a half.

The Marble Arch.—A correspondent (T. I. M.) says:—"It was suggested a few years ago, that it would be a great improvement to the locality, as well as a convenience to the public, to have a good entrance into St. James's-park, near Spring-gardens, but so as to face the west end of the Strand, and that the said grand entrance should be a triumphal arch.—As it is not yet settled what is to be done with the marble arch of Buckingham Palace, allow me to ask, could it be applied to a better purpose than the above?"

Architects in France.—At the sitting of the Council General of the Seine, on Saturday, the plans and estimates for the first section of the works at the Palais de Justice, comprising the offices for the correctional police, the cabinets of the examining magistrates, and the offices of the Procureur de Roi, were approved of. At this sitting, according to *Galignani*, it was resolved that in all cases where the expenditure should exceed the estimates, the architect shall receive no per-centage upon the excess.

An Architectural School of Design.—In reply to several correspondents who have addressed us on this subject, in consequence of the suggestions which appeared in our pages, we mention that Mr. Charles Gray, of 5, Grange Villas, Brompton, in connection with other architectural students, is endeavouring to organize a school of design, and will be glad to receive communications from any who will take part in it.*

Competition in the City.—The Imperial Assurance Company are about to erect a structure for their purposes in Threadneedle-street, west of the Hall of Commerce. Thirteen gentlemen have been invited to submit plans in competition, including, as we are told, Mr. Moxhay, the proprietor of the last-named building.

* An amateur correspondent thus writes on the subject:—"I hope the sensible letter of an architectural student, on the subject of schools of design, has (to use an expression of Coleridge) "left a sting" in the minds of young architecture. Its importance cannot be overrated; it will fill a chasm that has long existed between the student and his vocation: and if, as your correspondent urges, the leading members of the profession do but give their assistance, a nucleus will be formed, around which all the talent and energy of the unfledged architects will be centered: mutually assisting and inspiriting, the path of tyros will be upwards and onwards."
H. J. L.

NOTICES OF CONTRACTS, &c.

THE authorities of the Stamp Office having given us notice to discontinue the insertion of our list of contracts, &c., excepting as advertisements, we, in deference to their wishes, omit them for the present, but have taken steps to place the facts of the case properly before them, and, as we hope, remove their objections. In the meantime a list may be seen at our office.

TO CORRESPONDENTS.

"*W. D.*"—"Matthew's Hydraulia," 8vo.—Weale. We know of no book on Kew Water-works.

"*T. F. D.*"—We do not find that "many French or other foreign architects are employed in England." We shall be thankful for any information.

"*A Citizen.*"—We cannot agree with his view of the proposed improvements.

"*G. M.*"—We would advise him to apply to the School of Design. If we can find time we will consider the letter further.

"*C. W. E. P.*"—We do not agree with him in thinking concrete lessened in value by being thrown from a height.

"*Steinitz.*"—It is a private question in which we prefer not to interfere.

"*J. K.*"—Inquire of Mr. Davy, Furnival's Inn.

"*Ornamental Tiles.*"—Mr. Hughes complains of Mr. Reed, putting forth a new tile in opposition to a company to whom he has sold a former patent for a tile. We cannot insert the letter except as an advertisement.

"*Constant Reader.*"—Sir Robert Smirke. Mr. S. Smirke now acts for him.

"*Nemo.*"—Divide the number of feet by 9. The edges should be taken in the measurement.

"*Kiln Building.*"—A correspondent wishes the name of a party used to kiln-building.

"*J. S.*"—The mouldings seem to be comparatively modern.

"*Mr. Clifford Smith.*"—Thanks.

"*W. B.*"—Want of space compelled us to omit part of the letter, with which, moreover, we do not agree.

"*Machinery.*"—A correspondent asks to be informed "of any place where a person studying machinery, and not being a practical man, can witness and become acquainted with the construction of machines."

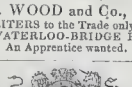
Received.—"D. G." (Chelsea), "A Londoner," "Practical Engineer," "J. R. L.," "Civis," "Country-mouse," "*Secundam Artem*," "A Subscriber," "*Utilitas*," "H. H.," "W. V. P.," "Constant Reader," "J. B." (Sherborne), "Subscriber," (Fall of Houses). "People's Journal," for November (69, Fleet-street), a work calculated to produce much good. "The Young Man's Guide in the choice of a Benefit Society," by a Suffolk Clergyman (Parker, Strand); "Patent Journal," XXV.; Novello's Edition of Haydn's "Creation," No. 1.; and Nos. 2, 3, and 4 of "The Messiah" (69, Dean-street, Soho). We cordially wish success to this and every similarly excellent attempt to render good music cheap, and extend a love of it. "A Letter to the Lords of the Admiralty on Ship Manœuvre," by Robert Foulerton; Description of Ell's "Adjustable Scaffold," "Illustrated London Almanac," "The Era of Queen Victoria the Humane," by a German Metaphysician; "The Scientific Phenomena of a Domestic Life familiarly Explained," by Chas. F. Gower, Esq. (Longman). A charming little book for young people.

TO PROVINCIAL READERS.—In reply to complaints of the irregular delivery of THE BUILDER in provincial towns, we beg leave to state that it is invariably published by seven o'clock on Friday morning, and that the irregularity complained of rests entirely with the parties through whom it is obtained.

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ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—J. M. BLASHFIELD, Agent. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

TO BRICK AND TILE MAKERS.

THE AINSLIE PATENT TILE MACHINE COMPANY (James Smith, Esq., of Deanstone, Chairman), invite attention to their improved Brick and Tile Machines, and to their new improved Patent Kilns for drying and burning Bricks and Tiles, by which a saving of from two-thirds to three-fourths of the fuel is effected, and all the articles are burnt equally without loss or damage. The Machines at work, and a model of the Kilns, to be seen, and all particulars to be obtained from Mr. JOHN PATON, Secretary, 193*a*, Piccadilly, London.—Agents wanted.

PREPARED FLOORING BOARDS.

AT REDUCED PRICES.

ALWAYS ON SALE, a Large Assortment of DRY PREPARED FLOORING BOARDS, and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ½ inch to 1½ inch thick.
TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Wilton-road, Pimlico (late C. Moore and Son), and Great Smith-street, Westminster.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, at Old-Barge-Wharf, Upper Ground-street, Blackfriars, and at Hy. Castle's, Ship-yard, Millbank-street, Westminster, a large, very general, and well-seasoned stock of all kinds of Prepared Floor and Match Boarding, planed to a parallel breadth and thickness, fit for immediate use; also a great variety of machine-prepared mouldings, very accurately finished.

A. R., in calling the attention of builders and consumers, confidently presumes on being able to supply them on such terms as will ensure and merit their favours, &c.

T. ADAMS (from Byron and Co.), late S. Dare, Mahogany, Timber, and Deal Yard, New-road, Bermondsey, near Bricklayers' Arms, has always in stock mahogany, cedar, wainscot, elm, beech, oak, &c. Pantile oak and fir laths, scaffold poles, putlogs, &c. Wheelwright's goods, veneers, cut deals and scantling of every dimension. Also a large assortment of SEASONED FLOORING, MATCH BOARDING FIT FOR immediate use, and MOULDINGS prepared by machinery, all at reduced prices.

MUIR'S PATENT  PLANING MACHINERY.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.
Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.
N.B. Estimates given for Sawing and Planing.

ZINC WORKS, 15, New-road, Fitzroy-square, London.—W. STAMPER, Manufacturer of Ornamental Conservatories, Greenhouses, Window Sashes, Sky-lights, Fan-lights, Flower Cases, &c. &c.
Zinc sash-bar mouldings, bell-wire rope, &c. &c. Perforated zinc for safes, ventilators, &c. &c. Roofs, flats, and verandahs, covered on the newest principle. Manufacturer of the improved Sliding Glass Pane Ventilator.—ZINC WORKS, 15, New-road, opposite Fitzroy-square.

HOLBORN AND FINSBURY SEWERS, MIDDLESEX.

THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persons about to Purchase or Rent Houses or Property, or take Land for Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Persons to apply for at the above Office.
By the Court,
STABLE and LUSH, Clerks.

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDDLESEX, No. 1, Greek-street, Soho-square.

TO BUILDERS and Others interested in buildings or in ground for building upon, within the district under the jurisdiction of this Court, drained by watercourses falling into the river Thames, between the city of London and the parish of Fulham.

The Commissioners hereby give notice, that by an Act of the 47th Geo. III. (chap. 7, local) it is required that, previously to the making of any new sewer in any street, lane, or public way, or in any part intended to become a street, lane, or public way, or to carry or drain off water from any house, building, yard, or ground, into any sewer under their management, or within their jurisdiction, a notice in writing shall be given to them, or to their clerk at their office, and that such new sewer or sewers shall be constructed and made in such manner and form as shall be directed by the said Commissioners, and not otherwise.

And, in order to prevent the serious evils and inconveniences that must arise from ground proposed to be built upon being excavated at too great a depth, the Commissioners have directed that, upon application being made at this office previously to the excavation of such ground, information shall be given as to the lowest depth at which the same can be drained.

And the Commissioners do also give notice that, whenever the lower floors or pavements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any sewers, or drains into sewers, to be made for the service of such buildings.

It is recommended to all persons about to purchase or take houses, or other premises, to ascertain whether such premises have separate and distinct drains into common sewers.

All petitions must be delivered at this office at least three clear days before they are presented to the commissioners; and all such petitions will be called on in the order of their application, and the name of any party not present when called on to support the application will be struck out, and the proceedings must in consequence be commenced de novo.

All communications made with any sewer without leave of the Commissioners will be cut off, and the parties making the same will subject themselves to a fine.

The provisions of the Metropolitan Buildings Act (7 and 8 Victoria, c. 84) do not supersede the authority of the Commissioners of Sewers in the above respects, but their powers are expressly reserved, and their regulations made subservient to the purposes of the Act. The execution of such works, under the superintendence of the district surveyor alone, cannot therefore warrant the making of any sewers or drains within this commission, nor relieve the parties making them from the penalties above mentioned.

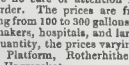
By order of the Court,
LEWIS C. HERTSLET, Clerk.

TO ARCHITECTS, BUILDERS, &c.

GAS LAMPS, GAS BRACKETS, GAS PILLARS, BURNERS, &c. &c. In calling the attention of architects, builders, &c., to their assortment of Gas Furniture in general, C. DEBAUFER and SON respectfully announce they continue to fit up premises of every description on the most approved and newest system of gas fitting. An experience of forty years justifies us in making the above assertion.—P.S. Country orders attended to with dispatch.—10 and 11, Creed-lane, St. Paul's.

FILTERED WATER.—As the rainy season produces its dirty water, JOHN DAY, proprietor of Defouville's system of filtration, the only one known by which large quantities of liquids are easily filtered, begs to announce that he continues to supply these apparatus, which are easily applied to cisterns and water-butts, and when fixed require no care or attention from servants, and never get out of order. The prices are from Two to Four Guineas, producing from 100 to 300 gallons daily; for brewers, distillers, paper makers, hospitals, and large establishments, to an unlimited quantity, the prices varying accordingly.
40, Love-lane Platform, Rotherhithe; Branch Office, 8, Jermyn-street, Haymarket.

PAVING, 2s. 9d. PER SQUARE YARD.
Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27s. 6d. per ton.



COMMISSIONERS OF FINE ARTS' REPORT ON THE MEANS OF PREVENTING DAMP IN WALLS.

THE DIRECTORS of the SEYSSEL ASPHALTE COMPANY have much pleasure in recommending to the notice of Architects, Builders, and others, the application of the ASPHALTE of SEYSSEL as the only effectual means of preventing DAMP rising in WALLS.
J. FARRELL, Secretary.
Seyssel Asphalte Company's Works,
"Claridge's Patent,"
Stangate Depôt, London.

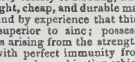
The following account of its application is extracted from "The Appendix to the Commissioners of Fine Arts' Report," page 18:—

"In 1839 I superintended the construction of a house of three stories on the Lac d'Enghien. The foundation of the house is constantly in water, about 19½ inches below the level of the ground floor. The entire horizontal surface of the external and internal walls was covered, at the level of the internal ground-floor, with a layer of SEYSSEL ASPHALTE, less than half an inch thick, over which coarse sand was spread.

"Since the above date no trace of damp has shewn itself round the walls of the lower story, which are for the most part painted in oil of a gray stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so painted, yet the pavement of the floor, resting on the soil itself, is only about 24 inches above the external surface of the soil, and only 19½ at the utmost, above that of the sheet of water.

"The layer of Asphalte having been broken and removed, for the purpose of inserting the sills of two doors, spots indicating the presence of damp have been since remarked at the base of the door-posts."

PORTER'S CORRUGATED and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanising Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway and other Iron and Smith's work Manufactured of the best quality. Iron Fence and Hurdles as usual.—The Trade Supplied.

By Her Majesty's  Royal Letters Patent.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED METAL.—This article was at first sold under the name of Galvanised Tin Plates, but the Patentees finding that the public, in some instances, overlooking the word Tin, confounded the article with Galvanised Iron, and that the character of their metal has thereby sustained injury, are desirous of giving it a name so distinctive as to prevent such mistakes, and consequent disappointment to purchasers in future. They therefore respectfully request purchasers to inquire for MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON. In order to enable the public readily and at first sight to distinguish between the two metals, it may be well to inform them, that Galvanised Iron has a plain zinc-like appearance, while M. and R.'s Patent Galvanized Tinned Iron has a smooth crystalline surface.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON, Patronized by the Admiralty and the Honourable Board of Ordnance, being extensively used in her Majesty's Dock-yards, at the Tower, and elsewhere, for every variety of Roofing, and other purposes, where a strong, light, cheap, and durable material is required.

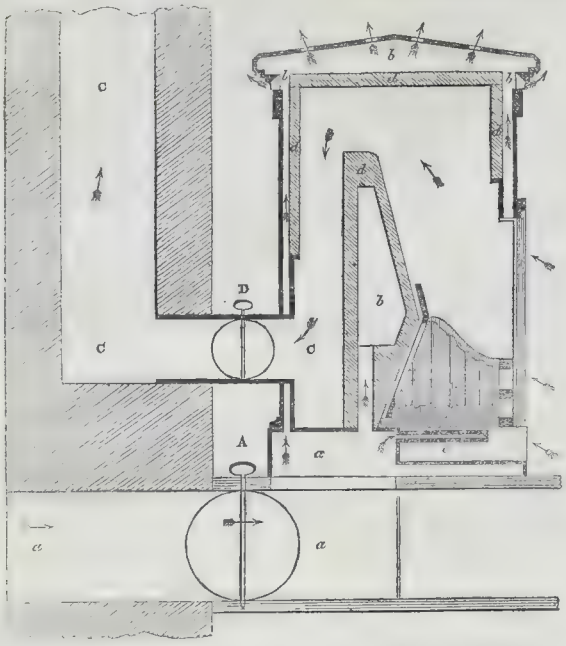
It has been found by experience that this article is beyond all comparison superior to zinc; possessing, as it does, all the advantages arising from the strength and firmness of iron, combined with perfect immunity from rust; whilst it is free from the very serious objection which applies to zinc, viz. its contraction and expansion, consequent upon every change of temperature, and from which circumstance leakage must of course result.

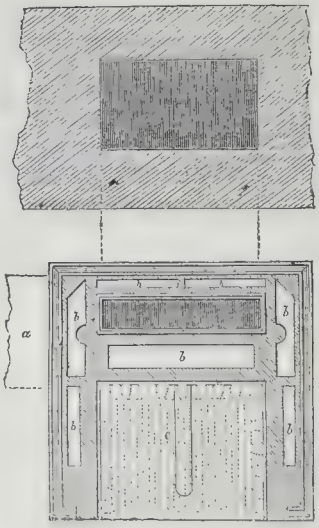
This material is not likely to be destroyed by fire, as is the case with zinc and lead, which melt and run down, thus freely admitting fresh air to the fire, and causing it to burn more fiercely. It is, therefore, obviously well adapted for all the purposes above-named, and most importantly so, when there is the possibility of fire. It is also peculiarly suitable for chimney-tops, gutters, spouting, and out-door work generally, possessing the strength of iron, without its liability to corrosion. It is by far the most economical metal roofing that can be obtained, in consequence of its strength, as it may be laid without boards, and upon the lightest rafters.

his mode of preserving metal from rust does not only apply to sheet-iron, but also to manufactured iron in any form, as bolts, nuts, hinges, nails, &c. &c.

For full Particulars apply to S. HOLLAND, 34, Gracechurch-street.

CUNDY'S PATENT IMPROVED OPEN FIRE PLACE, HOT AIR, VENTILATING STOVE.





PLAN.

Description of Diagram.

a a a a Fresh air channel, for admission of external air.
b b b b Hot air chambers (formed with artificial stone, *d d d d*) through which the air passes into the room, and is heated without being injured.
C C C The direction the smoke and vitiated air takes after it has passed through the fire and heated the artificial stone of the hot air chambers.
e Blow pipe to preserve perfect combustion placed immediately underneath the grating of fire place.
A and D are regulators.
The arrows shew the way the external fresh air is admitted, next passing through the hot-air chambers into the room, and lastly taken out of the room through the fire and up the chimney—thus completing ventilation.

This STOVE embraces the following most important principles connected with the economy of

WARMING AND VENTILATING CHURCHES,

And other Public and Private Buildings, viz.:—

HEAT by RADIATION from the Open Fire.

HEAT by CONDUCTION.—A copious and continuous stream of PURE WARM AIR is conducted into the room through the large Stove, at a regulated rate, by means of an air channel underneath the floor, communicating with the external air.

HEAT by REFLECTION.—The external casing of the Stove becoming warm, communicates its heat to the surrounding atmosphere.

VENTILATION produced by the OPEN FIRE—which will carry off the Vitiated Air through the chimney at the same rate the Pure Air is conducted into the room through the interior HEATING APPARATUS of the Stove, thereby keeping up a regular and agreeable system of Ventilation.

ECONOMY of FUEL.—This Stove, from the peculiar construction of the Fire Place, will produce a most BRILLIANT FIRE with the least possible quantity of fuel, and will continue to burn so long as any particle of coal remains.

TESTIMONIALS AFTER A WINTER'S TRIAL.

Gothic Villa, St. John's Wood, Oct. 22, 1846.

SIR,—Perhaps there are few private individuals who have had more experience in stoves than I have had; I have tried most of the newly invented ones, and rejected all but yours, two of which I have tried in my temporary church, and found them to succeed so well, that I have introduced them into All Saint's Church, St. John's Wood.

The following reasons induce me to approve of them:—Exemption of effluvia; the emission of a great body of pure warm air; the perfect system of ventilation; the sight of the fire; the consumption of vitiated air; the little attention requisite; the cleanliness connected with them; and though last, not least, the great economy of fuel.

All more I can say in favour of your stoves is, that whenever I require a stove, either for my house or church, I shall purchase your patent, and recommend all my friends to do the same.

Yours truly,
ED. THOMPSON, M.A.
Incumbent of All Saint's, St. John's Wood.

29, Charter-house-square, Monday, Feb. 17, 1846.

DEAR SIR,—The Stoves which you have recently erected in my church have been highly successful, and I have great pleasure in expressing to you the entire satisfaction which they have given to all parties. The church, which was notoriously noted for its coldness and bad ventilation, is now most agreeably warmed and well ventilated. I shall be most happy, on any occasion, to bear testimony to the excellency of your stoves; and I will endeavour, to the best of my power, to make them known, and I will certainly recommend them to my friends.

I remain, Dear Sir, yours faithfully,
JN. WM. ROGERS, St. Thomas's Charter-house.

St. Thomas's, Charter-house.

We, the undersigned, do hereby certify, that during the last three winters we suffered severely from the cold in the Church of St. Thomas's, Charter-house, although we had three large Arnott's Stoves, which consumed one sack and half of coals each day they were lit. The building was never warm; in consequence of which the congregation fell off, though we had a zealous preacher in the Rev. Dr. James. We have now two of Cundy's Patent Stoves, which consume but one cwt. of coal per day between them, and they impart to the church a comfortable heat and ventilation.

WILLIAM BUSHMAN, Verger.
THOMAS GEORGE, Beadle.

St. John's, Fulham, 2nd May, 1846.

My Dear Sir,—I have very great pleasure in giving my testimony to the efficiency of your Stove, as combining the double advantage of thoroughly warming and constantly ventilating any large church or building. Your invention appeared to me to be in theory all that could be desired; and I can honestly say, that I have not yet discovered the point in which the practice falls short of the theory.—The area of my church is computed to be nearly 200,000 cubical feet, and though a second stove will be required, the one already erected has fully answered my highest expectations, and realized all that you had given me to expect. If confirmation were needed for evidence of its efficiency, I might further state, that I had peculiar difficulties to contend with,—that various attempts had been made, and that every attempt had proved a signal failure,—that I was exposed to the charge of boldness in attempting what had baffled others; but that such is the power, the efficiency, and the comfort communicated by your Stove, that I know not of a dissentient voice, and have heard only of approval with unanimous consent.—I might add, that I was first led to the making inquiry respecting your stove, having gathered indirectly, that a disposition not unfavourable towards it was entertained in a certain high quarter, where, on account of ability of discernment, the smallest approach to approval must carry with it great weight.—I remain, Dear Sir, yours faithfully,

WILLIAM GARRATT, Minister of St. John's, Fulham.

Letter from the Rev. MATTHEW O'BRIEN, (Professor of Natural Philosophy and Astronomy), M.A., F.R.S., &c., King's College.

Upper Norwood, 22nd June, 1846.

I beg to certify that one of Mr. Cundy's Patent Stoves was put up in my lecture room at King's College, last year, in place of a common stove (of Arnott's construction, I believe). I have no hesitation in saying from actual experience, that Mr. Cundy's Stove is far superior both in producing warmth over the whole room, and in promoting ventilation, without disagreeable currents of air, or close smell.

MATTHEW O'BRIEN.

*** Since this stove was put up, four others have also been fixed, one of which is placed in the Medical Library.

Letter from Professor BRADLEY.

King's College, London, July, 1846.

SIR,—I am happy to be able to bear testimony to the efficiency of your stove, which is fixed in my lecture-room at this Institution. It seems to have all the essential requisites of a good stove, a rapid draught, freedom from all smoke, and from that smell which arises from iron, heated in contact with the air of a dwelling-room, which is entirely avoided by your arrangement.—I am, Sir, your obedient Servant,

THOMAS BRADLEY.

To be had of the Manufacturers,

MESSRS. DOWSON, 69, WELBECK-STREET, CAVENDISH-SQUARE,

Where they may be SEEN IN OPERATION, and where also may be seen an ELEGANT assortment of REGISTER and other STOVES, FENDERS, CULINARY APPARATUS, &c. &c. ARCHITECTS and BUILDERS supplied with IRON and BRASS CASTINGS, at Messrs. DOWSON'S FOUNDRY, 5, SEYMOUR-PLACE, BRYANSTON-SQUARE. Smith's Work, Gas Fittings, and all other works appertaining to a Smith and Founder, undertaken at estimated prices.

The Builder.

No. CXCIX.

SATURDAY, NOVEMBER 28, 1846.

AS it is now generally understood that there is something radically wrong in the management of the Government School of Design, we may venture to anticipate that an alteration will be made before long. We are most anxious to assist in bringing about this alteration, through no captious views, no personal likes or dislikes, but from conviction of the present inefficiency of the school, and an honest desire to see it productive of those advantages to the country which may reasonably be expected from it. This is no new cry with us. We pointed out, long ago, that things were not right there; and shewed students in rebellion, masters resigning, and the school disorganized. After that, quiet was restored, but it was not a healthy quiet. The cause of the previous disruption remained: no efforts were made to improve the system, though the disorder was forcibly kept down for a time: and the result is that, gradually acquiring force, the disease has again made itself visible. It is to be hoped this time, that the council, remembering that an eruption on the skin (wise dispensation of nature to free herself from objectionable matter), is the result of an evil, and not the evil itself,—will look deeper, and not think the cure complete till they have obtained a healthful system for the School of Design.

The efficiency of this establishment is as important to our readers, individually, as it is to any other section of the public, leaving out of the question its importance in a general point of view to all. It is to this we look for that intermediate class of artists, and artistical operatives, so much required in architectural decoration. A few statistical particulars, therefore, drawn from the fifth (last) report of the council, will not be considered uninteresting.

The amount of Parliamentary grant received for the year 1845-46 for Somerset House School was 2,286*l.*, and for annual aid to provincial schools 2,540*l.* The total amount of receipts available for the year ending April 30, 1846, was 11,089*l.* The total payments, 7,364*l.*

The estimated expenditure for current year is 5,381*l.*

The following gentlemen are the present instructors:—

Morning Classes.

Mr. Henry Le Jeune.—Drawing and Painting the Figure.

Mr. Alfred Stevens.—Drawing and Painting Ornament, Geometrical Drawing and Modelling.

Mr. John Murdoch.—Assistant Master.

Evening Classes.

Mr. Henry James Townsend.—Drawing and Painting Ornament and Modelling.

Mr. John Calcott Horsley.—Drawing and Painting the Figure.

Mr. Charles James Richardson.—Ornament and Geometrical Drawing.

Mr. John Murdoch.—Assistant Master.

In the female school, there is a superintendent, Mrs. McIan (name not mentioned in the report), and a teacher of wood-engraving.

The average monthly number of students in 1845-46, was 212,—77 *less* than in the preceding year.

The annual grants to provincial schools were.

Manchester	£350
Birmingham	350
Glasgow	350
Nottingham	150
Norwich	150
York	150
Newcastle	150
Sheffield	150
Coventry	150
Paisley (proposed) with supply of furniture and examples of art	250
Stoke and Hanley, Staffordshire Potteries, (proposed) each with outfit	150
Leeds (proposed) with outfit	80

The monthly average number of students in provincial schools, was 1,246.

The Spitalfields' school received 350*l.*

The sum of 250*l.* has been paid on account of five numbers of a long talked of drawing-book, concerning which we should like to hear more. We have an indistinct recollection of a much larger sum, paid for a similar purpose long ago, and of a pile of copies unuseable, stacked away in Somerset House.

Let us return now to the present state of affairs. Mr. J. Townsend, the master of painting in the evening classes, and Mr. C. J. Richardson, another of the evening masters, have, separately, forwarded an address to the council (as already noticed by us) calling attention to the management of the institution. The remarks in these letters, which are carefully worded to avoid personal offence, fully bear out our previous conclusions, and are made "under a sense of public duty, and under the sincere conviction that *unless some change take place in the present management of the School, the hopes excited in this country, in reference to* Design, *will receive but a very imperfect realization.*"

The chief objections urged are, that the management of the school does not embrace all those objects which ought to be aimed at in such an institution; and that the artists entrusted with the important duties of teachers do not hold a proper position.

"The present system of directorship," says Mr. Townsend, "whatever good may flow from it, is attended with inestimable injury, in the fact of its placing a barrier between the gentlemen who see the whole working of the school, viz., the masters, and the members of the council who see but little of it. The latter body is composed of gentlemen who seldom or never visit the classes, and who only occasionally attend the monthly meetings, all eminent in station, and some indeed engrossed by the absorbing duties of the state; the views, opinions, and policy, therefore, of the director for the time being, must necessarily have the most important influence,—must, in fact, mainly determine the educational and material advantages to be supplied by the establishment."

The evidence of both writers shews, that our head school of design is without a *bona fide* class of design! and that it is in fact nothing more than an ordinary drawing school.

Lectures are quite abandoned:—

"*At present* Copying *is the plan laid down*, and thus, with the exception of occasional explanations from the director and masters, the pupil is led to no higher exertion of his faculties than the desire to *imitate*. Under the lecture system, he would be led to gradually examine every part of the studies requisite for the industrial artist; and thus, armed with knowledge, his skill would be enabled to blend into appropriate combinations that poetic sentiment which may be associated with the most humble objects. Nature would then present to him, as she did to the Greeks and the Gothic architects, the source of renewed ideas and energies, through the new perceptions awakened in his mind; because the poetic fancy discovers and appropriates—(after the due education of the eye and the hand in the embodiment of ideas)—the lines of grace and the suggestions of beauty in every ivy and lichen that decorates the ruined wall, every tendril of the convolvulus, or wisp of the wild hop, that calls up a sense and feeling of elegance when looking upon a wayside hawthorn hedge. It is, indeed, in this delight of the *maker* of ornamental art that the moral effects of such education are most drawn out; while it is to the curious examination of his ideas of nature, as expressed with skill, transformed with meaning, or combined with ingenuity, that commerce owes the rising desire to *possess*, and the consequent value of the product as an object of barter."

Mr. Richardson urges the necessity of a *practical* course:—

"Our pupil should be encouraged to bring his shop patterns, the drawings he works from, no matter how dirty, provided they relate practically to his business. He should then, with the assistance the school would give, be taught to draw them again, and to mark the difference. If he has no such drawings, they should be supplied by the school: they do not require to be elaborate; a few dark lines, such as many theoretical persons would treat with contempt, are, in the early stages, of more use to the class of students with whom we have to do, than the most exquisite Italian drawings. We have silver-smiths, chasers, masons, lamp-makers, cabinet-makers, brass-founders, among the students. I need not remark upon the interest a young man would naturally feel in those matters that form his daily business; but I would ask whether his feelings of emulation would not receive an additional impulse, when he found he was in the way to elevate himself in his business, to be of more use to his employer, and to receive better wages?"

"As soon as the student has learnt the practical application of drawing to his own business, he should not only be permitted, but encouraged, to design, or draw out suitable matters connected with it."

The application of art to commerce or manufactures is actually prohibited:—

"I have never yet been permitted," says Mr. Richardson, "during the period I have been at the school, to give the slightest practical direction to the study of the pupils. I have always been instructed to make my tuition purely elementary, and have been always told that the young men must apply it as they best could to their several callings; and, for this strange reason, that were it not so, the young men would become drudges to their masters, who would reap a fortune through their acquirements. A most illogical deduction, it appears to me, that the designer should become a drudge, and the mere copyist should not.

In order to illustrate the system pursued, I would beg, my lords and gentlemen, to mention one case which occured a few months since. One of my pupils, a young man, a master ironmonger, requested me to shew him how to draw an ornamental stove front. He had been some time in the School of Design, and was a good draughtsman. I accordingly set him to work, when the director interfered, took the young man under his own tuition, placed before him an elevation of the Temple of Theseus, from Stuart, and directed him to copy it by a scale of modules and minutes. In a few evenings the young man left the school. By the same system my three classes of ornamental drawing, architecture, and perspective, lost, in the middle of the season, from ten to fifteen of the senior pupils, who would willingly have remained, had they been allowed such a course of study as could have been practically applied to their several businesses."

And yet, what says common sense and Professor Waagen on the point?—

"The inventive powers of the artist ought equally to be brought to bear on the special manufacture which he is destined hereafter to pursue: this principle is judiciously adopted in the *Gewerb* institution at Berlin; in which, after one year of general instruction in art, the pupil selects a branch of manufacture which he has chosen: unless the arts and manufactures be practically combined, the unsuccessful

aspirants after the higher branches of the arts will be infinitely multiplied, and the deficiency of manufacturing artists will not be supplied."

The masters, it appears, are not allowed the slightest opinion as to the mode of study required by each class of pupils; one common routine is marked out for all. The whole of the copies to be placed before the students are selected for the masters, and their pupils are removed from class to class even without their knowledge.

Both writers agree in urging that the masters should be brought into more immediate connection with the council.

"The master, however, is the true cultivator of the field; *he* best knows what the soil requires, and where and how to distribute the seeds; on this ground I would venture to claim for his observations, that practical appreciation which is ever due to careful reasoning on accurately noted facts. What then must the council think of a system which, while making no official call for communications of this character from the masters, appropriates, smothers, or evades the volunteer suggestions of experienced teachers?—which renders men, whose education for their peculiar purpose has been that of a life, directly amenable, in their departments, to one of avowedly less knowledge or skill therein?—which nominally places them under the control and guidance of a score of eminent men, to whom all direct access is barred, so leaving them (the masters) at the mercy of any side-wind, misconstruction, or even misrepresentation? If it can be shewn, as shewn it can be, that, night after night, the real task of directing and instructing the classes has been intrusted to the masters, it will, I doubt not, be surprising that reports have been drawn up, as representing the annual proceedings of the institution, without a word of consultation thereon with a single master of the school!"*

Mr. Redgrave, who has addressed a letter to Lord John Russell on the state of the school, dwells even more strongly, as we are given to understand, on this point, and even questions the use of the office of director. He advises that the head masters should be removed from any such direction; that they should be liberally paid, and should be sent out to examine the foreign schools, and, into our own manufacturing towns, to learn the nature of the machinery and the real wants of the native designer. He strongly advocates the use of lectures on every branch of arts and manufactures, and a periodical free exhibition of all the drawings made by the students. With regard to a class for practical design, he speaks strongly, and affirms that without it the schools must continue mere drawing schools. We understand that the memorials have been referred to a private committee of the council, and that some considerable alterations in the management of the establishment may be looked for. Certain it is, that they are *imperatively* called for, and the council will ill discharge their duty to the public if they delay making them.

The importance of cultivating taste, and improving skill in design, is made every day more evident; the value of art, in a commercial point of view, is gradually becoming apparent to all, and with it comes a feeling of the importance of efficient management in the National School of Design.

Public Abattoirs, or Slaughtering Houses.—It is proposed to form a company for the purpose of erecting slaughtering-houses on the four sides of London, contiguous to railways and established markets. Existing interests will be strong opponents; but, that the improvement contemplated by the scheme will be effected one of these days, there can be no doubt.

* Townsend.

LEAVES FROM AN ARCHITECT'S DIARY.

IV.

SUPPLY OF WATER—GREAT DEFICIENCY—BATHS—PUBLIC CONDUITS—FACILITIES—PURITY.

—Whether or not hydropathy ought to have the credit, people certainly are becoming, more and more, water drinkers. As habits of temperance increase, we shall need still more of nature's own beautiful and delightful element. Trifling occurrences shew great changes in habits and manners. Accounts from Manchester say, that drinking wells are provided in the public parks, and that the committee of the late Athenæum soirée were especially careful to afford a copious supply of pure water. In many large towns, great exertions are being made to improve the supply; in some cases it is obtained from a long distance at much expense, in others, artesian wells are sunk to great depth for the purpose. Its importance in the sanatory improvement of towns is also beginning to be felt; and a few years hence, we shall look upon the present inadequate quantity in the metropolis, as betokening strange forgetfulness of one of our most important wants. With all the advantages of improvement, as in the mechanism of filtration, and the supply to houses—if these are modern inventions—we may yet take a valuable lesson from the former masters of the world. Centuries will pass, and not efface the traces of the aqueducts of ancient Rome, which formed continual streams, not only for the domestic wants of an immense population, but for the service of numerous baths, and those very sanatory purposes, for which it is most needed amongst ourselves, but which are altogether unprovided for. It is not only the uses of water that are manifold, but it contributes to the beauties of nature and the resources of art. The swift rivulet, or the mountain torrent, in the landscape, and the fountains in the city, attest the value of the clear element, as an ingredient of the beautiful in the works of nature and of art. We underestimate those gifts of nature, which are easily obtained, and even suffer privation, and deny ourselves much pleasurable gratification. Till the time of the attempts in Trafalgar-square, fountains were never thought of, as works for the embellishment of cities.—Wine has often been a theme for poetry; why might not an Anacreon sing the praises of water. That which imparts health to the body, satisfies a want, aids in every department of science, manufactures, and domestic economy, is the highway of nations, and the universal source of motion in the machine; purifies the air, and delights the sense, which is at once the most valuable and beautiful of all nature's gifts to man, should invoke a poetic strain, worthy to float upon the wave of time.

—In some parts of Spain, say friends who have tasted melons there, when water is scarce, and would be denied, wine is plentiful, and is granted freely for the asking. Now we are so far worse off in London, that we cannot have the water, and do not get the wine. Were my chamber in Spain, I dare say I could, provided such were my "particular vanity," take a bath in wine, at some nominal outlay; here, sufficient water for a morning immersion can hardly be had "at any price." In London, a bath in every chamber would be a thing unknown before; a bath-room is quite uncommon. But a bath is just as desirable, in a room, as a wash-hand basin, and might be provided constantly, if there were a copious supply of water, or at least the option of having it, on each floor of a house. We are learning some of these things, but by very slow degrees.

—Connected with the subject, there is a matter worth thinking of, on the occasion of any attempt to improve the supply of water. In reading accounts of ancient London, we find frequent mention of the public conduits, which, if we except the works at London Bridge, erected at a late date, and not extensively useful, were the only means of supplying the wants of the inhabitants, until the completion of the New River works by Sir Hugh Middleton. Judging from the descriptions and drawings, many of them must have been very beautiful objects. They were elaborately decorated with the rich carving of the medieval artists, and were designed so that the water issued from them in jets and spouts of curious device. Many a pedestrian, in the dust and heat of summer, would be glad to stop at such a resting place; and could fountains or conduits of a similar kind be erected, they would form most pleasing features in the architecture of our streets. Whether it be, that the mind is sensible of any gratifying contrast with the toil of business, or that the motion of the water is always suggestive of beautiful impressions, certainly there are few adjuncts so desirable to the architecture of cities, and none, of which we are so unaccountably deficient.

—From the extraordinary carelessness, which has long been manifest, about providing a proper supply of water, we might almost suppose it to be unnecessary, or difficult of attainment. The last notion is the only one which it could be necessary to combat. As long as the country is blest with rivers, it is only necessary that the water should be diverted, or raised therefrom, to meet the most important object of improvements, the cleansing of sewers. Under a good plan, carried out with ordinary skill, there could be no difficulty. A supply of pure water is, of course, necessary for household purposes; and this it may be necessary to get from a distance; but the matter would be much less difficult of attainment, were the two objects considered apart from each other, as they really are. Under a proper arrangement of the sewers, with reservoirs at a sufficient elevation, supplied from the river, the whole of the metropolis could be washed out at any time, say once a day. The idea seems so simple, that many must wonder it has never been attempted; it might almost be supposed that a river did not exist in the neighbourhood, or that there was a fear of its being run dry. One thing seems certain,—this is the principle which some day or other must be carried out, and the sooner it is thought of the better.

—The difficulties about increasing the supply for ordinary purposes are themselves insignificant, though greater than in the other case. It is probable that artesian wells will be quite inadequate; and it has been stated somewhere, that water from the chalk strata is in some degree calculated to produce diseases of a serious nature. This matter of health cannot be too carefully considered, and will itself form a strong argument for incurring the expense of a supply from a distance, even when water might be obtained on the spot.—The injury which is likely to result, too, from the use of leaden cisterns, cannot be too often urged; and slate cisterns are now generally substituted. A writer in the *Athenæum* recommends, that when the leaden cistern cannot be removed, a *temporary zinc bottom* should be made to fit inside, and lay above the other, the zinc being taken out once a fortnight, and carefully cleaned. Unless the water hold certain salts in solution, which will prevent the usual result, the whole of the liberated lead, which would otherwise be taken into the human system, will be precipitated upon the zinc. For water-pipes, it is said that an inch or two of zinc, screwed on at the end, so that it can be taken off and cleaned, will be found to be effectual. But the best course is, obviously, to adopt some other material.

Care for Public Convenience in Belgium.—Although we are perfectly aware that laws and regulations look more *complete* on paper than they may be in reality, we were somewhat struck on looking over the nine *titres* and fifty-seven *articles* of the *Reglement sur les trottoirs* (regulations of footpaths), enacted and published of late, by the Lord Mayor and Common Council, at Brussels. Every thing relating to the solidity, regularity, and salubrity of public thoroughfares seems to be provided for with singular minuteness, of which we shall give our readers a specimen; selecting Titre II., Art. 16., stipulating that "*footpaths shall not be interrupted through carriage gates.*" The intervals comprised between the threshold of the carriage gate and the border of the footpath are to consist of two blocks of stone, of blue material, placed fan-like, one at the right, the other on the left side of the entrance, and transecting the footpath transversely—they shall be filled up, either by a paving in free-stone, of strong mason's work, and the surface thereof cut in oblique squares, of 10—12 centimmetres breadth each, or by a paving similar to that of the footpath; according to whether the administration will prescribe the employment of free-stone, or permit the use of common paving-stones. The edge of the border is to be rounded.

MANUFACTURE AND USE OF PLATE GLASS IN ENGLAND.

The demand for plate glass increases rapidly, and if it were reduced in price, as it might be, now that the trade is free from interference, would be much greater still. Mr. H. Howard has published a view of "Plate glass making in England in 1846, contrasted with what it was in 1827." The particulars are curious, and shew that large plates, which could not be made in 1827 for less than 10s. per foot superficial, can now be produced for something under 3s. per foot. The increase of sale which attended reduction of price is extraordinary. In 1827, plate glass sold for about (average) 12s. per foot, to the extent of about 5,000 feet per week; in 1836, from 8s. to 9s. per foot, about 7,000 feet per week; in 1844, 6s. to 7s. per foot, about 23,000 feet per week; in 1846, plate glass sells for from 5s. to 6s. per foot, about 45,000 feet per week, and is now nearly 50,000 feet per week, exclusive of foreign glass, which at these high prices is imported only to a very limited extent.

If the further reduction, pointed out by Mr. Howard, could be made, we are disposed to think, with Sir Robert Peel, "we should supply almost the whole world."

The remission of the duty on plate glass not only relieves the maker from the amount of duty, but frees him from many obnoxious restrictions, and so opens the door to many important improvements, by which great saving may be accomplished in the cost of production. This may be especially looked for in the item of coals, which now forms a much more considerable portion of the cost than may hereafter be necessary.

A new company has been provisionally registered for the manufacture of plate glass in the metropolis, where the advantage is obtained of a sand (Thames sand) excellent in quality, at a small expense.

IMPROVEMENT OF SHEET GLASS.

Mr. J. T. Chance and Mr. H. Badger have obtained a patent for improvements in the manufacture of glass. This invention relates—first, to an improved method of re-heating sheets, panes, plates, or other articles of glass, for the purposes of staining, painting, or enamelling. It has hitherto been effected by placing the sheets, or plates of glass, upon metallic shelves, in a muffle, and applying the heat externally; or by placing the articles upon the bed of a kind of reverberating kiln, which bed is either formed of stone or burned clay, and is well understood. By the first of these methods, it is difficult to keep the plates of glass from bending or becoming cockled; and in the latter, the direct action of the flame is injurious to the glass.

The first part of these improvements consists in applying the heat in such a manner, that the advantages of both the foregoing methods may be retained without their accompanying defects. In carrying out this improvement, the patentees place the articles to be re-heated in a reverberatory, on a bed, which they prefer to be of stone, and cover them with an inverted pan of sheet iron. This pan is furnished with an aperture in the top, to which is connected a tube leading to the outside of the kiln, in order to allow the escape of any vapour which may arise within the cover. The heat and flame are allowed to reverberate in the arch or roof of the kiln, and escape by the chimney, which should be furnished with a damper. In order to facilitate the working of this principle, the reverberatory kiln used is furnished with rails, to which suitable carriages are fitted, supporting the stone beds and covers on which the articles of glass are placed, and by this means more readily introduced and removed from the kiln, after which they are heated and cooled in the usual way. In order to save time, the beds and covers should be heated in another small kiln before being used in the reverberatory kiln.

Hull Glass Company.—We are requested by the chairman of this company to say, that the statements in foreign papers, respecting proceedings at the Hull Works,* are without foundation.

* See p. 545, *ante*.

RESTORATION OF COLOGNE CATHEDRAL.

We have from time to time made our readers acquainted with the progress of the restoration of this structure. A connected view of the circumstances attending it, condensed from the present number of *The Quarterly*, may nevertheless prove interesting.

"The cathedral of Cologne, after the lapse of six centuries since the first stone was laid, and nearly three and a half since the last was left, is now, as is generally known, once more advancing according to its original intention. Royal patronage has been extended—public enthusiasm excited—the original plans for portions of the building discovered—forests of scaffolding have arisen, and for four years, the silver sound of the trowel has resounded from morning till night around the old walls. Nor does it seem too visionary to expect, that the present generation will live to see the completion of one of the finest religious edifices which the world possesses."

"Without attempting to trace the history of Gothic architecture, or insisting either on the principle of practical utility, or the spirit of religious symbolism, for its real origin, we must yet remind the reader that, in the countries to which it distinctively belongs, its highest development was attained under three contemporary sovereigns of eminent talents, worth, and piety. Cologne Cathedral was founded in 1248—at the time that Frederic II. was Emperor of Germany, Henry III. King of England, and St. Louis King of France."

The Choir.—"This stupendous structure, itself 208 feet high, rises, as many of our readers have seen, out of a forest of piers and pinnacles, each attached to the building alternately by a double and fourfold row of gigantic flying buttresses, which break the bristling *chevaux de frise* of perpendicular lines, and relieve, though they amaze, the eye. Yet not placed there for any eye-service, but for the strictest use; the buttresses resisting the pressure of that enormous weight of roof, the piers weighting the ends of the buttresses, and increasing their strength; each pier a miniature church in itself, its shape that of a cross, rising into four corner spires, with one centre steeple or pinnacle; each spire and pinnacle edged at each angle by a row of crockets terminating in a finial—each crocket the *Marien Blume*, or flower of Mary, what we call the lady's slipper—each finial a rose, the emblem of mystery—whence the saying *sub rosâ;* while, from roof, and wall, and pier protrude innumerable grotesque pipe-heads—demons, dragons, monkeys, monstrosities; in the opinion of some, the fantastic creations of the architect's own imagination; according to Boisserée, imitations of the goblins and wood-demons in which the times believed; but according to the symbolist, representations of the bad spirits which the church holds without her walls, and yet compels to do her service."

"And here it may be as well to recall the precise state of incompletion in which (as some not distant generation may find it difficult to believe) the cathedral for so many centuries was left. The original intention comprehended choir and double transepts, a stately nave, with double aisles, a centre tower where nave and choir join, and two towers at the west end. The internal height of choir and nave alike, namely, 150 feet—that of the aisles and transepts 64 feet—the whole length of the building 500 feet, its width 150 feet, and the height of the towers 536 feet, which would have made them the highest in Christendom. Of this, the choir, as we have said, was finished, with a portion of the east wall of each transept. The north aisles had attained their destined height, the four great windows complete, with coloured glass in them, and seven compartments of the roof groined over. The south aisles had stopped midway, their interior piers having only reached the height of 42 feet, and the windows being arrested at the spring of the arch. The southern tower had grown up in two stories to the elevation of 170 feet. The northern tower stood like a tooth just piercing the gum—one pier partly *through* to the height of 22 feet, the rest still below the surface. Part of the façade of the northern transept was visible about 6 feet; and of such portions of both transepts, west front, and northern tower, as were not yet above the earth, the foundations were supposed to be perfect within. Thus there was a gap between choir and aisles, another between north and south tower, and a vacant space in the nave. In other words, the head was perfect, the shoulders just begun, the legs with one foot partly grown—but the whole body still wanting. For present use, therefore, temporary roofs had been thrown over the southern aisles and such compartments of the northern as had not been groined with stone. The gap between the choir and south aisles was filled up by a temporary wall; that between choir and northern aisles supplied by the intrusive Church of Sta. Maria, and a wooden screen run up between the two towers.

Thus stood, therefore, the incomplete form of an all-complete idea, from which, as from a text-book, almost every religious edifice erected contemporaneously had drawn instruction,—which had contributed to build Strasburg near, and to finish Burgos afar off, and which shews its helping influence in Freiburg, Ratisbonn, Prague, Utrecht, Amiens, Beauvais, Chalons, and numerous other foreign churches that might be mentioned, besides supplying an architect to our own York. There stood the imperfect specimen of the most perfect period of ecclesiastical Gothic—so full of thought that every detail has a meaning—so practical in adaptation that every detail has a use—so true in structure that, were the walls knocked away, it would still stand firm on it piers like a tent; and with all these causes combined, so perfect in national beauty, that Boisserée had christened it, 'the Canon of German architectural law.' And centuries passed away without knowing it to be such. Nay, far from appreciating the tenth wonder of the world that stood among them, men looked upon it with ill-will, as a monstrous mistake, which the barbarity of their forefathers had entailed upon them; an eye-sore to their city, and a drain to their pockets; and to be kept standing only to avoid the greater cost of pulling it down."

The original drawings being discovered, a feeling in favour of the restoration was induced; and, in 1824, the Government resolved to undertake the repairs in the fullest extent.

"This included every portion of the exterior, from the grandest rockwork masses of strength to the minutest lacework tracery of ornament; and a host of workmen, chiefly gathered from the city itself, were soon organised in regular squadrons and actively engaged. The roof and walls, in themselves a gigantic undertaking, were first thoroughly secured. The magnificent buttresses, which, with their flying wings, and forest of bristling piers and pinnacles, were by far the most expensive and intricate section of the work, were fourteen of them in part rebuilt, and all repaired. The stone shafts and tracery of the enormous choir windows, fifty-four feet high, which, instead of protecting, had begun to demolish the gorgeous coloured glass in them, were entirely renewed, and the glass itself, broken, maimed, and obscured with the coatings of centuries, was taken out, cleaned and mended. When the exterior had thus renewed its youth, the interior was cared for in turn. Here every damaged or failing feature, in stone, marble, or metal, passed under the healing hand of the careful workman. The walls were cleansed from every stain—new and old stone united under the same tempered colour—the gold stars in the roof twinkled again from their places—the beautiful leafy capitals lay with their golden foliage upon a scarlet ground—the figures of the apostles upon the piers, with their gorgeous brackets and canopies, revelled in the brightest hues the palette could supply; and then the coloured glass was replaced, and the light which streamed in upon the restored decencies of the holy place was richer and more glowing than it had been for ages."

"At this juncture the King of Prussia died—his present majesty ascended the throne; all favours and all grievances hastened to unfold themselves in the first sunshine of his popularity; a cry of '*Jetzt oder nie*,'—now or never—was echoed from journal to journal along the Rhine; the citizens of Cologne met together—made glowing speeches, and quoted Göethe, Schlegel, Boisserée, Walraff, and every other writer who had even alluded to the cathedral—the first outline of a *Dombau Verein*, or Cathedral-building Society, was formed; and, finally, a requisition, signed by two hundred of the most respectable citizens, reporting their wants and wishes, and imploring royal help and sanction, reached Berlin in Sep-

tember, 1840, a few days before the coronation."

The king was interested, committees were formed, and money flowed in. "In the midst of all this overflowing enthusiasm, a task requiring consummate tact and dexterity, as well as professional skill, had fallen to the share of the chief architect. His first care was to obtain the reversion of the late king's order, touching the continuation of the edifice upon a cheaper scale — chiefly at the sacrifice of the grand external buttresses. This, with the faithful help of Sulpice Boisserée, he proved to be objectionable on technical as well as on æsthetic grounds, adducing the Cathedral of Utrecht as an example; where, a similar plan of economy having been pursued, a great storm in the seventeenth century overthrew the body of the church, while the choir, supported like the Cologne one, remained uninjured. Upon such arguments, and with the feeling that all half-measures were unworthy of the cause, the board directed the words, 'that the building of the cathedral be continued according to the original intention,' to be inserted into the first article of their statutes, and obtained the royal sanction to that effect."

Many difficulties arose, and the progress was slow, but gradually much was done.

"We wish we could say any thing in favour of the fourteen statues upon the outer sides of the choir piers; the recent painting of which, though equally supported by ancient example, we cannot help feeling to be a thing that no precedent can defend. Setting aside the generally affected and unimposing character of the statues themselves, we safely appeal to the reader, what must be the effect of a stone figure, six feet and a half high, painted with black hair and beard, red cheeks and lips, and drapery in every gaudy variety of red, blue, green, and gold, the pattern carefully picked out. The province of true art is not to deceive the senses, but to please or exalt the imagination,—in a sacred building certainly the latter. The province of such art as this is to give the idea of a Chinese mandarin, and the association of a Vauxhall. Even the defence made on the score of carrying out the brilliant hues of the windows is untenable, for the effect is utterly to overpower them. One of the chief charms of painted windows is the contrast they oppose to the broad masses, the sombre lights and shades, and the dim *reflected* colouring, of the architecture surrounding them; and which is of course sacrificed the moment you cover the architecture itself with a glare of colours. The statue, in this instance, does not even keep its real size; for the vulgar brightness of the paint has brought it unduly close to the eye. We especially grudge the disfiguration of the canopies and brackets, as they are far superior as works of art. The brackets, like the capitals of the piers, are composed of foliage and fruit —the hop, the fig, the vine, &c., in exquisite form and relief; the canopies of the richest architectural delicacy, with angels upon them, playing on different musical instruments, in allusion to their position in the choir; the whole, comprising canopy, figure, and bracket, above sixteen feet high, and twelve feet from the ground. The same objections do not apply to the capitals supporting the roof. Only two colours, scarlet and gold, have been used here, and those are appropriately sobered by their distance from the eye. Traces of gilding and colour in a damask pattern were also found, reaching about twelve feet up the choir piers, one of which has been renewed in the same style by way of experiment, but pronounced unsuccessful. We sincerely hope no further essay of the kind will be made, as every stroke of a gaudy brush within the cathedral walls will only lessen the solemnity of its grand space and sublime masses, and especially mar the effect both of the fresco designs and of the coloured windows.

If we consider the immense substructure of tedious preparation required at the outset of an undertaking comprising, like this, the one general effort of a fresh foundation, and the thousand minutiæ of a precise *joining on;* the progress made in the course of four years is a satisfactory proof of the saving of time due to modern machinery, and of the efficiency of those to whom the works are intrusted. Nevertheless, to the many impatient observers who looked up daily and wondered what had become of their thalers, we can imagine that the business appeared to make but very slow way. It was therefore a satisfaction to all parties when, in May, 1845, Swirner availed himself of a society anniversary, to throw open the now perfect south aisles, from which the public had been banished for above two years. They resumed possession with great enthusiasm. A further ebullition of popular feeling took place on occasion of our Queen's visit to the Rhine, when her Majesty assisted to place a beautiful bracket in the centre arch of the north front, and left a donation of 500*l*. About the same time, the Emperor of Austria and the King of Belgium also forwarded very handsome contributions.

Since then, the progress of the building has told more. The beautiful and elaborate decorations, which had been slowly executing in the workshops, are now rapidly taking their places on the building. The fronts of both north and south transepts, with their richly perforated gables and exquisite triple arches, stand sparkling in the first brightness of newly hewn stone. The internal piers have reached their full height, and preparations for vaulting them over are begun. The failing compartments of the northern aisles are perfected, and the north tower is the centre of activity. Such is the amount of hewn stone already in hand, from the massive uniform rounds of the piers to the most intricate details of Gothic sculpture, no two of which are alike, that the *Dombaumeister* looks forward with confidence to throwing open the whole body of the building—aisles and transepts complete, and nave finished up to above the level of the clerestory windows, with a temporary roof over—by the 14th of August, 1848, when a grand celebration of the cathedral's six hundreth birthday is to take place. The final completion to the tip of the spires, with full complement of external buttresses, was not originally anticipated within less than twenty-five years; and at the pace of progress now going on, which will not abate unless the funds do, this is still expected to be fulfilled."

The sum required for the whole work is estimated at a million sterling.

THE FINE ARTS AND RELIGION.

The Rev. J. Close delivered a lecture last week at Cheltenham, to shew that literature and the fine arts were "legitimate pursuits of a religious man." (Who doubts it?) The rev. gentleman said he would plead that genius which is the parent of all those pursuits of which he spoke. Genius the parent of poetry, painting, and sculpture, is a faculty imparted from God to man; and that God never imparts a gift to man which has not a right and good intention.

There is a sheet of white paper. A person takes his pen and writes down one page and up another, and he puts this paper into the hands of his fellow man, and as he reads his tears begin to flow. He reads again—he smiles and then he weeps. What a magic power is this, and what is it that enables a man to do so; to call from the bosoms of his fellows such varied emotions as these? He trowed that there were some who would have covered that paper till Doomsday, and not have produced such results, simply because they have not genius. And look again to another sheet of white paper. Another takes a brush and daubs the whole of this paper with colours; and when, in the course of an hour or so, he shews you this paper, you burst with admiration—it is a beautiful picture. Give that brush and paper to another man, and he will daub that paper till Doomsday, and only prove that he is destitute of that genius which God has given to his fellow. And they might say the same of the sculptor. He takes a mass of stone out of the quarry. He works away; and, in the course of time, changes the mis-shapen block into a form of finished perfection that every body gazes at with delight. Here, again, is genius. And so it is with that mechanical power that produces so many musical instruments. A man runs his fingers over the keys, and entrances people with the sweetest melodies. Give the instrument to another, and what discordant sounds will he not produce? One has the genius of music, and the other has not. And his (the Rev. Lecturer's) argument was this, that God, who gives genius to the poet, painter, and sculptor, gives it for the gratification of all, and he would shew before he had done, even for the glory of God.

A WELL-INTENTIONED WORD TO RISING ARTISTS.

The exhibition of paintings at Liverpool is exceedingly good this year; and, moreover, does not include any borrowed pictures, as has been the case heretofore. The present president, Mr. Ansdell, whose large picture in the Royal Academy last season obtained well-deserved applause, has bought himself a house near London. We know of three or four artists who contemplate a similar purchase at this moment; and we mention the fact with a satisfaction that needs no explanation to those who will think upon the matter. We shall not be considered impertinent if we recommend every young artist, who has accumulated a small sum of money, to do the same thing. A man can scarcely find a better mode of investing his money than building or purchasing, under good advice, a house to live in. In this case there is no fear of a bad tenant; the return is safe and large, and stability is gained by the step.

THE MANUFACTURE OF COAL GAS.

Mr. Thomas Hedley delivered a lecture on this subject at the Mechanics' Institution, Devonport, wherein he treated at some length of the early introduction and origin of coal gas, and the merits of its first and earliest propounder, Mr. Wm. Murdock. In 1792 Mr. Murdock began his experiments, and before 1802 he had ascertained the economical value of gas. After this time, and by the year 1804, he had introduced gas into many extensive manufactories in England. In 1815 the first gasholder was erected in London. By some oversight, or neglect, it was suffered to get into a dangerous state, and an explosion took place, and the works being in a populous district great sensation arose, and Government directed an investigation to be made. The result of the inquiry was favourable to the introduction of gas, and immediately after this it began to make rapid strides in the metropolis, and by four years after it was introduced into the larger provincial towns.

The first and most important part of the gas machinery is the retort house. In this house is set a number of cast-iron vessels, heated to redness by means of furnaces underneath. Into these retorts is put the coal intended to be carbonized—the lid screwed on and hermetically sealed by means of a lute, and gas is immediately produced. These retorts are of various shapes, mostly in size from fifteen inches wide, twelve inches high, and seven to eight feet long. As the gas is made, it ascends up the rising pipes, from thence into the hydraulic main, and its return to the retort is prevented.

When gas is first eliminated, it is in a highly impure state, carrying along with it the vapour of tar, ammonia, sulphuretted hydrogen, carbonic acid, and other objectionable properties. The hydraulic main acts as the first collector of these impurities; for, by the cooling influence it yields to the red hot gas in passing through the liquid contained therein, all vaporous impurities are thrown down, and run off to a receptacle called the tar and ammoniacal cistern, placed to receive them. The gas in this state then goes to befurther cooled, which is done by means of what is called the condenser, consisting of a series of cast-iron pipes rising from chambers, in which are division plates; so that the gas is made to pass up one pipe and down another, until it has made its way through the whole series, a distance, depending on the magnitude of the works, of from 500 to 1,500, or 2,000 feet. In the chambers is deposited all the condensible vapours that escape from the hydraulic main, the condenser being so placed as to be exposed to the greatest cold; and the condensed matter is run off into a receiver placed for that purpose. The next vessel is the first of purification. This is called the washer. This vessel is filled to a certain height with common water. By means of the plate, gas is made to pass through this water, and the use of this vessel is to take from the gas the ammonia contained in it.

The next series of vessels are the purifiers, consisting of cylindrical vessels, generally three in number, and placed one above another, for the purpose of running off the contents of the upper one into the second, and the contents of the second into the lowest one. These vessels are charged with an hydrate of lime, or lime and

water in solution, first mixed in a vessel placed above the highest purifier, from which, as soon as the valve is opened, it runs, and fills up to a given height. To prevent the lime so mixed from subsiding, which it would do, there is generally a steam-engine, or other motive power, applied to keep the lime in agitation, by means of arms under a plate, and which have received the name of agitators. The lime in these vessels is used, and is well calculated for depriving, chemically, the gas of the sulphur it has imbibed from the coal, most coal possessing it to a greater or lesser extent. When gas was first introduced, the mode of purification was not known; consequently, the gas was very offensive, and useable only in open and exposed places. Latterly, however, the purification has been so much improved and attended to, that gas can, with great advantage, be introduced, and is introduced, into drawing-rooms, and even bed-rooms.

*** Much has yet to be done in the way of purification. Some of the companies, falling into habits of routine, are less careful in this respect than they should be. The metropolitan gas companies, as we have before said, need reformation.

RAILWAY JOTTINGS.

It is computed that by railway travelling, compared with the same amount of stage-coach travelling, a saving of 7,000,000*l.* to the country would have been realized in course of last year alone; but, of course, the facilities and inducements to travel, thus afforded, must have led to an actually increased expenditure, of far more than that sum, beyond what would have been exhausted by mere stage-coaching.——Major General Pasley is said to have ceased to act as the Government Inspector General. Captain Coddinton, the Deputy Inspector, is named as his probable successor.——A large, and it is said an elegant station, is to be erected at London Bridge, by the Brighton, South Coast, and South-Eastern Companies, in place of the present limited accommodation.——Application is to be made to Parliament, next session, for power to carry out the Regent Canal Railway scheme; but the waterway is to be left not only uninjured, but, it is expected, much improved. The estimate of cost by Mr. Rendell, the engineer, is 685,000*l.*, to be raised by mortgage on the canal and tolls, and by additional shares of 25*l.* each, relatively dispensed amongst the present proprietors, of whom sixty-three, representing 5,500 shares and upwards, have already acquiesced.——The London Commissioners of Sewers have granted permission to lift the pavement for laying the tubes of the electric telegraph, which is now intended to be centered exclusively in Lloyd's.——The Stowmarket station was founded on Thursday week by Mr. Revett, builder, of Stowmarket, who has obtained the contract for the erection, which is to be in the Elizabethan style, with a platform 230 feet long, and a frontage 130 feet long, facing the river. A new street is to be opened in connection with it, with a bridge over the river. Other improvements are constantly taking place at Stowmarket, which is putting on an entirely modern aspect.——The railway bridge to be erected at Yarmouth harbour is to be made of iron, on the principle of Stephenson's new Menai bridge. It will be 50 feet in width, and will be perfectly level, without any arches, although there will be seven feet allowed between it and the river. The present limited, as well as damp and unhealthy station at Nottingham, is to be rebuilt on a larger scale in the spring of next year.——Mr. S. M. Peto, contractor for the Norfolk and Cambridge line, the Southampton and Dorchester, and others in Suffolk and Cambridgeshire, is said to employ six missionaries on his works for the provision of moral and religious instruction to his men. "These missionaries visit the men from day to day. They spend the dinner hour in reading and talking to them. They distribute thousands of tracts, testaments, and other books amongst them. They teach such as are willing to read and write. They endeavour to get them to some place of worship, and preach to them; and do what they can to do them good." If such laudable zeal be tempered with discretion, much good may be done.——The contracts on the Chester and Holyhead line are in rapid progress. About 14,000 men are engaged between Chester and Conway, where 40 miles will be opened in six months, while the whole 84 miles are expected to be finished in eighteen months.——The sea, during a late gale, has done additional damage to the South Devon line, at the scene of the previous disaster, where a bare dry wall, if we recollect right, had been supposed to be sufficient to withstand the inroads of the sea, or to be sufficiently beyond reach of the lash of its waves. The former damage had been scarcely set to rights, when this new inroad was effected. The waters of the Exe estuary are said to be driven with great force, during such gales, against the wall of the railway, along the whole distance where it skirts the shore, and carried in large quantities over it, washing away the ballast from the inside, and flooding the streets of Starcross, and places adjacent. In many parts the timbers, it is added, have been left without support, while in others the whole of the concern, timbers, rails, and atmospheric pipes, have sunk into the abyss which the intruding waters had made, and put a complete stop to any further traffic, the resumption of which will be seriously delayed by the great extent and nature of the damage.——The people of Exeter are said to be involved in new railway projects to the amount of 8,000,000*l.*——The London and North-Western directors examined the tenders for making an extension of the line at Birmingham, from the present station to the centre of the town, where it is to be connected with the intended Birmingham, Wolverhampton, and Stour Valley line. There were eight tenders for the execution of the work; and that of Messrs. Brampton and Gwyther, of Birmingham, for 56,879*l.*, was accepted. The same directors have purchased 13 acres of land, at Rugby, on which to erect a new station. Fifty trains run into the present inadequate station every day.——A verdict of 300*l.* has been issued against the London and North Western Company in favour of Mr. Haywood, for injuries sustained by his wife. The Company, it is said, however, were not unwilling to compensate; only, the amount was not named by Mr. Haywood.——The contract for building the bridge over the Tweed, on the Newcastle and Berwick line, has just been let to Messrs. M'Kay and Blackstock, the contractors for a portion of the line near Belford, for 180,000*l.* The height of the bridge is to be 120 feet; and it is to consist of 27 arches, "of light and elegant structure."——A cotemporary gives the following account of the comparative extent of railway stations in France and England:—"The largest in France, the Orleans, at Paris, covers a space of 249,021 square metres. St. Lazare, at Paris, for the St. Germains, Rouen, and Versailles, covers a space of 34,700 square metres; great additions are being made. The great central station at Malines covers 130,000 square metres. The largest in England is the Bricklayers' Arms, on the London and Dover line; it covers 68,700 square metres. This station is regarded as one of the best arranged of those yet constructed. For merchandise, the most important is the Batignolles, belonging to the Rouen Company. It covers a space of 142,730 square metres. In England that of Camden-town, on the London and Birmingham line, can alone be compared to that of the Batignolles. The smallest station is that of Birmingham, which only takes up 13,500 square metres."——The sum of 80,000*l.* has been placed at the disposal of an English engineer by the King of Sardinia, for the erection of works for the construction of locomotives and steam-engines at Genoa.——M. Borsig, of Potsdam, has been engaged to construct no less than 186 locomotives in three years. Upwards of 100 have been already launched from his establishment within the last fourteen years. The proprietor has just increased the number of his workmen to 2,000.——The long-talked-of project of forming a railway from Petersburgh to Ballishport, on the Baltic, is about to be carried into execution.——A railway along the Adriatic coast is in contemplation, for the facilitation of the Indian mail through the Italian and German states.

Competition.—A premium of 15*l.* has been offered for plans, specifications, and estimates, for the erection of Framingham's Hospital, at Kings Lynn.

THE STATUE ITSELF.

Sir,—As the civil war between good taste and bad is now raging, may I be permitted to offer a few observations upon the statue of the Duke of Wellington upon the arch.

Its greatest fault is unquestionably the height of the man from the seat upwards. The Duke of Wellington never sat so high upon Copenhagen that his chin should be 12 inches above the head of his horse when erect, but so it appears. He looks either mounted on an extra saddle, or his body is too long, which latter objection I think would be found correct, if he could be dismounted and his proportions tested by the great original.

In a work of this kind, close adherence to nature should be observed; for I do not conceive that the sculptor can claim the same privilege too often caught at by our modern painters, that of sacrificing nature to effect. After ages ought to have a truthful representation of the man whose name and deeds of arms posterity will admire and wonder at.

As to the propriety of placing a statue in modern costume upon a Roman arch, we must leave this to the good sense and classic taste of those having to decide. It is undoubtedly the very worst judgment that can uphold it in its present position, to say nothing of the egregious taste of placing the statue of a man before his own door.

If it is to come down as stated, what is to become of it? Either of the parks must be its resting place, and if I may be allowed a suggestion upon this point, I would propose that the hollow at the foot of Constitution Hill be filled up within the park railing, portions of the trees removed, and a handsome opening crescent formed, level with the present road, and made to extend some way into the park, paved and surrounded with balustrading, or appropriate iron railing, the paving to be surmounted by a flight of steps and a modern pedestal of good dimensions, with its sides filled in with bas-reliefs of the principal battles of the duke.

Your now constant reader,
Secundum Artem.

Lambeth, Nov. 16, 1846.

HEALTH OF TOWNS—GOVERNMENT MEASURES.

At an interview on Friday last, between the Home Secretary (Sir George Grey), and the Chief Commissioner of Woods and Forests (Lord Morpeth), on the part of the Government, and a numerous deputation headed by Lord Ashley, on the part of the Health of Towns' Association, and accompanied by delegates from some of the provincial branches, it was elicited, that the Government are "fully alive to the importance of the subject, which has received their serious attention for some time," and that they have general measures in preparation "to be brought into Parliament early in the ensuing session." The omission of the metropolis, and Scotland and Ireland, from the general measure proposed by Lord Lincoln, was purposely made, "the different cases requiring different machinery," and properly forming the subject of separate Acts. Sir G. Grey recommended those contemplating application for local Acts to comply with the forms, but not to expend a single shilling beyond what was requisite for that purpose. The subject of graveyards is also to be dealt with by separate Act.—A local Act had been contemplated in Sunderland, and this was the advice given by Sir G. Grey to a deputation on the subject. We may here remark, that the Hull Town Council have just taken the initiative for the procurement of a local Act. On the contrary, at Ormskirk, it has been resolved to await the Government measures.

New Mosque in Cairo.—Mehemet Ali has constructed a new mosque near the citadel, which *The Times* says is the most splendid in the world. He has been engaged upon it twenty years, but avoids finishing it because a popular prophet has said that his life will end with the last stone being laid. The mosque is built of Egyptian marble, and it is really wonderful to behold, considering that it has been arranged by native architects and workmen, without any fixed plan, almost without measurement, and as it were only in imitation of other buildings of the same style.

EASTGATE HOUSE, ROCHESTER.



EASTGATE HOUSE, ROCHESTER, KENT.

Eastgate House is one of the most picturesque objects in the town of Rochester. It is situated in the high street, and overlooks the Dock-yard and Town of Chatham. The date of its erection is the latter end of the 16th century. It was built by Peter Buck, of Rochester, gentleman, clerk to the "Queenes Maiesties Navye." His arms with those of his two wives are in the decorated ceilings in the interior. The house, which is of timber frame-work, has undergone considerable alteration in its exterior. The upper part of the porch is much altered. The front had originally another prospect tower on the right corresponding with the one seen on the left. This latter tower is restored in the view to its ancient appearance. The small columns seen in the upper story remain, although externally they are covered with plaster.

The interior is nearly in its original state. There is one extremely handsome fire-place, and some richly decorated plaster ceilings. The house is now occupied as a ladies' school.

C. J. R.

ALTERATION IN COVENT GARDEN THEATRE.

It is proposed wholly to take down the audience part of the theatre, from the ceiling to the top of the walls under the pit, and including the walls under the galleries and boxes throughout their whole height, and to rebuild the latter so as to increase the size of the pit and the area between the fronts of the boxes, and from the fronts of the galleries to the proscenium. Two new stone staircases will be formed from the level of the corridor behind the ground or pit tier of boxes, to the height of the highest boxes. The floor of the pit-tier corridor will be made wholly fire-proof, and communicating with the pit itself, as well as with the pit-tier boxes on one side, and with the ground level saloon by means of a double flight of stone stairs. The grand staircase from Bow-street, and the royal and other private-box staircases on the other side of the house will remain, these being capable of assisting in the relief of the audience part of the house at all times.

Mr. Benedict Albano has the direction of the alterations.

ROMANESQUE DOOR IN THE CHURCH OF ST. URSULA, COLOGNE.

THE church of St. Ursula, at Cologne, is said to have been completed as early as the year 922, by Clinatus; but great alterations and additions have been made there since then. It is celebrated, as many of our readers doubtless remember, for containing the bones of the ten thousand virgins slaughtered, with St. Ursula, for virtue's sake!

It is said that an anatomist of the town once offered to demonstrate that the bones were those of *dogs*, and was compelled to fly to escape the wrath of the populace in consequence. With this, however, we have nothing to do.

Amongst the interesting matters this early structure does really contain, is a romanesque door, of which the above engraving is a representation.

At present, a lining of wood surrounds it, thereby covering portions of the ironwork; but this has been left out of the drawing, to shew the design complete.

There is also in this church some very fine romanesque stained-glass windows at the east end.

"Santa Maria in Capitolis," another of the many fine romanesque churches of Cologne, has, in the north doorway, a pair of splendid doors, carved with scriptural subjects, and said to have been executed as far back as the 12th century; also a pair of fine wrought-iron renaissance gates to a chapel, a brass font, and some very good stall ends.

ANCIENT AND MODERN SEPULTURE.

MR. J. R. HAMILTON, one of the architects of Cirencester Agricultural College, and who, as our readers may remember, was the successful candidate in the Birmingham Cemetery competition, has recently delivered a lecture on interment before the Gloucester Literary Association. The first portion of Mr. Hamilton's lecture gave a brief abstract of the various ancient modes of disposing of the dead, amongst both the rude and polished nations of the world. Of Rome he said:—

"The most costly tombs were henceforth placed along the roads at the several entrances of the city, in imitation of Greece and Egypt. Illustrious personages gave their names to the several localities in which they were entombed, and thus came the titles of Via Amelia, Via Lucilia, Via Julia, Via Appia, and the numerous roads which are yet seen branching like veins from the heart of the Eternal City, covered by the very flagstones which once echoed the tramp of her mighty legions, as she sent them forth to conquer the world; and though now solitary and fallen, glorious in association, and in noble keeping with the majestic solitude of her vast Campagna. The Appian way, in particular, was crowded with columns, obelisks, and cenotaphs; and on every side were to be seen the short but touching epitaphs 'Siste, Viator,' pause traveller; and 'Sit tibi terra levis,' may the earth lie lightly on thee. Up to this period none but the vestal virgins were permitted to be buried within the city; but after a time generals, who had received the honours of triumph, possessed the same right, and afterwards the priests. A distinction so flattering to vanity and self-love caused it to be eagerly sought after; and owing to the frequent revolutions which the city experienced, the subtlety of some, and the laxity of others, the abuse increased until distinction became lost in universality, and the evil became so general, that the Emperor Adrian was compelled to prohibit anew interment in cities, and Antoninus Pius afterwards included in his edict the smaller towns and suburbs of his enormous empire."

When the persecution had filled the catacombs with the bodies of the early Christians, he said,—"rich and influential patricians and Roman ladies, who had embraced the new faith, came boldly forward, and gave large tracts of lands for the exclusive purposes of burial, and hence the origin of *Cemeteries*, of which, I believe, no fewer than 40 are to be counted in the environs of Rome alone."

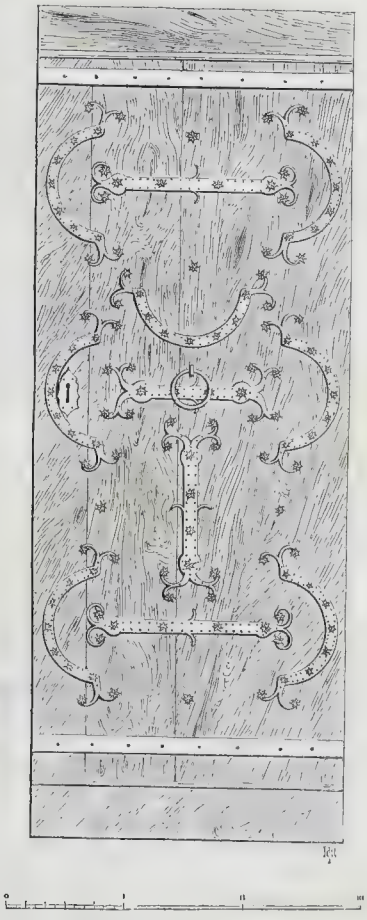
The main purpose of the lecture was to shew the advantage of extra-mural cemeteries, and the evils which result from burials in towns.

"Glasgow," said the lecturer, "boasts of its Necropolis. Dublin and Cork have also cemeteries, which are described as most beautiful and extensive. Nobody, I am sure, can visit many of those established in England of late years, such as Norwood, Abney Park, Kensall Green, Liverpool, &c., without coming away impressed with the conviction, that it is far more agreeable to our feelings to have the dear remains of those we love consigned to these retired, protected, and charming sanctuaries, than to the repulsive and uncertain keeping of a city graveyard, or to be left consuming in

'low-brow'd misty vaults,
Furred round with mouldy damps and ropy slime.'

Nor are the institutions I have mentioned the only ones worthy of notice in our own country. The danger which recent investigations have proved to arise from interments in towns has caused the establishment of many others in the united kingdom. There are two others at Glasgow, besides the Necropolis. In England, we have them at Bath, Birmingham, Bristol, Cambridge, Gravesend, Kidderminster, Leeds, Liverpool, London, Manchester, Newcastle-upon-Tyne, Norwich, Nottingham, Portsmouth, Sheffield, Winchester, Wisbeach, York, &c. But, after all, these form but an insignificant portion of the mortality of Great Britain; and, considering the immense advantages that are seen to result from these institutions, wherever they have been established—the facility of so forming them as not to interfere with existing interests—the encouragement which Government has promised to give to, if it does not proceed even to *compelling*, their formation—and the emolument that must be reaped by those who embark money in these institutions, especially if Government insists upon extra-mural interment—it is really a matter of astonishment that so many large and populous towns throughout the country should have so long submitted, and be still submitting, to the intolerable nuisance of burying dead bodies among their inhabitants. Look, for instance, at a city of such importance as ours—with a powerful established commerce—already, and becoming yearly more so, the focus of a whole system of railways—which, if free trade is to bring all the good it promises, will be one of the first to reap the advantage;—where we see corn warehouses springing up, and occupied as speedily as they rise;—where it is contemplated to expend 16,000*l.* for the enlargement of our already flourishing port;—surely such a city should at least be in a position to keep pace with its neighbours in the race of public improvement. We can boast of an infirmary which, in point of extent and usefulness, and the talent of its officers, I have frequently

DOOR AT ST. URSULA'S CHURCH, COLOGNE.



heard mentioned in London as on a footing with the metropolitan ones. If it be imperative upon us to maintain this noble institution for the cure of diseases, why should we not exert ourselves to remove one of the most fruitful sources of those diseases? If we feel it necessary to preserve the fine old churches of our city from the jaws of ruin and decay, why should our churchyards lie rotting and neglected!"

If Mr. Hamilton's well-timed lecture should have the effect of leading his townsmen to establish a public cemetery, which we hear is likely, the least they can do in return is to appoint him the architect.*

IMPROVEMENT OF THE METROPOLIS.

Sir,—I am glad to find that you have again referred to the subject of a *general scheme* for the improvement of London, and hope you will not lose sight of it—for while the so-called, but doubtful, improvements are carried on piecemeal, as at present, we can never hope for a good result.

Will you allow me to offer a few remarks on the subject, in the hopes of awakening the Londoners from their apathy, and attaining the desired end?

In order to obtain a general and complete scheme for the renovation of this immense city, and that it may be carried out effectually, the management must be entirely under *one* directing body, who must of course have the necessary funds at their disposal. The question naturally suggests itself, where are these funds to come from?

Now, the corporation have very large revenues at their disposal for this express purpose; and, as I would have all the improvement committees and commissions amalgamated into one, their funds would of course be available. But, I believe, it is generally found, that the increased value of the frontage obtained by laying out efficiently a new street, pays the expenses, so that in many cases it would be only necessary to raise money on loan, and have sufficient in hand to pay the interest—and the loans might be repaid when the street was finished, and the ground sold. But there are other improvements in which the money would be sunk; as, for instance, the removal of Middle-row, Holborn; and for such purposes it would be necessary either to levy a rate for the purpose, or that Government should vote the necessary funds. When obtained, the first step should be to make a complete plan of what is now considered "London," extending, say from Islington, on the north, to Kennington, on the south; and from Limehouse, Poplar, and Rotherhithe, on the East, to Bayswater, Kensington, and Brompton, on the west, as it now is, and then to lay down a well-digested plan as it ought to be. I must not omit to mention, that the plans should also give the levels and sections. All the numerous schemes at present afloat might thus be harmonized into one general scheme, and carried out as such.

One great feature in the case should be the bringing of all the railways nearer to the heart of the "City," which would relieve the streets of a great number of waggons and omnibuses, &c. &c.

Another should be the abolition of the tolls on all the bridges, and the Thames tunnel, and the forming of approaches for vehicles to the latter. By these means the traffic would be more equally divided amongst the bridges.

I would also wish to have included in this great undertaking, the removal of Smithfield market and the numerous slaughter-houses with which it is surrounded, to the great detriment of our health. As there is a market ready to hand at Islington, there need be no difficulty as to where to remove it to; and the present site, if let for building, would realize an immense rental. It is true some temporary inconvenience would ensue, but it would be nothing in comparison with the benefits obtained by such a course.

Not only should the plan embrace the formation of new streets, but also the removal of the numerous excrescences in the *old* streets and alleys, in the shapes of middle rows, and buildings projecting beyond the general line of frontage, &c. &c. These are also more particularly noticeable *in front of* and round about the "city" churches, where you see engine and watch-houses, vestry-rooms, and private shops and houses, disfiguring the fine old buildings left us by our ancestors, and connecting them with rows of combustible houses, so that they are liable to be burnt down at any time.

Of the advantages of a *general* scheme, I need not say much. The manner in which the railways have been carried out, sufficiently shew what we may expect from our funds being spent in a headlong manner, without any preconcerted and well-digested plan. There would be also a great saving of expense by this course, as only *one* application to Parliament would be necessary; and there would be but one staff of surveyors, &c., required to carry it out.

At present the Improvement Committee of the Corporation are obliged to stop short in their operations, when they come to the boundary of that now *small portion* of London which was originally contained within the walls of the "City." This is strongly apparent in the formation of New Farringdon-street, or Victoria-street, as I believe it is called, where, after the corporation had done their part, the line stopped for some years, and even now it seems to be progressing very slowly.

In order to bring about this desirable project, public attention must be brought to bear on the subject, and the Londoners, fully convinced of the necessity for *action in union*.

I am, Sir, &c., A Londoner.

London, Nov. 18th, 1846.

P.S.—With regard to the proposition to lay a tax on the inhabitants of London, to defray the expenses of the improvements, I think it is the most feasible plan; and then the corporation funds (*for improvements*) might be applied (as proposed to-day at the meeting of the ward of Farringdon Without) to the improvement of the "sanatory condition of the people."*

FURNITURE WOODS.

The timber sales of Messrs. Chaloner and Fleming, says the *Liverpool Mail*, have long been a source of attraction in our mercantile circles, from their magnitude, and the variety of the articles offered. Their announcement for the 30th instant and the 1st December, it adds, comprises a vast variety of woods, some of them of a very beautiful description. In the article of mahogany, their circular is diffuse in its eulogy. This trade, it is said, has, in the short space of four years, since the removal, by the Government, of all restrictions on its importation, nearly quadrupled itself. Until lately it was regarded as a rare and costly wood, applicable only to articles of luxury, few trades besides that of the cabinet-maker having had any knowledge or experience of its qualities and advantages. Now, owing to its low price and better appreciation, "it enters largely into the construction of almost every article in which wood is required; and is one of the cheapest and best materials which can be employed for the following important purposes, viz., house building, church building — pews, benches, screens, pulpits, and even roofing and flooring; ship building — for the entire frame and planking; dock and canal gates; cabinet work; carving and coach-building; machinery, and railway and other carriages. Many of our principal gentry have elegant sideboards, and other articles of furniture, magnificently carved from this wood; and it is in great request in the dockyards."

We observe that iron wood, a species of mahogany, or cedar, the produce of America, has been added to the free list; and to the stimulus thus, and in so many other similar instances, given to the business of all sorts of workers in wood, is to be added the admission of the following half dozen other sorts, namely,—Yacca, Arariba, Paroba, Algaroba, Cajoba, and Cobano; which have been also added to the free list as furniture woods.

NEW ARRANGEMENT OF WOOD-PAVEMENT.

Sir,—I feel convinced that wood paving, if firmly and properly constructed, would be superior to stone; and having, as I hope, succeeded in devising a method whereby its utility may be enjoyed, I shall be obliged if you will communicate the following remarks to your readers and the public.

There are two conditions absolutely necessary for the successful adoption of any description of pavement for roads.

1st. A foundation that will resist effectually any weight that is likely to pass over it; and

2ndly. A sure footing for the horses.

Now it is evident, that as the wheels have to support the principal weight of the load, the part which they traverse requires the greatest solidity. And it is further evident, that as it is not desirable that the horses should either slide or roll along, it is quite unnecessary that they should be provided with a smooth and perfectly even surface, like that required for the wheels. I therefore propose—

1. That the wood-paving be laid in parallel lines, of such a width and separation as may suit the differing distances of various wheels, having narrow slips of stone to preserve the edge, with a stone-paved or macadamized road between them. That two lines be laid at each side of the road, the line nearest the middle to be twice the width of the other, to enable two wheels to pass on it. If the road be wide enough, a line of double width in the middle will connect the other side, so that with five lines of wood-paving four vehicles may pass abreast. If the road should only be wide enough for three vehicles, then four lines will be sufficient. If there is room only for two vehicles, then three lines will be enough.

2. That the blocks be parallelopipeds, inclined at any angle which experience may prove to be best for equalizing the resistance of the fibre; one condition, however, being necessary, namely, that the angles of all should exactly correspond; and that the blocks incline over each other longitudinally, each having two pins at right angles with the inclined face, uniting them, by which the effect of the pressure on the top will be to keep them united. It will be seen that in this way the joints are as solid as if the blocks were one continuous log.—That the end of each line, where the block would otherwise overhang, be terminated with half a block.

3. That the foundation supporting the blocks be flat cast-iron rails, jointed at the ends, having a square longitudinal groove in the top to sink the blocks in tightly. That sleepers, as in the construction of railroads, be laid below the joints, and across the road, to connect every two lines together, having steady-pins to keep the rails in their places. That a bed of concrete, composed of blue lias lime and broken granite, be laid beneath the sleepers and rails.

Where extra strength is required, a frame may be constructed of two rails, with cross supports between them cast in one.

From the above it will be seen that a more secure foundation, and a smoother road, may be had at a much cheaper rate (if we consider its durability) than has yet been put in practice; that a better footing may be provided for the horses than any extent of grooving can produce; and that the road may be opened for gas or water-pipes, as readily as an entirely macadamized or stone paved road; and this without at all disturbing the wood.

Hoping that the importance of the subject may induce the citizens of London to give it a fair trial, and thereby shew to the world that there *is* "a good road making,"

I am, Sir, &c., J. R. Larkin.

36, Green-walk, Blackfriars-road.

* To-night, Friday, Mr. J. A. Walker will deliver the first of a series of lectures on the "Condition of the Graveyards in London; their injurious consequences to public health and public morality," at the London Mechanics' Institution, Chancery-lane.

* This was an adjourned meeting, for the purpose of "resuming the consideration of, and protesting against, the recently proposed enormous outlay of the corporation funds, in the formation of a new street, whilst the conservation of the health of the citizens generally, and of our poorer fellow-citizens especially, imperatively demands the adoption of the best means for securing such sanatory regulations as the present painful exigences of the case require." The following additional resolution was passed:—"That this meeting observes with deep concern, that the mortal registers of the last year afford evidence of a great increase of death by epidemic diseases, in the metropolis and other large towns in the kingdom, arising out of the want of those proper sanatory regulations, which it is the bounden duty of the legislature and of the local authorities to adopt, and the immediate adoption of which this meeting would most earnestly press upon the corporation of the City of London, including improved habitations for those of the labouring classes who are compelled to dwell within or contiguous to the City; and that a memorial to this effect be presented to the Court of Common Council, and that the other common councilmen of the ward be respectfully requested to give it their most strenuous support." A memorial of considerable length was read and determined on.—[Ed.]

NOTES IN THE PROVINCES.

"There has been quite a hydro-mania in Liverpool lately," says the *Liverpool Mail*. "The relative schemes of Messrs. Gage, Hawkesley, and Rawlinson, for supplying the town with abundance of water from Bala Lake, Rivington Pike, and our own locality, have been equally canvassed, and a fire has been elicited amongst the advocates which would require a good deal of water to extinguish. The committee of the council have decided in favour of the Rivington Pike plan.——The cap-stone of the spire of West Derby New Church has been fixed in its place.——The new district church of St. Mary Magdalene, Barnstaple, and its adjoining burying-ground were consecrated on the 10th instant.——The new church erected at Failsworth, near Manchester, was to be consecrated on the 26th. ——The full amount of Mr. Owen's bequest for the foundation of a college near Manchester, it is said, will be about 100,000*l*.—— A fund for the establishment of a public park at Oldham, has been opened by a contribution of 60*l*., raised amongst the workmen employed in one manufactory, namely, that of Messrs. Hibbert and Platt, machine makers. The Government two or three years since offered 1,000*l*. for the purpose so soon as a like sum should be raised by subscription or otherwise. ——St. Julian's Church, Shrewsbury, has been decorated and improved externally under the direction of Mr. Dodson, of that town.—— St. John's church, Stratford, it is said, has been much improved by the cleansing and repair which it has undergone, and especially by a stone altar-screen designed by Mr. G. A. Dean, architect of Stratford. The expense has been met chiefly by subscriptions. ——There is a prospect, says the *Bury Post*, that the bare walls of the sacrarium of St. Mary's Church will now be put into a state more consistent with church decency, and the general character of the edifice, a lady having offered to give 100*l*. for placing the commandment tablets, &c., in the accustomed place. A suitable reredos, when the painted window is put in, will probably be completed by public subscription.——It is intended to erect a building for a museum at Ipswich, 300*l*. and upwards having been subscribed. A correspondent of the *Ipswich Journal*, however, suggests that the museum itself should be purchased in the first place, so that there should be something to put into the building when it is erected.——A slaughter-house is about to be erected by the Norfolk Railway Company at their Trowse station, about a mile from the Norwich cattle-market, for the purpose of slaying the bullocks there, and supplying the London markets with slain meat instead of live cattle. This, says a correspondent, is to obviate the bruising of the beasts while in transit on the rail. Were its adoption general, the *twofold* purpose of alleviating the nuisance of Smithfield market, as well as of obviating the annoyance and cruelty attendant on the driving of the cattle there, would be effectually accomplished.——In the Scott monument, at Edinburgh, there are fifty-six niches yet to be filled with statues of the chief characters in Sir Walter's imaginative works. Up to the present time, the Scott monument has cost 15,650*l*.——Government have resolved on the construction of extensive works at Guernsey, involving an outlay, it is said, of at least 500,000*l*. The plan embraces the construction of breakwaters, to form a naval harbour between Fermain bay and Terres point, with magazines and other requisite buildings, together with barracks, in the vicinity of Fort George, for the accommodation of several thousand men, while defensive works will also be established at the Vale, and at Jethou or Brehon.

Railway Simile, by Lord Morpeth.—Cut your first sod in the dense crust which has too long overlaid the genial capacities of the soil beneath; open the waste land of selfishness, of ignorance, of error, in order that you may call forth the full development of mental progress and of moral culture; and let the free communication of knowledge, and the improving intercourse of thought, ply incessantly along those new highways which, in their advancing progress, are to bring together the wants and the attainments of the united human family.

"PROJECTIONS IN STREETS."

Sir,—The charitable incredulity of your correspondent, "T. L.," is natural enough; but it does so happen that his charity has led him into error. It was my duty to attend, as one of a civic deputation, in their conference with a member of the Government upon the subject. It was especially desired that the control over shop-fronts, within the city at least, on account of its peculiarities, should be left where the legislature had very wisely placed it, under the Commissioners of Sewers (who also manage the pavements). This was not acceded to; but still, although not so intended, they do, in law, retain and exercise their restrictive power, curbing, but not going beyond the Building Act. During the conference, it was certainly not openly avowed, but in reply to a remark (made indeed by myself) it was admitted, that they sought to get the streets widened without compensating the owners. Every objection as to the irregularity which would result from it, and the unfairness of the proceeding, had been urged over and over again, even *ad nauseam*, but the promoters of the Bill did not see as the citizens saw, and so it became law. That it should remain law much longer is little to be desired. Common sense and common honesty are in arms against it.—I am, Sir, your old subscriber,

Brickbat.

*** Another correspondent on the same subject says:—Ground being so valuable in London, especially in the city, a person desirous of building, rather than lose eighteen or twenty inches of that for which he has paid so dearly, would dispense with all external embellishment; and we might bid adieu to street architecture. But I contend, if even this be not the case, there would still be another evil result, namely, that those houses which, from their possessing architectural projections, one would think would be the handsomest and most sightly, and as such would deserve a front situation, would be thrust back, whilst those which had plain fronts, and as such were not worthy of a prominent situation, would be brought forward, to the injury of the former. L. H. I.

ANGLO-NORMAN CHURCH AT MORPETH, DURHAM.

A new church, or chapel of ease, of considerable size, in the parish of St. James the Great, was consecrated at the beginning of the month. It is built in the Norman style, exceedingly massive and substantial, with little ornament. Its length from east to west is about 130 feet; its breadth about 46 feet, and it is capable of seating about 1,000 persons. The roof is open framed, and composed of Memel fir timber stained; the seats are of the same material, and are all open. In the nave are eight stone clustered pillars. The roof of the chancel is supported by interlaced arches; and on its north and south sides are small galleries for children, reached by spiral staircases. There are chancel aisles, with stone screens; and the reredos and the pulpit are also of stone. The chancel and apse are paved with encaustic pavement. Nine stained windows in the apse were from the manufactory of Mr. Wailes, Newcastle, and represent Christ and the principal of his apostles. Five other stained windows have been produced by Mr. Clutterbuck, Stratford, Essex; two in the north transept represent the Crucifixion and the taking down of our Saviour from the cross; two in the west end, the transfiguration and the agony; the fifth, in one of the chancel aisles, represents the beheading of St. James, and Peter in prison. The ground was given jointly by the Earl of Carlisle and the late Mrs. John Fenwick. The foundation-stone was laid on St. James's day, 1844, and the total cost is estimated at about 5,000*l*. The stone employed has been brought from Hartford-bridge, in the county. The architect is Mr. Ferrey; contractor for the stone work, Mr. King, Morpeth; and for the wood work, Mr. Haswell, Morpeth. Clerk of the works, Mr. Burrow.

New Schools, Westminster.—The dean and chapter have liberally granted a piece of land in Little Chapel-street for schools in connection with Christ Church, Broadway.

New Books.

Railways for the Many and not for the Few. By James Ward, Esq. Smith and Elder, Cornhill. 1846. 34 pp.

The main point urged in this pamphlet is, that shares should be lowered in amount; on the ground that "it would keep the market in a healthy state; advance the progress of the system, by bringing to it the aid of capital which is available now to no other process in the production of wealth; promote economy and industry among the humbler classes, by affording a profitable field for the investment of their savings; and diffuse amongst the nation at large the beneficial interest of the grand economical invention of the day, which, as already pointed out, the commonwealth should never have abandoned to the few."

The enormous expense of construction is very properly commented on, as well as the more extraordinary expense of legislation. "It will hardly be believed hereafter, that Mr. Astell and Mr. Hudson have spent more than 750,000*l*. in struggling for the London and York, a length of not more than two or three hundred miles!"

The average cost of railways in England, the writer says, is 35,000*l*., while in Belgium it has been but 16,000*l*.

The London Art-Union Annual. Sprigg, Great Russell-street. 1846.

The second volume of this work, just now published, contains representations, sketched and engraved by Mr. H. Melville, of 265 works of art, selected by prizeholders in the Art-Union of London, and forms a very interesting record of the annual exhibition. With a little more care it would, in addition to this, which of itself must obtain for it a large number of purchasers, be entitled to a strong recommendation as a book for every drawing-room table.

Correspondence.

FAILURE OF WORKS.

Sir,—Continuing the "following up" by which you have so probingly exposed many of the sources to which the failure of railway works may be attributed, permit an old and practiced engineer to point your attention to another circumstance, which may be "the fruitful parent" of many of the mishaps that we now so frequently hear of. I allude to crowding the profession with young and inexperienced hands, whom the more advanced are glad to take into their draughting rooms for the sake of their premiums, and after a year or two's attendance, with or without application to work, as the case may be, are turned loose upon the world as civil engineers, without examination, perhaps without ability, at all events without any experience.

I submit to you that in every other profession — the church, the law, and medicine, all are obliged to pass severe examinations on their respective studies, before they are allowed to add the respectability of a title or a degree to their names, as an evidence to the world of the opinion of competent persons as to their ability; and I trust you will agree with me that until some plan has been devised, by which civil engineers may give to the public some guarantees that they are not entirely strangers to engineering requirements, the profession will never attain that standing and eminence which it ought to hold, nor the public that safety and security which it has a right to demand in all engineering undertakings.

I am, Sir, &c.,

A Practical Engineer.

Old Slaughter's Coffee-house.

GOVERNMENT WORK ON ARCHITECTURE.

Sir,—Having lately met with the very extraordinary volume mentioned below, and of which I believe scarcely a dozen copies have been distributed, I am desirous of ascertaining its history; for it seems among the mysteries of government, that a volume of such a size, on such a subject, and necessarily involving such a large expenditure, should be printed for the purpose of being shut up in a private office.

That "secret service money" may be secretly and imprudently applied, is not surprising, but

that *public money* should be wantonly and uselessly expended, demands the investigation and scrutiny of a Hume or a Williams.

If any of your readers can give me and the public any account of the origin and history of the work referred to, they will render useful service. The title-page is as follows:—"The Architectural Antiquities of the Collegiate Chapel of St. Stephen, Westminster, the late House of Commons: drawn from actual Survey and Admeasurements made by direction of the Commissioners of Her Majesty's Woods and Works, &c., accompanied by Observations on the original and perfect state of the Building, and a Description of the Plates. By Frederick Mackenzie. London: Weale, 1844." Large folio (size of page, 31 inches by 26), 42 pp., 19 plates.—I am, Sir, &c.

A Lover of Architecture.

St. James's Church.

Mr. Builder,—I want to see the exterior of Sir Christopher Wren's church brightened up, to remove its present dingy appearance, which will be much increased by the new rectory now in course of building. The parish might surely improve the appearance of the brickwork, and do good by cleaning the stone stringings and dressings, adding others, and, by surmounting the walls with a stone balustrade, which would add much to its effect, and would also be in keeping with the square tower. Poor old Westminster Bridge might, perhaps, furnish these stone balustrades at a cheap rate. Would not the steeple be much better for a coat or two of paint, seeing that all the other parts of the building have received their good looks from the painter.—I am, Sir, &c.,

London, Nov. 22, 1846. Cob-Web.

Improvement of Taunton.

Sir,—As you have occasionally mentioned the attempts that have been made to "*improve the town of Taunton*," I beg to inform you what efforts have been exerted to attain that object, and how they have miserably and unfortunately failed,—for the present, at least. The scheme adopted was comprehensive in the highest degree, and worthy of a better fate.

A *commission* was to be appointed, and empowered by Act of Parliament to carry it out, and rates levied to defray the expenses. Some of the requisite notices had actually been given, in order to apply to Parliament next session, for an "Act" to carry out the plan, when, strange to say, the promoters of the scheme quarrelled, and at a meeting last week, a motion was carried to abandon the proposal altogether.

Such a course seems both absurd and unjustifiable.—I am, Sir, &c.,

A Looker-On.

London, Nov. 23rd, 1846.

"Athletizing" of the Working Classes.—We use this novel expression to point out the difference between mere *exercise*, hitherto recommended to our youth, and the consequential and *systematic* development of the *whole* physical frame, which are two different things, indeed. The truth thereof begins so much to be appreciated on the continent, that the government of Hesse Darmstadt have issued an especial regulation thereon. It states—that henceforth the athletic schools (*Turn-schulen*) already existing at all educational establishments, have to enter into the category of *ordinary training*, and take their rank as one of the legally prescribed branches of youth's tuition. Moreover this, in several places on the Maine, the male youth have united themselves into *athletic societies*, with a detailed set of rules and regulations. Some of them also take a pledge, "to grow themselves up to proud and manly vigour." It may be interesting to observe, that when Dr. Jahn first established these public play and athletic grounds in Prussia, he was indicted for high treason, and put into a fortress!

Supply of Water to London.—An application is to be made to Parliament in the ensuing session, for an Act for better supplying the metropolis with water, from the river Thames, at Taplow, in Buckinghamshire, by means of reservoirs, aqueducts, pipes, &c., to terminate near the Swiss Cottage, at Hampstead.

TENDER.

Tenders delivered on the 13th inst., for erecting three houses at Liverpool; Mr. J. G. Austin, architect. The quantities were furnished:—

Furness and Kilpin	£3,275
Jones	3,194
Witter	2,956
Mackerell	2,912
Leader	2,797

All Liverpool builders. The lowest tender accepted.

Miscellanea.

St. Paul's Church, Denholme Gate.—On Friday the 20th, the Bishop of Ripon consecrated this fabric. The church consists of nave, side aisles, and chancel, and is open internally from end to end, there being no rood screen at the chancel arch, and the base of the spire being filled with a gallery, which also projects one arch into the nave, and is the only gallery in the church. The aisles are separated from the nave by seven arches, on clustered pillars, above which there is a clerestory, with double lights above the apex of each arch, the groining of the roof springing from the spaces between. The seats are all low backed, having poppy heads at the ends nearest the middle aisle. The reading-desk and pulpit are placed at each side of the chancel arch, and the chancel, which is raised from the nave by three steps, is paved in diamonds, black and white. The east window, of stained glass, is a triple lancet, the two side lights containing each two passages, and the centre light three, illustrative of the life of St. Paul, the patron saint. The church was designed by Mr. Chantrell, of Leeds, and contains upwards of 600 seats.

Pedimental Sculpture of St. George's Hall, Liverpool.—Two of the Liverpool artists, Mr. Spence and Mr. Macbride, are vehemently protesting against the refusal of the town-council to "allow them to send in designs or models of sculpture entirely at their own cost;" the council having refused on the ground of its being "too late to think of the matter." Reverting to the procurement of the designs themselves, they then appeal to their "townsmen generally, every professed man of taste, every merchant, trader, shop-keeper, and all,"—against the "entire disregard of competition," as not "the fair way of appropriating the funds of the town." But in this, exclusive of "the encouragement of art," they suppress the fact, that the town-council, in accepting Professor Cockerell's designs, were not "appropriating the funds of the town" at all; but, on the contrary, were saving those very funds which would have been expended in a competition for designs. Irrespective altogether of the general merits of this particular case, this is not exactly as it ought to be, especially where profession is being made of "explaining to the townsmen *the whole matter*, from first to last, *and in a simple way*."

The Destruction of Buildings at Gravesend—again urges into notice the necessity for the adoption of stringent measures for the more effectual protection of buildings against fire. In the present instance, we may observe, the party-walls were in various cases plainly dilapidated. It is a humiliating fact, too, as regards human foresight, and capability of benefiting by dire experience, that the principal portion of the houses that were erected on the site of the former fire in West-street are again consumed. It is some consolation to know, however (if, indeed, it comes to any thing after all), that "a meeting of the corporation was held on Wednesday last, to devise measures for the future protection of the borough against the occurrence of similar calamities." It is time to shut the stable securely now that the steed has been twice stolen out of it. The amount of loss by the late fire is estimated at 100,000*l*. Another has even since occurred at Gravesend, and one at Southampton.

Institute of British Architects.—At an ordinary meeting of the Institute, held on the 16th inst., a paper was read by Mr. C. Newton, of the British Museum, on the art of the marbles from Halicarnassus, and their connection with the celebrated sepulchre of Mausolus. We shall give it in full.

Decoration of the Chambers of the French Peers.—We learn from the *Morning Herald*, that M. Eugène Delacroix has just finished the paintings in the grand library of the Chamber of Peers, and that the scaffolding is removed. The subject of the composition is the introduction of Dante by Virgil to the heroes and sages of Paganism, in the "Divina Commedia." It is not a mural fresco, but a painting in oil, on pieces of canvas, which are afterwards joined to each other, and affixed to the wall. This great work is composed of four groups, united by episodial personages. The first is that of the poets. Homer, leaning on the sceptre of the pastor kings of the Iliad, presides at this solemn presentation. Behind him are Horace, Lucan, and Ovid, who show great eagerness to get a sight of Dante. The group of illustrious Greeks crowds upon the left of the poets. Alexander, Aristotle, Apelles, Socrates, and Alcibiades, are prominent; and the capital figure of the group is Aspasia, who stands erect, with her head gracefully inclined towards her shoulder, and her person enveloped in drapery of great elegance. The group of Romans, composed of Cincinnatus, Cato, and Marcus Aurelius, is opposite the last, and is equally fine.

Operative House-Painters' Association.—Endeavours are being made to associate the operative house-painters for mutual instruction and protection. There are several points in the address, which has been sent to us, that have our cordial support (the importance of establishing a library, acquiring information, increasing self-respect, and obtaining a place to meet in "*away from public-houses*"); but we must see the objects and plan of proceedings more clearly defined, before we say more. The last-named point is of vital importance: thousands are ruined through benefit clubs, and other associations for the operative, being held at public-houses.

Destruction of Weeds in Paved Yards and Courts.—The growth of weeds between the stones of a pavement is often very injurious as well as unsightly. The following method of destroying them is adopted at the Mint at Paris and elsewhere, with good effect:—One hundred pounds of water, twenty pounds of quicklime, and two pounds of flour of sulphur, are to be boiled in an iron vessel. The liquor is to be allowed to settle, the clear part drawn off, and being more or less diluted, according to circumstances, is to be used for watering the alleys and pavements. The weeds will not re-appear for several years.

Mediæval Architects.—According to the *Moniteur des Arts*, an accident has led to the discovery of the name, hitherto unknown, of the architect by whom the magnificent Hôtel de Ville of Louvain was erected. "He was, it seems, a certain Matthews de Layens; a master mason of the town, who for nearly thirty years had handled the trowel for the magistrates, at the rate of four sous per day in summer, and less than three in the winter time." Such of our readers as have visited Louvain, will remember that the ancient drawing of the west front of the cathedral is preserved in the Town-hall. It is executed on vellum, 9 feet high, and 2 feet 9 inches wide.

Father Mathew's Tower at Mountpatrick.—A lofty double tower erected at Mountpatrick, by Mr. W. O'Connor, in commemoration of the reception of Father Mathew by the Londoners, in 1843, was opened publicly on the 9th inst. It is 100 feet high, and the principal apartment in it is 16 feet in diameter. The style adopted is Gothic, and the cost must have been considerable. Judging from two views of it, however, in the *Illustrated London News*, we cannot say much for the art in it. Besides a bust of the reverend gentleman, by Hogan, there is a stone statue of him on a pedestal of rock-work, at a short distance from the tower.

Fall of Party-wall in Rathbone-place.—Statements have been made to us to the effect, that want of care and right directions led to the slip of the party-wall in Rathbone-place. The matter is now before the referees, and we therefore withhold any remarks upon it.

Breakwater at Brighton.—The Chain Pier Company are about to construct a fixed breakwater at the south end of the pier, to facilitate the embarking and disembarking of passengers. It is designed by Sir Samuel Brown.

STREET LAMPS.—Sir: Might not an important improvement be effected, in the lighting of our streets, if the angular upper part of our gas lamps were made of looking-glass, or of some other reflecting surface, by which the light might be thrown down, instead of being wasted upwards as at present.—J. RODE.

NOTICES OF CONTRACTS, &c.

THE authorities of the Stamp Office having given us notice to discontinue the insertion of our list of contracts, &c., excepting as advertisements, we, in deference to their wishes, omit them for the present, but have taken steps to place the facts of the case properly before them, and, as we hope, remove their objections. In the meantime a list may be seen at our office.

TO CORRESPONDENTS.

"*External Colouring for Old Buildings.*"—Mode of making a permanent colouring seems a desideratum.

"*A Lady.*"—The term "properly throated" (not a common expression), would imply properly gathering in the square mouth of the flue, to prevent the smoke from hanging there.

"*W. L.*"—No license is necessary for a measurer of land. A license to value may be obtained at Somerset House.

"*Polytechnic.*"—The *Revue Generale de l'Architecture*, &c., was a periodical work, and has not been translated as a whole.

"*A. J. G.*"—Thanks.

"*H. Morrell*"—shall have our opinion when we have tried them.

"*Sussenach.*"—Apply to the director, Mr. Wilson.

"*Constant Reader.*"—We cannot assist him in finding work abroad.

"*H. L.*"—We have lost sight of the party named.

"*W. V.*"—Mr. B. is liable for the fees.

"*Fall of Houses, Brompton.*"—We cannot insert *anonymous* abuse.

"*I. B. C.*"—Write to Mr. Wright, Hanwell Brickfield.

"*R. S.*"—We shall be happy to look at the drawings if left for us, and will return them safely.

"*Architectural Chemistry.*"—The lectures were not published.

"*R. A. H.*"—"A window lighting a room from a staircase skylight," is liable for duty.

Received.—"X. Z. X.," "Plumbago," "Ponto," "A Subscriber," "Amateur," "E. H. M.," "J. G. Swindell," "L. H. L.," "Literary and Scientific Register and Almanac" for 1847. By Mr. Gutch (Longman). Silcock's Metallic Plane. Invitation to Mrs. Severn's Concert, to take place on the 3rd December.

"*Books and Addresses.*"—We have not time to point out books or find addresses.

ERRATUM.—The illustration of Sicilian Architecture, in the last number, should have been headed "Doorway at LABADIA in GIRGENTI," instead of Lagabia, Gargenti.

TO PROVINCIAL READERS.—In reply to complaints of the irregular delivery of THE BUILDER in provincial towns, we beg leave to state that it is invariably published by seven o'clock on Friday morning; and that the irregularity complained of rests entirely with the parties through whom it is obtained.

ADVERTISEMENTS.

ROYAL POLYTECHNIC INTSTITUTION. By Permission.—Professor SCHONBEIN'S GUN COTTON, differing from all other specimens recently before the Public, is lectured on, with other Explosive Compounds, by Dr. Ryan, daily at half-past Three, and on the Evenings of Mondays, Wednesdays, and Fridays. The principal of the Electric Telegraph demonstrated by Professor Buchhoffner. The Oxyhydrogen and Opaque Microscopes, the Physioscope, Diving Experiments, the Dissolving Views, by Charles Smith, &c., &c.—Admission, 1s.; Schools, Half-price.

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4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s.
1	2	3	4	5	6

Every description of Ironmongery equally low.

WORCESTER ENCAUSTIC TILES. Specimens of these beautiful Tiles in all their Varieties, may be seen and information obtained at the London Agents, Messrs. GRIEVE and GRELLIER, Marble-wharf, Belvidere-road, Waterloo-bridge, or at the Encaustic Tile Works, of Messrs. F. ST. JOHN G. BARR, and Co., Worcester.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—J. M. BLASHFIELD, Agent. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

TO BRICK AND TILE MAKERS.

THE AINSLIE PATENT TILE MACHINE COMPANY (James Smith, Esq., of Deanstone, Chairman), invite attention to their improved Brick and Tile Machines, and to their new improved Patent Kilns for drying and burning Bricks and Tiles, by which a saving of from two-thirds to three-fourths of the fuel is effected, and all the articles are burnt equally without loss or damage. The Machines at work, and a model of the Kilns, to be seen, and all particulars to be obtained from Mr. JOHN PATON, Secretary, 193a, Piccadilly, London.—Agents wanted.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c., of 100 sorts and sizes.—The Public is respectfully informed, that Mr. PEAKE has removed his Depot from Whitefriars to No. 4 WHARF, MACCLESFIELD-STREET, South, City Basin, London, where a large Stock is on Sale of genuine Terro-Metallic Goods. No Agent. Roofing in Grecian and Italian styles, other devices also, or plain; ridges and hips, with plain or capped joints, roll tops, or vertical ornaments; paving, in 6 in., 7½ in., and 9 in. blue and red squares, in 6 in. blue and red hexagons, and in 8 in. blue octagons, with 3 in. drab squares. Drains, many sizes, with butt or socket joints; conduits, which will not injure pure water; tubular and other flues, of proper material; channels, large clinker bricks, and outdoor paving; sundry wall-coping, fire bricks and tiles, garden-edging, chimney-tops, &c. The Tileries, Burnstall, Staffordshire, are near the centre of England, whence boats are sent to any inland place, or to the Mersey, for the coasts, the colonies, and elsewhere. A Wharf at Whitefriars to be Let for a term.

LIGHTNING CONDUCTORS FOR BUILDINGS.

A. SMITH'S PATENT COPPER WIRE ROPE is being daily employed for the protection of CHURCHES and other buildings from the effects of thunder storms; it possesses important advantages over other forms of conductors. References can be given where it has been applied for some time past to CHURCHES, PUBLIC and PRIVATE BUILDINGS, &c., &c. Its general adoption in the Naval and Mercantile Marine of this and other countries is the strongest possible EVIDENCE of its EFFICIENCY, &c.

A. SMITH begs the attention of those engaged in building to his IMPROVED PATENT PANELLED AND REVOLVING IRON SHUTTERS,—Also, the Patent Weather-tight Fastening and Gill Bar, for French Casements, which are so much admired for their security, simplicity, cheapness, and efficiency. Of the merits of his

Patent Double and Single Action Door Springs,
Improved Flooring Cramps,
Patent Wire Sash Lines, &c. &c.,

Little need be said, as they are pretty generally known and appreciated.

Manufactory for Iron Suspension, Sliding, and other Doors, Strong Rooms, Plain and Ornamental Palisading, Gates, and Columns.—Also, Metal Sashes, Shop-fronts, Stall-board Plates, Brass butt, and other Hinges. Buildings heated upon a new, safe, and superior plan.

Estimates given for every description of Metal-work.
A. SMITH, 69, Princes-street, Leicester-square, London.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.—Patent Panelled Iron Safety Shutters. PATENT OUTSIDE SHUTTER BLINDS.—PATENT CORRUGATED WINDOW BLINDS

The attention of Architects, Builders, and Blind Makers is requested to the IMPORTANT PATENTED IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD & Co. 115, Old Street, London.



The great importance of strength and stiffness in the Laths of REVOLVING IRON SHUTTERS, when required for security, is so obvious, that it is only necessary to point out the fact, that the Patent Convex Laths are twelve times stronger than the ordinary flat Laths (as shewn by the engravings and description), to insure their general adoption.

The Patentees invite attention to their greatly improved Gearing for Raising and Lowering their patent Shutters, which, possessing all the advantages of the endless screw (worm and wheel), cannot, even by wear, be liable to run down, and entirely avoids the necessity of using the ratchet wheel; it is at once simple and THOROUGHLY EFFECTIVE, and is SAFER and MORE DURABLE than any plan yet adopted for that purpose, thus rendering their patent Revolving Shutters the SAFEST and MOST EFFICIENT in use. These Shutters are fixed horizontally (either above or below the window or door), or vertically, for which position the great additional strength of the Convex Laths renders them peculiarly suitable.

REVOLVING IRON SHUTTERS, MADE OF THE COMMON FLAT LATHS, at a considerable reduction of price.

CAUTION.—The Patentees beg to caution all persons against Making or Using BENT or CONVEX LATHS for REVOLVING IRON SAFETY SHUTTERS (whether winding horizontally or vertically), so as to obtain increased strength and stiffness, as they thereby render themselves liable to legal proceedings for infringing this patent.

Engravings and Prospectuses will be forwarded on application.

DRAWN METALLIC SASH BARS, ASTRIGALS, MOULDINGS, STALL BOARD PLATES, &c.

Patentees and Manufacturers, R. HOWARD and Co., London.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS.

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee having fixed a great number of his shutters in London, and given universal satisfaction, can confidently recommend them both for security and durability, the edges being sheathed with Iron. Their construction is so simple that the largest establishment can be opened or closed with the greatest possible ease without the use of machinery. Their superiority over other revolving shutters consists in their great strength and stiffness, being without metal hinges, consequently cannot rust, buckle, be strained, or get out of order, and are safer. Persons dissatisfied with the patent rising gear now used for iron shutters can have it removed, and the shutters made to draw up in any part of the premises with the slightest exertion, without machinery, thereby avoiding the unpleasant use of oil.

INJUNCTION.

BUNNETT and CORPE'S Patent REVOLVING IRON SHUTTERS.—Since the verdict found in favour of the Patentees, in the Court of Exchequer, in the action tried by order of the Court of Chancery, that Court has granted a perpetual Injunction for restraining all infringements of this Patent, and therefore all parties are hereby cautioned against infringing the same.

THE PRICES ARE GREATLY REDUCED, and BUNNETT AND CORPE'S PATENT IRON SHUTTERS ARE THE CHEAPEST AS WELL AS THE BEST. They are made with convex laths, if required. The worm and wheel motion for raising and lowering revolving iron shutters (as secured by this Patent) is the only safe and durable mode of effecting that object. In large shutters it is indispensable.

Some thousands of Bunnett and Corpe's Shutters have now been put up, without a single complaint of their want of strength or security; and nine years' practical experience (during which they have adopted every real improvement) enables the Patentees to challenge comparison with any others. They will guarantee all Shutters put up by them to keep in order, and last twice as long as any with thin convex laths.

B. and C. also manufacture REVOLVING WOOD SHUTTERS (the Patent for which has expired), at the same prices as other makers, but greatly superior, being fitted with their patent raising gear, and proper metallic hinges, without which no shutter can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop-fronts fitted with Iron Shutters, Patent Brass or Zinc Sashes, Plain or ornamental, handsomely Engraved, Moulded, Stall-board Plates, best Plate Glass, and Internal Brass Fittings of all kinds, superior in quality and workmanship, and lower in price than any other house.

Contracts taken in Town or Country.

Metal Drawing and Stamping for the Trade.

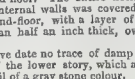
Office at No. 26, Lombard-street, London; Works, at Deptford, Kent.

Steam-engines, Sawing, Planing, and Moulding, Cutting-machines on Improved Plans, especially adapted for Builders' purposes, may be seen in operation at the Works.

TO ARCHITECTS, BUILDERS, AND THE PUBLIC IN GENERAL.

GEORGE JENNINGS, of 29, GREAT CHARLOTTE STREET, BLACKFRIARS ROAD, begs to call the attention of Architects, Builders, &c., to his REGISTERED FASTENING for SHOP SHUTTERS, &c., which entirely supersedes the use of shutter-bars. Thereby effecting a great saving of labour, as by the old method, the bar has to pass through the hands of some one upwards of six hundred times in twelve months, which tends to deface the whole front more or less every time the bar is put up or removed. The fastening is secret, simple, and sure, in its action, and can be affixed to any shop-front in two hours, without any alteration to the shutters. New fronts fitted at a less expense than a shutter-bar would amount to. A liberal allowance to the trade, and any further information may be obtained by inclosing a postage stamp to the above address.—A Model may be seen at the office of "The Builder."

PAVING, 2s. 9d. PER SQUARE YARD. Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27s. 6d. per ton.



COMMISSIONERS OF FINE ARTS' REPORT ON THE MEANS OF PREVENTING DAMP IN WALLS.

THE DIRECTORS of the SEYSSEL ASPHALTE COMPANY have much pleasure in recommending to the notice of Architects, Builders, and others, the application of the ASPHALTE of SEYSSEL as the only effectual means of preventing DAMP rising in WALLS. J. FARRELL, Secretary.

Seyssel Asphalte Company's Works,
"Claridge's Patent."
Stangate Depôt, London.

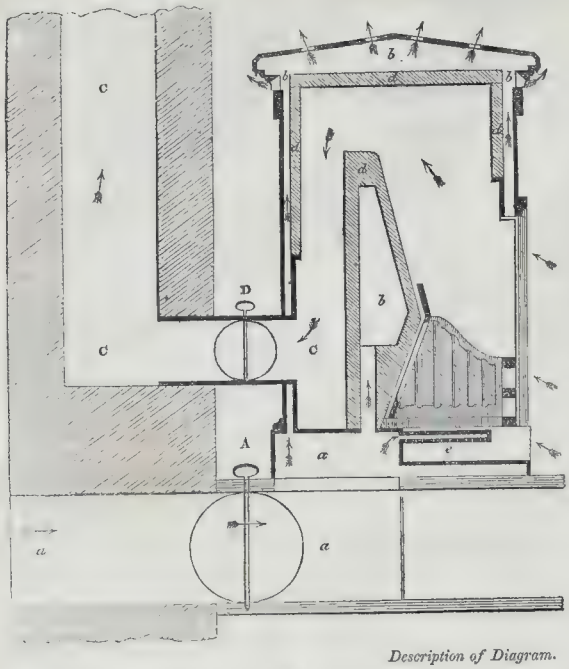
The following account of its application is extracted from "The Appendix to the Commissioners of Fine Arts' Report," page 18:—

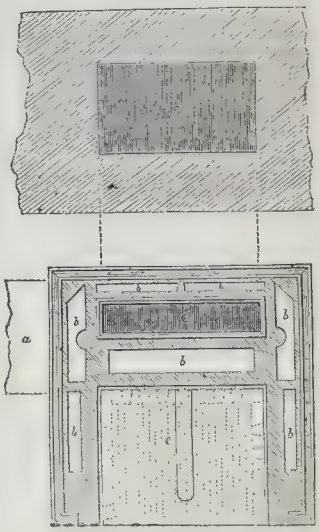
"In 1839 I superintended the construction of a house of three stories on the Lac d'Enghien. The foundation of the house is constantly in water, about 19½ inches below the level of the ground floor. The entire horizontal surface of the external and internal walls was covered, at the level of the internal ground-floor, with a layer of SEYSSEL ASPHALTE, less than half an inch thick, over which coarse sand was spread.

"Since the above date no trace of damp has shewn itself round the walls of the lower story, which are for the most part painted in oil of a grey stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so painted, yet the pavement of the floor, resting on the soil itself, is only about 2½ inches above the external surface of the soil, and only 19½, at the utmost, above that of the sheet of water.

"The layer of Asphalte having been broken and removed, for the purpose of inserting the sills of two doors, spots indicating the presence of damp have been since remarked at the base of the door-posts."

CUNDY'S PATENT IMPROVED OPEN FIRE PLACE, HOT AIR, VENTILATING STOVE.





PLAN.

Description of Diagram.

a a a a Fresh air channel, for admission of external air.
b b b b Hot air chambers (formed with artificial stone, *d d d d*) through which the air passes into the room, and is heated without being injured.
C C C The direction the smoke and vitiated air takes after it has passed through the fire and heated the artificial stone of the hot air chambers.
e Blow pipe to preserve perfect combustion placed immediately underneath the grating of fire place.
A and D are regulators.
The arrows shew the way the external fresh air is admitted, next passing through the hot-air chambers into the room, and lastly taken out of the room through the fire and up the chimney—thus completing ventilation.

This STOVE embraces the following most important principles connected with the economy of

WARMING AND VENTILATING CHURCHES,

And other Public and Private Buildings, viz.:—

HEAT by RADIATION from the Open Fire.

HEAT by CONDUCTION.—A copious and continuous stream of PURE WARM AIR is conducted into the room through the large Stove, at a regulated rate, by means of an air channel underneath the floor, communicating with the external air.

HEAT by REFLECTION.—The external casing of the Stove becoming warm, communicates its heat to the surrounding atmosphere.

VENTILATION produced by the OPEN FIRE—which will carry off the Vitiated Air through the chimney at the same rate the Pure Air is conducted into the room through the interior HEATING APPARATUS of the Stove, thereby keeping up a regular and agreeable system of Ventilation.

ECONOMY of FUEL.—This Stove, from the peculiar construction of the Fire Place, will produce a most BRILLIANT FIRE with the least possible quantity of fuel, and will continue to burn so long as any particle of coal remains.

TESTIMONIALS AFTER A WINTER'S TRIAL.

Gothic Villa, St. John's Wood, Oct. 22, 1846.

SIR,—Perhaps there are few private individuals who have had more experience in stoves than I have had; I have tried most of the newly invented ones, and rejected all but yours, two of which I have tried in my temporary church, and found them to succeed so well, that I have introduced them into All Saint's Church, St. John's Wood.

The following reasons induce me to approve of them:—Exemption of effluvia; the emission of a great body of pure warm air; the perfect system of ventilation; the sight of the fire; the consumption of vitiated air; the little attention requisite; the cleanliness connected with them; and though last, not least, the great economy of fuel.

All more I can say in favour of your stoves is, that whenever I require a stove, either for my house or church, I shall purchase your patent, and recommend all my friends to do the same. Yours truly,

ED. THOMPSON, M.A.
Incumbent of All Saint's, St. John's Wood.

29, Charter-house-square, Monday, Feb. 17, 1846.

DEAR SIR,—The Stoves which you have recently erected in my church have been highly successful, and I have great pleasure in expressing to you the entire satisfaction which they have given to all parties. The church, which was notoriously noted for its coldness and bad ventilation, is now most agreeably warmed and well ventilated. I shall be most happy, on any occasion, to bear testimony to the excellency of your stoves; and I will endeavour, to the best of my power, to make them known, and I will certainly recommend them to my friends.

I remain, Dear Sir, yours faithfully,
JN. WM. ROGERS, St. Thomas's Charter-house.

St. Thomas's, Charter-house.

We, the undersigned, do hereby certify, that during the last three winters we suffered severely from the cold in the Church of St. Thomas's, Charter-house, although we had three large Arnott's Stoves, which consumed one sack and half of coals each day they were lit. The building was never warm; in consequence of which the congregation fell off, though we had a zealous preacher in the Rev. Dr. James. We have now two of Cundy's Patent Stoves, which consume but one cwt. of coal per day between them, and they impart to the church a comfortable heat and ventilation.

WILLIAM BUSHMAN, Verger.
THOMAS GEORGE, Beadle.

St. John's, Fulham, 2nd May, 1846.

My Dear Sir,—I have very great pleasure in giving my testimony to the efficiency of your Stove, as combining the double advantage of thoroughly warming and constantly ventilating any large church or building. Your invention appeared to me to be in theory all that could be desired; and I can honestly say, that I have not yet discovered the point in which the practice falls short of the theory.—The area of my church is computed to be nearly 260,000 cubical feet, and though a second stove will be required, the one already erected has fully answered my highest expectations, and realized all that you had given me to expect. If confirmation were needed for evidence of its efficiency, I might further state, that I had peculiar difficulties to contend with,—that various attempts had been made, and that every attempt had proved a signal failure,—that I was exposed to the charge of boldness in attempting what had baffled others; but that such is the power, the efficiency, and the comfort communicated by your Stove, that I know not of a dissentient voice, and have heard only of approval with unanimous consent.—I might add, that I was first led to the making inquiry respecting your stove, having gathered indirectly, that a disposition not unfavourable towards it was entertained in a certain high quarter, where, on account of ability of discernment, the smallest approach to approval must carry with it great weight.—I remain, Dear Sir, yours faithfully,

WILLIAM GARRATT, Minister of St. John's, Fulham.

Letter from the Rev. MATTHEW O'BRIEN, (Professor of Natural Philosophy and Astronomy), M.A., F.R.S., &c., King's College.

Upper Norwood, 22nd June, 1846.

I beg to certify that one of Mr. Cundy's Patent Stoves was put up in my lecture room at King's College, last year, in place of a common stove (of Arnott's construction, I believe). I have no hesitation in saying from actual experience, that Mr. Cundy's Stove is far superior both in producing warmth over the whole room, and in promoting ventilation, without disagreeable currents of air, or close smell. MATTHEW O'BRIEN.

*** Since this stove was put up, four others have also been fixed, one of which is placed in the Medical Library.

Letter from Professor BRADLEY.

King's College, London, July, 1846.

Sir,—I am happy to be able to bear testimony to the efficiency of your stove, which is fixed in my lecture-room at this Institution. It seems to have all the essential requisites of a good stove, a rapid draught, freedom from all smoke, and from that smell which arises from iron, heated in contact with the air of a dwelling-room, which is entirely avoided by your arrangement.—I am, Sir, your obedient Servant, THOMAS BRADLEY.

To be had of the Manufacturers,

MESSRS. DOWSON, 69, WELBECK-STREET, CAVENDISH-SQUARE,

Where they may be SEEN IN OPERATION, and where also may be seen an ELEGANT assortment of REGISTER and other STOVES, FENDERS, CULINARY APPARATUS &c. &c. ARCHITECTS and BUILDERS supplied with IRON and BRASS CASTINGS, at Messrs. DOWSON'S FOUNDRY, 5, SEYMOUR-PLACE, BRYANSTON-SQUARE. Smith's Work, Gas Fittings, and all other works appertaining to a Smith and Founder, undertaken at estimated prices.

The Builder.

No. CC.

SATURDAY, DECEMBER 5, 1846.

SIR JOHN SOANE'S life, as a man, is yet to be written. It would be a strange and not uninstructive relation; and, if it can be obtained in its fulness, and free from bias, is much to be desired. In a few years it may not be possible. His career as an artist was ably sketched by a friendly hand, within a week after his funeral;* but something more concerning the architect of the Bank, and the founder of an extraordinary museum which will one day be made more available to the public than it is now, is wanted, and will be even more sought for hereafter than at this time. His architectural works are being rapidly effaced; there is no worthy engraved record of his designs; his opinions, so far as we know, are only to be found in his locked-up MS. lectures; and although so recently dead, he is positively a man unknown to the rising generation of architects.

Soane, or Soan, as he at first wrote himself (and even this, we have heard was not his right name), rose like Sir Robert Taylor, of whom we gave a notice a few weeks ago, from the humblest position to the summit of his profession; amassed a large fortune; and refused a baronetcy, perhaps to punish a son. He had much shrewdness, great ingenuity, and considerable love for art. His munificence on special occasions was unbounded, and his bequest for the relief of architects' families will keep his name in grateful remembrance long after his failings are forgotten.

With the view of placing before our readers the most important works and the principal events in his life, in few words, we shall next week give a valuable chronological statement by Mr. George Bailey (long a confidential and zealous assistant of Sir John, and now the curator of his museum), which was originally appended to Mr. Donaldson's memoir.

Mr. Tite, on Monday last, laid before the Institute of Architects, his notes of part of the course of lectures delivered by Sir John Soane to the students of the Royal Academy in 1817. He did this for three reasons: first, to recur to a period of what he considered, most successful teaching in the life of a professor who was one of the most liberal patrons of the Institute; secondly, to exhibit part of the series of drawings, used to illustrate the lectures, which he was enabled to do by the kindness of Mr. Bailey, the curator of the Soane Museum; and, thirdly, that he might urge again upon the students, the value of making notes of papers read to them. On this latter point he laid considerable stress. To use his own words:—

"I have often urged upon the students of the Institute, the advantage of taking notes and memoranda of the various papers read, and of the discussions that follow. The obvious advantages of such a proceeding, one would imagine would require no advocacy in argument,—and yet, even with the stimulus of a most handsome prize, the recommendation I have myself given so often from the chair, seems in the result to be to a considerable extent disregarded. The reasons of this appear to be, firstly, that it is much more agreeable to listen to be amused than to listen to be instructed—and next it is suggested, that the notes published in THE BUILDER are more ably condensed than can be obtained by the student in his own way. The first reason I think probably suggests the second, and I answer that all good teaching must be real—that in our universities and schools teaching by lectures is universal; but that merely listening makes such teaching valueless; the mind wanders; the thoughts are turned aside by the object before the student; memory is imperfect, and then again the subjects, the remarks, and the opinions of the lecturer cannot be referred to with the vividness and the interest given by a memorandum made at the time. Then, again, all these reasons apply with the same or greater force, to the suggestion that the lecture or paper is reported. It may be that want of leisure or of inclination prevents the reading with attention, if at all; and the absence of the illustration, which may have been forgotten, deprives the instruction of half its value.

From all these considerations, I urge upon my young friends the advantage of making notes for themselves, in order that they may profit by the teaching; and I assure them, that though at the time they may even find the subject dry, and the exercise fatiguing, they will often be compensated in after life by the possession of facts, the importance of which they did not perceive at the moment, and that habit will make even the labour of note taking agreeable and amusing."

After alluding briefly to the principal events in Sir John Soane's life, he proceeded to say, that the scope and design of the series of lectures to which his notes referred, were the general principles and history of architecture, and its practical application. He should confine himself on the present occasion to the three first; and had to remark, that Mr. Bailey had obtained for him some extracts from the lectures themselves, to render his own notes clearer in parts. The first of these extracts shewed the intention of the lecturer.

"I shall endeavour," Soane said, "to give the result of a life of study and application in the pursuit of architectural knowledge, in plain and simple language, in the manner as, I hope, will be found most useful to the young student in our art, and the best calculated to promote a general knowledge of architecture, and a due appreciation of its extensive powers to add to the charms of society."

He combatted very strenuously the doctrine of Rousseau, propounded at Dijon, that the arts were injurious to morals, and claimed for architecture a high place amongst them, on the ground that the other arts were subservient to architectural decoration. It was necessary, however, that architects should not be mere copyists:—

"'Painting and sculpture (says Sir Henry Wotton) are two arts attending on architecture, like two of her principal gentlewomen, to dress and trim out their mistress;' and it may be added, that if the architect does not think and feel as a poet,—combine and embellish as a painter,—and execute as a sculptor, he will never reach the excellence of a Palladio, a Jones, or a Wren. Such a man may be useful as a builder, but he will never rise in his profession, above that mediocrity which the learned professor of painting* has so justly defined to be a state that art can never permit."

He agreed with Vitruvius in thinking it necessary that an architect should understand not merely geometrical drawing, but perspective. Geometry was essential to him, and arithmetic too, said Mr. Tite, as we too well know in these days. Vitruvius strongly inculcated attention to moral duties, and so did Soane as the first requisite for honourable success. In connection with this, Mr. Tite commented on what he considered our present absurd mode of payment to architects, which, if an architect did not always make his duty to his employer overrule all personal considerations, would lead to evil.

Under Colbert, an Academy of Arts was established in France; in England it was long before similar advantage was given to the arts; the Duke of Richmond's gallery and the Incorporated Society of Artists, afforded the only opportunities to artists till the establishment of the Royal Academy in the reign of George III. Tracing the history of architecture amongst the Egyptians, Greeks, and Romans, he described various buildings in each country. Like the pyramids of Egypt, the Mausolea of Adrian, Caius Cestus, and Cecilia Metella, although immense masses, were calculated only to contain one body. He objected to the use of caryatides in modern buildings. The application of ancient examples required judgment and taste. Nothing should be admitted that was not founded on principles. Scale made a great difference The application of the "orders" one over the other at the Coliseum, was effective, while at Castle Ashby (the comparative smallness of which was shewn by drawings) it was absurd. Amongst instances of a bad application of ancient examples, he instanced the arch at Wilton, with the equestrian figure of Marcus Aurelius upon it, which was placed on a hill with steps up to it, so that no carriage could pass through it.

The drawing of this arch, which has been appealed to lately in connection with the preposterous conjunction at Hyde-park-corner, enabled Mr. Tite to point out how widely different the proportion of the figure to the arch was, in this example at Wilton, from that at Hyde-park-corner, and to say one more word in utter condemnation of the latter arrangement.

Returning to the architecture of the Greeks, Soane said they went to nature for their models and were right in doing so. He considered (we don't, by the way), that they derived their architecture from the wooden huts.

"The primitive huts and cabins were, according to the same writers,* formed with the trunks and branches of trees, and the roofs covered with reeds, mud, and clay; and in the Iliad we read,

"Pelides lofty tent,
Of fir the roof was raised, and cover'd o'er
With reeds, collected from the marshy shore."

Triglyphs, to be consistent with principle, should not be used inside. (?)

The finest examples of Greek art he thought perfect; he said:—

"In the temples of Minerva and Theseus, we have simplicity of form, and unity of parts, combined with fitness;—there is a grandeur and solemn majesty in them, mixed with a soft repose,—a depth of light and shade, with contrast and variety, regularity and uniformity, making together so perfect a whole as can only be surpassed by the works of the Great Architect of the Universe, who made 'this brave overhanging firmament,—this majestical roof fretted with golden fire.'"

The second lecture treated chiefly of the orders and their application in the ancient temples, the peculiarities of which were pointed out. These, he said, should be studied:—

"Although temples are now only required, and that but occasionally, in pleasure-grounds, yet such principles of beauty, proportion, and harmony, will be acquired from the study of these ancient buildings as will apply generally; the student should therefore be fully acquainted with the different forms and constructions of the temples of paganism. In them he will discover many of the great principles of art,—in them he will learn many of the laws of

* "A Review of the Professional Life of Sir John Soane, Architect, R.A., &c." By T. L. Donaldson, Hon. Sec. Institute of Architects, &c. Williams, 1837.

* Fuseli.

* Herodotus, Vitruvius, &c,

composition; he will observe the beauty of form, and the correct application of the sublime to architecture; the whole so fully understood in those great works, and which are so far applicable in every species of building, whether public or private, great or small, as must amply reward the student for his labour. Be assured, my young friends, the hand of the artist and the mind of genius is as correctly traced in the humble dwellings of individuals, as in the magnificent palaces of the great; nay, to give an interest to small edifices, of moderate expense, requires more than ordinary knowledge, judgment, and taste."

Amongst the incidental opinions expressed was this, that he regarded Lord Elgin's labours in obtaining for England the marbles which bear his name, as mistaken zeal. (?)

In the third lecture the examination of the orders was continued. Vitruvius was silent as to the Composite. The arch of Titus was the finest example of it: the Temple of Bacchus near Rome was another. Tuscan buildings were chiefly constructed of timber, and this accounted for no examples reaching us. St. Paul's, Covent Garden, and the Water Gate, at York Buildings, were careful specimens of this style, taken from the description given. It was curious to find that after the lapse of 2,000 years no improvement of an order had been made, nor had even a new moulding been added. The capital employed by Dance at the British Institution, which excited notice at the time, was probably to be found amongst ancient varieties, of which there were many. A new capital had been sought like the philosopher's stone. About the year 1600 attempts were made to design one in Italy, France, and other countries, but unsuccessfully. To use Sir John's own words:—

"That our young architects may not lose their time in such a useless pursuit, I shall select specimens of what have been called 'New Orders,' produced in this country.

The late Mr. Adam, with an inventive mind and elegant fancy, produced a 'Britannic Order,' but like the French and Spanish orders, the great novelty is in the capital.

In a work entitled 'A Proposition for a New Order of Architecture,' the author, after speaking of the injudicious and unsuccessful endeavours of all those who preceded him, treats us with a sixth order, absolutely new in its proportions, its ornaments, and all other parts, the whole forming a composition suitable to the glory of his country.

Such is the author's description of his novel composition, the effect of which may be seen more distinctly than by a drawing, in the portico of a villa of no inconsiderable extent in the neighbourhood of Windsor.

The composition of Mr. Adam, however, must not be blended with this proposition for a sixth order, nor with the 'new great order' of Peter de la Roche (a French priest), who discovered about forty years ago that it was from *self-taught*, and not from mere *bred* architects that the art must receive every considerable improvement.

The origin of this new order he ascribes to an incident in the English history, far more interesting than even the basket of Callimachus:—

'In the reign of Edward III., the Prince of Wales, at the battle of Cressy, amongst other successful darings, killed the King of Bohemia and took his banner, whose ensign was the royal diadem of Bohemia, with three ostrich feathers placed in it. With this princely badge (says Peter de la Roche), I adorn the capital of my new order, and in nature nothing can be more fit for the purpose; the feathers tenderly bending in the manner of volutes, gives a superior delicacy to the Corinthian capital, and from this delicacy in the capital, and the nobleness of its origin, it may rank above the gorgeous Corinthian.'

'This new order (continues the author) only wants antiquity, and when hereafter it is found amongst ruins, it may then, perhaps, please those whose want of taste and genius to distinguish original merit, would have condemned this grand and unique composition at its birth; and although the present age may not have sufficient liberality to approve my design, posterity will most certainly do it justice.'

Such justice, said the speaker, that it is not likely to be ever found amongst ruins! The ancients, continued Soane, paid much attention to character and situation. Students should not lose sight of its necessity,—the theatre should be gay, the temple solemn. Speaking of columns, he said he considered them grand when plain, elegant when fluted, and injured when rusticated;—an aphorism Mr. Tite thought worthy of remembrance. Soane viewed with indignation the destruction of ancient monuments, and referred to the pasquinade, "*Quod non fecerunt Barbari, fecit Barbarini*," applied to one of that family, who took some of the finest columns of the Parthenon to build the Baldaquino of St. Peter's.* The pedestal and attic he considered, should never be used but as a matter of absolute necessity. Of the circular temple at Baalbec, much was not to be said as to its classical correctness, but the variety and play of light and shade were deserving of attention and praise. Sir John's own drawing of this building was made by stealth in the moonlight. The remains of ancient temples were the sites of modern villages:—

"There in the ruins, heedless of the dead,
The shelter-seeking peasant forms his shed;
And wondering man could want the larger pile,
Exults and owns his hovel with a smile."

Isolated columns were best adapted for every use, but both ancients and moderns had used portions of columns. Still, mutilations in art ought always to be avoided. As architecture declined, principles were lost sight of; and thus in Diocletian's palace and the baths we find columns hoisted on brackets, and other liberties of a barbarous kind.

He thought columns not adapted for internal decoration: if the ancients used columns in the interior of their houses, it was but seldom. Vitruvius directed internal columns to be of a light and gay character. There were no internal columns in Pompeii, nor in Adrian's villa; nor does Pliny mention them. When used internally, frieze and cornice should be omitted,—their place being supplied by a few mouldings. A column in the centre of a portico or building he considered very objectionable. When columns where used over columns, the inferior cornice should be omitted altogether. "Throughout his lectures," said Mr. Tite, "Sir John Soane constantly alluded to the laborious nature of the profession; and I cannot better conclude my present reminiscences than with the following extract:—

"'The student in architecture in this country labours under very peculiar disadvantages; he has many, and more serious difficulties to encounter than either the painter or sculptor; and although architecture has too often been treated, by those who do not know its powers, as an inferior branch of the fine arts,—a sort of mechanical profession within the grasp of every common mind,—candour must admit, that, however arduous the task, however difficult the undertaking, to form a painter, or sculptor; to make an architect is not less so.'"

The lectures being somewhat discursive,—the notes of them necessarily more so,—we have found considerable difficulty in laying before our readers the more striking points in a connected form. We have before us our own notes of the course delivered by him in 1835,—but the present notice has already extended to so considerable a length, that we must seek some other opportunity for the consideration of them.

* Byron's paraphrase of those lines, in application to Lord Elgin, will be remembered by our readers:—"What the Goth would not do, the Scot did." Smart, but unjust.

ON THE SCULPTURES FROM THE SEPULCHRE OF MAUSOLUS, AT HALICARNASSUS.

The sculptures which form the subject of this paper have, it is hardly necessary to state, been recently brought to England from Bodroum, in Asia Minor, the site of the ancient Halicarnassus, and are reputed to have formed part of the Mausoleum or sepulchre built by Artemisia, queen of Caria, in honour of her husband, king Mausolus. They were found in a fortress at the entrance of the harbour; having been used in the construction as building materials, and inserted in the faces of the exterior and interior walls. This fortress was built by the knights of Rhodes, probably shortly after the year 1400. Thevenot one of the first European travellers who visited the fort at Bodroum, in the middle of the seventeenth century, describes these marbles as *des bas-reliefs fort bien taillés*, inserted in the walls, which were further ornamented with the escutcheons of the knights, and inscribed with Latin sentences, and the date 1510. From the visit of Thevenot, in the seventeenth century, to the present day, these sculptures have been little examined, partly because Bodroum lies a little out of the ordinary route of Eastern travellers, and partly from the jealousy of the Turks, who would not permit an inspection of the interior of the fort. About 1750 these marbles were drawn by Dalton, and published in his "Views in Greece and Egypt." They are described by Choiseul Gouffier, in his "Voyage Pittoresque," and by Mr. Moritt, as quoted in Dr. Clarke's travels. A sketch of the slabs inserted in the interior walls of the fortress is given in the second volume of the Ionian Antiquities, published by the Dilettanti Society; and they are noticed by the more recent travellers, Prokesch von Osten, and Mr. Hamilton; neither of whom, however, succeeded in inspecting those in the interior of the fortress.

The scanty and occasional notices thus furnished by travellers were not sufficient to satisfy the curiosity naturally felt in Europe with regard to these sculptures. From the belief that they had formed part of the Mausoleum, a building in the decoration of which the most celebrated artists of antiquity were employed, it was thought, not without reason, that in them would be found, as in the Parthenon, the characteristics of a great school of sculpture; and that they would furnish a marked epoch in the history of art; a standard of comparison whereby many monuments now of uncertain date might be assigned to their true periods.

A wish was very generally expressed, among the archæologists and lovers of art in this country, that these marbles might be removed from their perilous and obscure situation at Bodroum, and brought to England. In accordance with this general desire, Sir Stratford Canning, her Majesty's minister at Constantinople, most zealously and indefatigably exerted himself to obtain the permission from the Porte to remove the bas-reliefs. His most praiseworthy efforts have been crowned with success; and these sculptures, which have excited the curiosity of European archæologists during half a century, and which must always remain objects of peculiar interest to the student of Greek art, are now safely deposited in the British Museum.

I propose in this paper to consider the question, whether these marbles formed, as is commonly believed, part of the celebrated Mausoleum; and, in so doing, I shall offer a few remarks, first, on the locality where they were found; secondly, on their character as works of art; thirdly, on the subject they represent; and fourthly, on the structure of the building to which they are supposed to belong.

In order to determine where the Mausoleum stood, and its position relatively to the spot where these marbles were found, I shall endeavour to place before you the plan of the ancient city of Halicarnassus, so far as it can be gathered from the notices of ancient authors, and the researches of modern topographers.

The chart from which the plan before you has been enlarged, for which I am indebted to the kindness of Captain Beaufort, has been drawn up by the hydrographers on that coast. It exhibits the modern town Bodroum, and such remains of the ancient city as are now to be traced. You will perceive that the harbour

is shaped like a horse-shoe; that the hills curve round; that the greater part of the modern town is built between their base and the harbour; that the fortress from which the marbles were taken stands on a rock projecting into the sea, and forming one side of the mouth of the harbour.

Of the ancient city, Vitruvius has left us a very minute description. His words are as follows:—"Mausolus, perceiving that Halicarnassus was a place naturally fortified, a good depôt, and convenient harbour, made it his royal residence. As the form of the site was curved like a theatre; on the lowest ground, near the port, was placed the forum. Along the curve, about halfway up its height, was made a broad street; as it were, a *precinctio*. In the centre of this street stood the Mausoleum, constructed with such marvellous works, that it is considered one of the seven wonders of the world. In the centre of the citadel above was the Temple of Mars, containing a colossal statue, such as are termed ἀκρόλιθοι, made by the illustrious hand of Telochares; or, according to others, of Timotheus. On the summit of the right hand extremity of the curve, the Temple of Venus and Mercury, close to the fountain Salmacis. Now, in like manner as, on the right hand, was this Temple of Venus and Mercury, and the above-named fountain; so, on the left horn, or extremity of the curve, stood the royal palace, which king Mausolus placed so as to suit his own designs; for from it can be seen on the right hand the forum, the harbour, and the whole circuit of the walls; on the left a secret port so concealed under the mountains, that no one could spy or ascertain what was going on there; that the king from his own palace might, without the knowledge of any one, see to all that was necessary to his fleet and army."

Few cities of antiquity have been described as distinctly as Halicarnassus in this passage; and though some of the expressions of Vitruvius are of doubtful interpretation, the greater part of his topography may be recognized in the Admiralty plan before us. We may in the first place assume, that the theatre-like curve on which the city was built was wholly contained within the circuit of the ancient walls, as traced out in this map. We find this curve at once in the outline of the harbour. Taking the three central points first—the forum will be the lowest of the three, *in imo secundum portum;* half way up the height, *per mediam altitutidinis curvaturam præcinctionemque*, a broad street, in the centre of which was the Mausoleum; in the centre of the citadel above, *in summâ arce mediâ*, the Temple of Mars; on the highest part of the right hand extremity of the curve, *in summo cornu dextro*, the Temple of Venus and Mercury, close to the fountain of Salmacis; and on the opposite height, at the extremity of the curve, the royal palace of Mausolus.

The phrase, *in summâ arce mediâ*, which I have translated, "in the centre of the citadel above," is of doubtful interpretation, and does not fix with accuracy the position of the Temple of Mars. From the whole context, however, we may infer that it stood on the high ground north of the Mausoleum. It may be objected that we have no mention in any other author of a citadel in this place; and that we may rather suppose, from the statement of Strabo and Arrian, that there were only two citadels; one in the harbour, the other, as its name, Salmacis, would imply, near the fountain, on the left, which I have just mentioned. But it by no means follows that there was not a third citadel immediately under the north wall, corresponding, perhaps, to that which Arrian describes as being the nearest to the side of the inland town, Mylasa. Or again, it is possible, that the word *arx* is used by Vitruvius, in this passage, to express the fortified heights rather than an acropolis. I now come to the expressions *in summo dextro et in summo lævo cornu*. Now, on turning to the Admiralty map, it seems evident that the two points, the rock on which the Turkish fortress stands and the opposite projection, must be, the first, the site of the palace of Mausolus, the second, that of the Temple of Venus and Mercury, close to the fountain Salmacis.

While adopting this arrangement, as the most probable that I can suggest, I must add, that it must be regarded as only a partial adjustment of the plan of Vitruvius. The palace of Vitruvius, placed on this rock, might, it is true, command a very extensive view of the town to the right; but where is his little secret port to the left, mentioned also by Scylax of Caryanda as the closed port, and corresponding apparently to the smaller closed port at Rhodes; from the plan of which city that of Halicarnassus was perhaps borrowed? Was it a mere dock, roofed over like a modern dock-yard, to conceal it from observation, and since filled up by the sea? Where, again, is the island Zephyria, which the sea, according to Pliny, joined to the main land of Halicarnassus? Where is Arrian's citadel in the island, which Captain Beaufort and other excellent authorities place in Arconnesos, an island at some distance; though the words of Arrian would imply its immediate proximity to the town. Where, lastly, is Arrian's citadel of Salmacis? None of these questions have as yet been satisfactorily solved. I will only on this occasion allude to them, as difficulties which are a fit subject for researches on the spot. The point which is more immediately interesting to us at this moment is, does the plan before you answer to the description in Vitruvius to the extent that I have proposed; that is, in its main features? If so, the Turkish fortress is built on the site of the palace of Mausolus. The site of the Mausoleum must be sought for where I have placed it. This part of the town is, as you see, occupied by the modern street. No foundations of any ancient public edifice have, I believe, been found here, except the remains of a Doric temple; and a little higher, under the wall, the remains of a building, the walls of which Mr. Hamilton states to be of Hellenic masonry. Neither of these buildings appear to have any well-grounded claim to be considered the Mausoleum; nor, as far as I am aware, has such claim ever been very strongly maintained. The Doric temple, in the judgment of Choiseul Gouffier, appeared of a time certainly later than the Mausoleum; and his opinion seems borne out by the views and sections given in his work, and by the late character of the Greek inscriptions, with which the columns are inscribed; though these might, certainly, have been added at a subsequent period.

The other building Mr. Hamilton conjectured to be the Mausoleum, because the measurement of one of its sides, about 100 feet, seemed to correspond with the dimensions of the sides of the Mausoleum, as given by Pliny; but this is an argument to which, as I shall subsequently shew, no great weight can be attached.

If, as I have shewn, the Turkish fortress does not occupy the situation of the Mausoleum, but more probably of the palace of Mausolus; we must suppose that the sculptured slabs in its walls were either part of the materials of that palace lying *in situ;* or that, if originally part of the Mausoleum, they were brought down from the higher ground. History has not left us very much information as to the building of this fortress. We find in the Byzantine historian, Ducas, xxi. p. 64, that the grand master of the Knights of St. John, taking out with him squared stones, bitumen, timber, and other building materials, from Rhodes, built the fort of Petronium (whence the modern name of Bodroum is said to be derived) in Caria. Bosio, in his history of the knights, records the same building of the fortress in the grand mastership of Philibert de Naillac, A.D. 1399, a date rather earlier than that given by Ducas; and adds that it was built on the site of the ancient Halicarnassus. Fontanus, the historian of the siege of Rhodes, of which he was a contemporary, states that a German knight called Henry Schegelhold used in this building the materials of the Mausoleum. His words are, *ex ruinis Halicarnassi, piramidibusque Mausoli sepulcri*. There is no difficulty in supposing that the slabs from the Mausoleum may have been transported such a short distance as from the middle of the town to the fort. We have indeed some reason for believing that some of these slabs were carried across to the neighbouring island of Cos, and there used in the construction of another fortress which has been recently visited by Sir Charles Fellowes, and in the exterior walls of which he observed three bas-reliefs, very similar in style to those of Bodroum.

I will now proceed to examine whether the character of the art, the nature of the subject represented, or the measurements of these slabs, as compared with the structure and dimensions of the Mausoleum, enable us in any degree to connect them with that building. First, as to the character of the art. Is the style of the Bodroum marbles that of the period of the Mausoleum, B.C. 353? Are they worthy of the great reputation of the artists by whom the sculptures of the Mausoleum were executed, and of the praise bestowed by Pliny and Vitruvius on those works? The first of these questions it is not very easy to answer.

Of the remains of ancient art, that have being preserved to us, there are few which we can assign with certainty to the century immediately preceding Alexander the Great. The works which have been conjecturally assigned to the hand of Scopas and Praxitiles, such as the group of Niobides, present very little analogy with the Bodroum bas-reliefs; but these two kind of sculptures, even when executed at the same period, often present essential differences in design and treatment. There exists, however, a specimen of basso-relievo which we can assign to this period; the charagic monument of Lysicrates, executed, as appears from the archon's name upon it, B.C. 334. On comparing this with the Bodroum marbles, we may perceive very considerable resemblance in style. In both bas-reliefs, the extreme elongation of the forms, and the spareness, if not meagreness, of the muscular development, at once strike the eye. Something of the same lengthiness of type may be traced in the design of some of the silver coins of Tarentum, which, we have reason to believe, are not much later than this period. These peculiarities of style in the Bodroum marbles may be fairly compared with Pliny's expression, in speaking of the changes of style introduced by Lysippus and Euphranor; of the former of whom he says, that he made the bodies of his statues "*graciliora siccioraque*." These artists flourished at the period to which we would refer these marbles; and it is highly probable that the new style introduced by them would have its influence in the decoration of the Mausoleum.

The consideration of the probable date of the Bodroum marbles, so far as it can be inferred from the style of the sculpture, leads at once to the question as to their merit as works of art. The idea which they suggest is that of works executed rather in the decline of Greek sculpture, than in its finest period; made rather for the subordinate purpose of architectural decoration than as the *chef d'œuvre* of great artists.

The general composition is not deficient in that union of symmetrical balance with variety of grouping for which Greek art is so distinguished; but the action has something of a theatrical character; the attitudes of the figures are strained; the forms, as I have already noticed, meagre, and unnaturally slender. Admitting that their original beauty has been much impaired by time, weather, and mutilation; it is difficult for us to imagine that we contemplate in these marbles the productions of such artists as Scopas and Praxiteles, and of those thought worthy to be their rivals, Bryaxis, Leochares, according to others, Timotheus, the sculptors of the Mausoleum. We learn from Vitruvius, that they severally decorated one side of the Mausoleum with sculpture, and that they vied with each other in this great work. With such zeal was this rivalry maintained, that in Pliny's time, a period of the most refined criticism, it could not be decided which artist had performed his task best. The occasion was worthy of their efforts. They were called upon to celebrate, by the highest effort of genius, the memory of a great prince, at whose funeral obsequies the chief poets and rhetoricians of Greece contended for the prize. Whether the Bodroum marbles are worthy of the greatness of the occasion, and of the fame of the artists, is a question which I leave to more experienced judges to determine.

The story told in these bas-reliefs is a combat of Amazons and Greek warriors; and it is a very natural matter for speculation, how far the subject here represented may have reference to some portion of the mythical history of Caria, or of the house of Mausolus. The combat of Amazons was one of the most favourite themes of the Greek artist. The subject had a peculiar charm for the Greek mind, as a figurative or typical mode of expressing the deliverance of the Hellenic people from the Persian yoke. The Amazons, a

nation of female warriors, living in the north of Asia, about the river Thermodon, are said to have made several expeditions against the Greeks. On one occasion they invaded Attica, and were defeated by Theseus, who slew their queen, Hippolyta. It was thus with peculiar propriety that in the same building, the Stoa Poicile, the Athenians represented in one picture the battle of Theseus with the Amazons, the close of the siege of Troy, and the battle of Marathon; thus commemorating, in one great design, their mythical and historical victories. We find this subject, so congenial to the Greek mind, repeated in a variety of forms. Pictures of combats of Amazons adorned the temple of Theseus; and the same myth was represented on the shield of the statue of Minerva, and the base of the throne of Jupiter Olympius, the works of Phidias; on the frieze of the temple of Apollo Epicurius, at Phygalia; and on a number of Greek fictile vases, which have been preserved to us. Turning from Greece to Asia Minor, we find the battle with the Amazons, represented on a variety of monuments, which probably commemorate the victories of the Greeks gained in Asia Minor, at the siege of Troy, and on the occasion when the Amazons invaded Ephesus. They are peculiarly connected with Ionia. The city of Smyrna, in the first century of the Christian era, claimed them as its founders. At Ephesus they are said to have founded the temple of Diana. On the coins of these two cities, struck in imperial times, we find figures of Amazons, and their combats on the frieze of a temple at Magnesia, now in the Louvre. Descending from Ionia to Caria, we find fewer traces of this myth. As far as I know, there is no mention of their presence so far south, in any of their invasions of Asia Minor from the Black Sea; but on the coins of several cities in Caria, Plarasa, Nysa, Mylasa, Tripolis, we find the Amazonian battle-axe, or the figure of an Amazon, used as a type; and the myth of Jupiter Labrandæus, who is represented on the coins of Mausolus, and other kings of Caria, seems in some measure connected with that of the Amazons. He is represented with a bipennis, or battle-axe, [*Labra*, signifying, in the Lydian language, the handle,] which is said to have been taken by Hercules from the Amazon queen, Hippolyta, and given by him to Omphale. From her possession it passed into the hands of the Lydian kings, and finally was taken from the Lydians, in battle, by the Carians. Now I would not insist too much on this slender tradition; but I think that the worship of Jupiter Labrandæus, viewed in connection with the frequent recurrence of Amazonian symbols on the coins of Caria, indicates a certain familiarity with the whole myth in the mind of the nation, expressed, as all such familiar beliefs were among the Greeks, in the types of their coins; and if the myth was thus a national one, it would naturally be chosen as a fit subject for the Mausoleum of the great Carian monarch. I may further add, that the story of the Amazons may have had a real basis of truth. It is possible that this, the general tradition of Asia Minor, may have had its origin in the inroads of some Scythian people from the north; among whom, in singular contrast to the habits of the eastern nations, women like Tomyris, queen of the Massagetræ, may have had the right of reigning. This custom of female sovereignty we find in the provinces of Cilicia, Lycia, and Caria; and we may suppose it may be a real remnant of Scythian occupation, as the myth of the Amazons may be a figurative record of the same event.

The last point which I shall notice, in reference to this inquiry, is the structure of the Mausoleum itself. I would not presume, on this occasion, and before such an audience, to offer any plan for the restoration of this edifice. I will content myself with making a few remarks on the celebrated passage in Pliny. He states the length of this building to be, on the north and south sides, 63 feet; the two fronts being something less; the whole circumference 411 feet; the height of the lower part or πτερὸν 25 cubits. It was surrounded by thirty columns. Above the πτερὸν was a pyramid, also 25 cubits high, tapering to a point, like a *meta*, by twenty-four steps. On the top was a marble chariot. The whole height was 140 feet. In the memoir on the Mausoleum, by the Comte de Caylus, prefixed to his plan for its restoration, he states that he had collated the text with all the MSS. known at that time in Europe. The collation of a MS. of the tenth century, the Codex Bambergensis, has been recently published in Sillig's edition of Pliny, in which various readings, greatly to the amelioration of the text, have been discovered. In this passage, the number of feet given for the whole circuit of the building is 440, not 411 in that MS.; and it is suggested that this difference may be accounted for by supposing in the later copies a blunder of the scribe, who, having to write XL, omitted the lower limb of the L, making it 11. As it is considered by the best authorities that this circumference is not that of the base of the building, but of the exterior wall surrounding it, it is not probable that the main proportions are very materially affected by this change of numbers. There is, however, in Pliny's text, another passage where the MSS. are not all agreed, and which has been variously dealt with by interpreters. He states that the Mausoleum consisted of, first, the tomb itself, surrounded by columns, in height 25 cubits, or 37½ feet; secondly, a pyramid diminishing by 24 steps, like a meta, also 25 cubits high, and upon that a chariot; the whole being 140 feet; 12 feet being allowed for the height of the chariot. This, added to the fifty cubits, will only make 87 feet, leaving a difference of 53 feet between the sum and the parts. The restorers of the Mausoleum and the commentators on Pliny, finding this difficulty, have tried to explain it in various ways. Caylus, refusing to consider the twenty-four steps an integral part of the pyramid, and contained within its measurement, assigns a separate dimension to them, an interpretation certainly not warranted by the text. Choiseul-Gouffier adopts a reading found in a minority of the MSS., but not followed in the best printed texts, making the height 100 instead of 140 feet.

If we reject these modes of explanation as unsatisfactory, we must suppose the tomb to have been placed on a basement sufficiently high to enable us to distribute the fifty-three feet over and above Pliny's sum. The Mausoleum, surrounded by its columns and surmounted by its pyramid, may have been placed on this basement something after the plan of the tomb of Mylasa; and as in like manner, in the restoration made by Sir C. Fellowes, the tomb at Xanthus, peristyle, and surmounted by its pediments, is placed on a lofty substructure ornamented with friezes. However this may be, the restorations of the Mausoleum, hitherto proposed, seem hardly to do justice to the seventh wonder of the ancient world. In the poem "De Spectaculis," attributed to Martial, the words

"Aere nec vacuo pendentia Mausolea."

"The Mausolea, which hang in the void air," would suggest some curious beauty of structure, some masterpiece of design, such as would be natural at a time when mechanical skill was rapidly developing itself, until it attained to the daring and magnificent architecture of the age of Alexander the Great.

I cannot but express my hope that my friend, the Professor of Architecture in the Royal Academy, may, in his lectures in the ensuing spring, throw a new light upon the obscurities of Pliny's description, and produce a restoration of the Mausoleum far more consonant to the genius of Greek art than any that has ever yet been proposed. With regard to the Bodroum marbles, I have his authority for stating, that the measurements of the slabs do not afford any very remarkable coincidences with the imperfect scale of the Mausoleum, as given by Pliny. It is not indeed likely that this could be the case; for that author, giving us the dimension of sixty-three feet for the length of the two longest sides, leaves us to guess the length of the two shorter ones. I have now gone through the inquiry I proposed relative to these marbles. From the topography of Bodroum it appears that the fort does not occupy the site of the Mausoleum. From the style of the sculptures I have shewn that they are probably of the time of Artemisia. Their subject is a Carian myth; though, perhaps, with no peculiar fitness to be selected for the decoration of the sepulchre of a king of Caria. The description of the Mausoleum, in Pliny, is too general to enable us to adjust, very, exactly the measurements of this frieze to any of his dimensions. In default, then, of more direct evidence from the site where they were found; their dimensions considered architecturally; or the character of their sculpture and subject; we must be content with the positive declaration of Fontanus, that the fortress of the knights of Rhodes was built out of the ruins of the sepulchre of Mausolus; and upon the faith of this declaration we must consider that in these marbles we possess a fragment from one of the seven wonders of the ancient world.

We have received from Mr. Newton the following communication, which must be considered as a supplement to the above memoir:—

In drawing up the hasty sketch of a memoir on the Bodroum marbles, read by me at the Institute of British Architects on the 16th inst., I had not time to refer to the dissertation on this subject by Sainte Croix—*Mémoires de l' Institut, classe d' Histoire*, 2. p. 506. That learned author shews that the Mausoleum is noticed in ancient authors, from time to time, from the age of Lucian; and was still standing in the 12th century, in the time of Eustathius, the commentator on Homer—who states that it *was, and is, a marvel*. To the testimony of Fontanus, which I cited in my paper, he adds a more full and detailed account of the destruction of the Mausoleum by the Knights of Rhodes, as narrated by Claude Guichard, in his work on the *Funérailles et Manières diverses d'ensevelir*, printed at Lyons, 1581, lib. iii. 5, p. 379. In that most curious narrative we find it stated that, in 1522, when the Sultan was preparing to besiege Rhodes, the Grand Master sent some of the knights to repair the castle of St. Peter, at Halicarnassus. Looking about for materials, the knights found, in the middle of a level near the port, some steps of white marble. Making use of these in their repairs, and finding the stone good, they continued to excavate on this site. As they dug deeper, they found the base of the building enlarge; and, at the end of four or five days' excavation, they came to an opening like the mouth of a cave; entering which, they arrived at a great square room, surrounded with columns of marble, with their bases, capitals, architraves, friezes, and cornices, carved in half relief, representing combats and histories. The knights were at first struck with admiration at the beauty of this work; but, shortly after, broke and destroyed the whole of it,—using it as materials. Besides this hall, they found a door leading into another,—as it were the anti-chamber; where was a sepulchre of white marble, of marvellous beauty and brilliancy, with its base and its crest, which they had not time to examine; the trumpets having already sounded the retreat. On returning to the spot, next day, they found the tomb opened and rifled, and quantities of fragments of cloth of gold and spangles of gold strewn about,—probably the work of pirates in the night. "Thus," says Guichard, "this superb sepulchre, one of the seven wonders of the world, after having lasted 2,247 years, was discovered and destroyed by the Knights of Rhodes, to repair the castle of St. Peter."

He further states, that this account was communicated to him by Dalechamps, one of the most learned of his contemporaries, who had the narrative from the *Commandeur de la Tourette*, one of the knights, a native of Lyons, present on the occasion of the discovery. By Dalechamps, I conclude he means the well-known editor of Pliny.

Though there is always just ground for caution in the reception of stories so singular as that of Guichard, neither the source from which it is derived, nor the internal evidence of its details, appear at all such as to lead us to doubt the general correctness of the narrative.

One circumstance in the discovery presents a very curious coincidence. The sepulchre is described as being found *avec son vase et son tymbre*. I have translated the latter word crest, though it may rather mean the whole funeral panoply. In either case, it is worthy of remark, that we know, on the authority of Thucydides, that the Carians were in his day found buried with their armour; and the scholiast on the passage adds, that, being the inventors of shields and crests, in token of this, a *little shield* and *a crest* was always buried with a Carian warrior. The *tymbre* of Mausolus would be placed on his sepulchre in accordance with a Carian custom. The narrative of Guichard suggests many more remarks and inquiries than I have at present time to enter

into. I will only here observe, that if, with Sainte Croix, we receive it as authentic, we must suppose two excavations of the Mausoleum by the knights—the first, when Henry Siegelholt built the fortress,—the second, a century afterwards, when the walls were repaired just before the siege of Rhodes.

CHARLES NEWTON.

MODERN BELGIAN ART.

MESSRS. WAPPERS AND CONSCIENCE, the director and secretary of the Antwerp Art-Academy, have of late undertaken a journey to Germany, and made some considerable stay at Munich. Their object was not merely general information, but that major one of establishing a connection between Belgian and German *art* and *mind*. Since the times of Van Eyk and Memmling, the very characteristic of Flemish art has been a naïve *German* perception of objects, and a lively rejoicing in all splendour and hue of colour. This *style* of Belgian art has, however, been obliterated at several periods—especially in the latter century, when Belgium, like whole Europe, imitated the mawkishness and the tinsel of spurious French artists. When David had formed a new art-school in France, and the best ancient pictures of Belgium were transported to Paris—both these incidents became instrumental in keeping down and neutralizing Belgian art-style; circumstances which still worsted when David settled at Brussels, and obscured by his powerful individuality every light likely to arise at his side!

It was, therefore, a great merit of Mr. Wappers, to have dispelled that extraneous art-spell, and to have formed at Antwerp a new art-school, which seems to revert to the character and brilliancy of its predecessors. This regeneration of Belgian art is the more promising and important, as it coincides with that of other branches of art, nay, that of the nation.

It is such and similar ideas which animate Mr. Wappers. He is enthusiastic in his wishes for the forming of the above art-connection and art-fusion, and thinks that, by the combination of German and Belgian art, something really grand and worthy will be achieved. Belgian painters are more skilled, and apter to the seizing of nature in frame-surrounded spaces; more skilled in the colouring and the whole technicism of art. To this Mr. W. wishes his pupils to adhere, and to improve in it if possible. But he does not overlook that, for doing any thing great in our age, a basis of free, *ideal*, and liberal *ideas* is required,—and this requisite he finds in German art, whose votaries are conspicuous for their extended studies and deep research. This desired combination of two great art-schools is now progressing adequately, and promises still greater results. The Antwerp Academy is now frequented by *twenty* German artists,* and now Belgian painters begin to go to Munich. The Belgian Government facilitate such endeavours, as two prizes of 2,500 francs are yearly awarded to such pupils whose works have been crowned at the great yearly art-exhibition. These prizes (stipends) are retained four years, and the artists went hitherto all to Italy; but of late they have gone also to Paris, and now they go to Munich. On the other aids given by Government to Belgian art, we have spoken on another occasion.†

That these new art-tendencies of Belgium hinge on and go back to their great prototype—we mean *Rubens*, is matter of necessity. But as this master was an astonishing hand at work (Mr. John Smith enumerates 1,500 pictures issued from his *atélier*), he observed that policy, to send all his inferior productions into the wide world, while the best he kept near him. Thus it is at Antwerp, where Rubens is to be alone studied in his whole completeness—in his whole greatness. Rubens's art-soul dwells in the art-treasures of Antwerp. Such precedents might have animated Mr. Wappers, whose art-exertions strangely coincided with the revolution of 1830. A month before that event, the art-exhibition of Brussels had been opened. Amongst the host of tinsel and flippancy, the picture of the siege of Leyden (1574) attracted all eyes. *There* was more in it than met the *mere* eye. Every one asked after the painter. It was an unknown pupil of the school of Antwerp—it was Wappers. A terrible reaction of all the *dunceism* followed, as might be expected, but as early as 1836 it had run its short and honourless race—and in 1839 and 1842 Wappers stood no more alone, but such men as De Keyzer, Galloit, De Biefve, &c., stood, if not beside him, at least near him. Belgium had become a realm—her painters a school. Conjointly with painting, sculpture also underwent the same regenerative process, of which Geefs, Jehott, Simonis, and others, are speaking examples.

We subjoin a list of the art-schools of Belgium—a *country* of two millions of people. Antwerp—director Mr. Wappers. Brussels, ditto Mr. Navez. The academies of Ghent and Brügge (the cradles of the Van Eyks)—then Malines, Löwen, Liège, Ypern, Alost, Bergen, &c.

* We are not aware whether any Englishmen study or have studied there.

† Vide Vol. IV. p. 475.

STUDY OF GOTHIC ARCHITECTURE.*

THE author of the work before us, except perhaps the practical knowledge acquired only in the profession, has all the requisite qualifications for the subjects he has written upon. Though popular works and lectures on gothic architecture are still numerous, it is always interesting, even to an advanced student, to see what different treatment may be given to a familiar subject, and to examine into new views on controversial points. Therefore, notwithstanding this work has much the same object and appearance as Mr. Bloxam's well known duodecimo; even by those who possess that useful work, it may be read with advantage. Our question is less with the appropriateness of a title, than with the matter that a work contains. Were it otherwise, admitting that the word "manual" may imply a portable form, we should be inclined to say, that "a Manual of Gothic Architecture" would include a much greater amount of matter than is here supplied. The term might rather mean a systematized list of examples or works in which reference is made to the style, than the subject abbreviated, as an introduction to the study, which this and similar works mainly are. But the reader will glean from the present "Manual" many valuable facts and principles, and much less of objectionable matter, than might at this moment by some persons have been expected.

Mr. Paley devotes less space to the styles, so called, than does Mr. Bloxam; and he treats them rather as features in a continuous progress than as they are popularly considered. The important features of windows and doorways are the subject of separate chapters, and other subdivisions are "the uniformity and progressive character of the gothic styles," "the principles of gothic composition, construction, and effect;" and on "the parts of churches." The work also contains an interesting chapter on monumental brasses, by Mr. C. R. Manning, the author of a lately published list. The illustrations are well engraved, mostly from examples not previously published. The author holds the opinion of the existence of many Saxon remains of early date, and makes a distinction between styles in use previous to the Conquest, which view he supports by reasoning which is worthy of attention. But we question whether his table would not be more clear, if the term "early British" were applied, and confined to remains of ante-Saxon date. His nomenclature stands thus:—

I. ANGLO-ROMANESQUE.

1. *Early British*, or *Anglo-Saxon.*
2. *Ante-Norman*, from about 950 to the Conquest.
3. *Norman*, 1066 to 1170.
4. *Transition*, 1170 to 1200.

II. GOTHIC.

5. *First Pointed*, 1200 to 1240. ("Early English," *lancet*,—single lights.)
6. *Late*, or *Florid First Pointed*, 1240 to 1270. ("*Geometric.*")
7. *Geometric Middle Pointed*, 1270 to 1330. ("Geometric," or "Early Decorated.")
8. *Complete Middle Pointed*, 1330 to 1380. ("Pure," or "Flowing Decorated.")
9. *Third Pointed*, 1380 to 1485. ("Perpendicular.")
10. *Florid Third Pointed*, 1485 to 1546. ("Tudor.")
11. *Debased*, or *Semi-Classic*, 1546 to 1650.
12. *Revived Pagan*, 1650 to 1840.

The author explains the characteristics of each period in concise terms. But he is scarcely right in assuming that the pressure of Norman vaulting is altogether "straight downwards on the walls;" an error he seems to have been led into by reliance upon Mr. Hope, whose opinion would not have weighed against Mr. Paley's own recollection of many Gothic arches, the *half* of which, he may have seen *standing*. He points out that pinnacled buildings form quite a distinct *class* from those with eave-roofs, capped towers, low walls, bold and short buttresses, &c.; and rightly remarks, that this difference in character is often unattended to. He is of opinion that perpendicular tracery, about the origin of which there has been much discussion of late, was in common use as early as 1370, and was not unknown *previously* to the era of William of Wykeham. He says, that "perpendicular" windows are found along with "decorated," when it is impossible to assign any difference in date: but, we think that in some other places, sufficient importance is not given to the retention of old forms, through the slow communication of improvements, or perhaps the instant adoption of any invention in a part of detail, in accordance with the author's general view, and with that of Professor Willis, mentioned in our reports of his lectures. The difficult questions connected with the use of the grotesque in sculpture, the identity of cœval details, and with complete revolutions in style, are touched upon. The author considers that the "masters" of the Freemasons, who have been thought to be the same as our architects, were rather the superintendents of the works, than the designers. But he seems to think, that the Freemasons had a practical dexterity which we have no conception of, and which enabled them to dispense, in a great degree, with drawings. The chapter on gothic composition is ably written, though we think that, unintentionally, rather too great stress is laid upon the supposed principle of irregularity. At least, we deem that it is a great mistake to design irregularity, as we find it in some modern works. As we have before pointed out, this would be as foreign to the principle of gothic architecture, as the reverse errors, at one time more frequent.

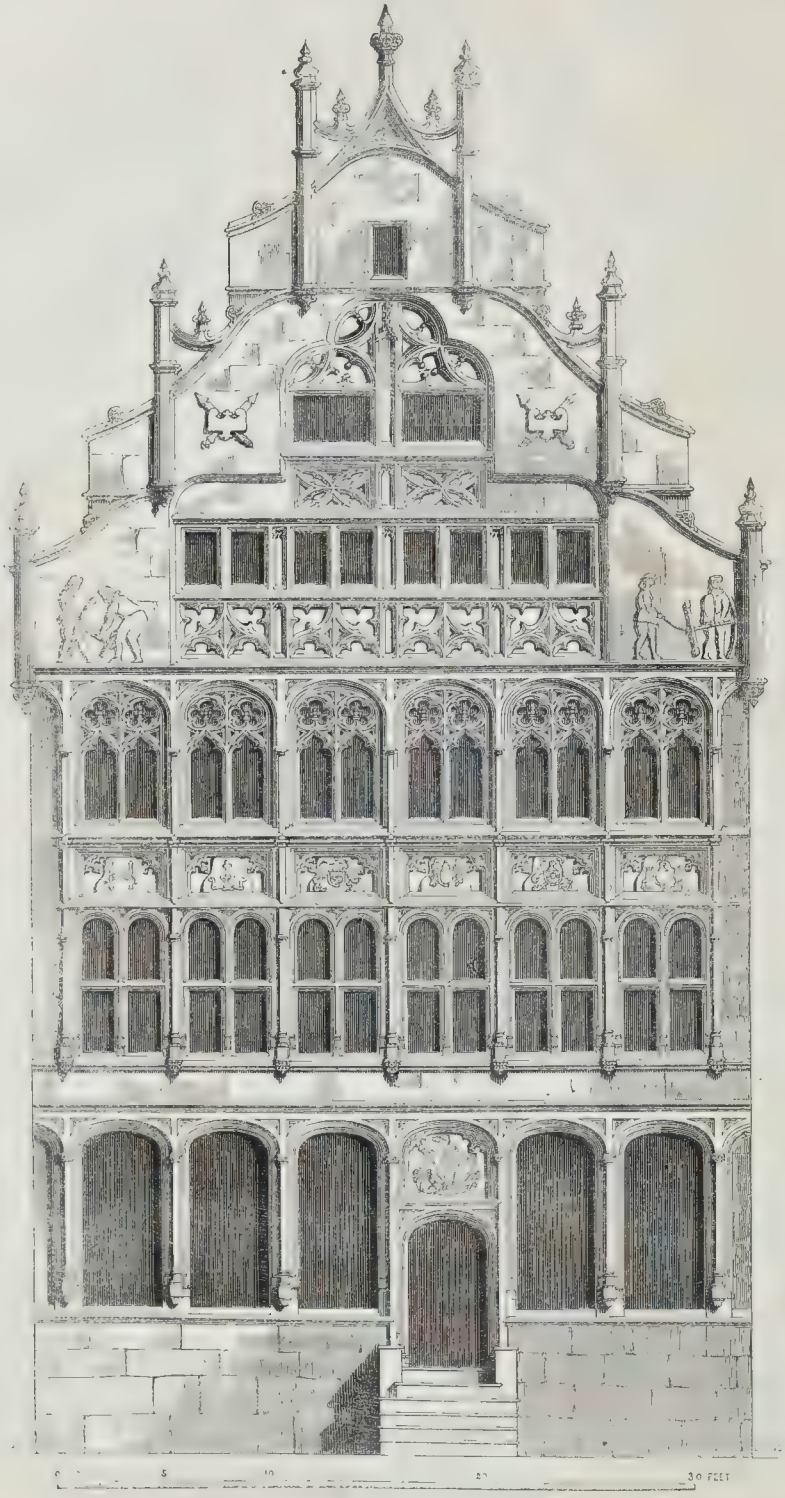
Mr. Paley differs from the opinions, which have gained ground, as to the use of those singular apertures called *lychnoscopes*. It will be recollected, that the latest theory was, that they were symbolic of the wound in the Saviour's side. (?) They are now called *offertory windows*.

On the whole, we look upon this work of Mr. Paley's as a very useful contribution to the collection of books on gothic architecture.

* A Manual of Gothic Architecture, by F. A. Paley, M.A., author of "A Manual of Gothic Mouldings," &c., with nearly 70 illustrations. London: Van Voorst.

THE SCHOOL OF DESIGN.—Sir,—It is a trite adage, that alteration and improvement are not synonymous terms; so it will appear here. The unfortunate students were compelled to absent themselves the whole of the week before last, while certain "learned Thebans" demolished the gas-burners, for the substitution of four Bude lights at right angles. These emit a much whiter and more brilliant light, which, being reflected from the numerous casts on the walls, causes all persons in the room to appear like pale, ghastly spectres, or, as we have seen the stage at Astley's in our boyish days, lighted up with white fire at the *denouement* of a pantomime. The abortive result is this—four distinct powerful flames produce four separate shadows; so, when a student is drawing, he is annoyed with the shadows of four pencils and four hands, which fall directly over his subject. It is by no means uncommon to see his own human face divine darken his drawing, while the shade of his form-fellow's contour happens to strike nearly on the same spot. The tyro gets enraged and perplexed, and in despair forsakes copying bad ornament from the German, and resorts to the pure figure, by tracing the outline of the two profiles; which, when done, reminds the observer of a coin of the reign of William and Mary. ✠

THE WATERMAN'S HALL, GHENT.



GHENT, AND ITS ANCIENT ARCHITECTURE.

There is, perhaps, no place in Europe, that has more points of interest than the ancient capital of East Flanders; her treasures of art, her splendid memorials of loftier times, her grand specimens of ecclesiastical and domestic architecture, present a combination of attractions very difficult to equal. So good a general idea of the city of Ghent has been given by Roscoe in his "Tour through Belgium," that we are induced to make use of it. He says—"There is something repulsive and dreary in the first sight of the decayed massive ramparts, dark narrow streets, high garden walls, and tall pointed edifices of old Ghent; before you become acquainted with the extent and beauty of the buildings and institutions, which do so much honour to the taste and enterprize of the inhabitants. Streams, bridges, and canals; porticos, theatres, and public offices; spires, towers, and churches; saint's shrines, hotels, and seminaries, every where meet the eye as you advance, giving a high opinion of the character and habits of the people; while the antique air of the Gothic houses, and the vast monuments and remains of art bear testimony to the affluence and grandeur of its former inhabitants. It is this mixed character which gives it, like Venice, an air of solitary majesty and loneliness; broken in the same way by a number of islands formed by the confluence of different rivers—the Scheldt and the Hys, the Liese and the Moere, which are connected by a succession of little bridges. It is this, also, which presents so many striking points of view, and picturesque objects and effects to the eye of the painter; the dark waters, the hanging balconies, the shadows of the massy walls, the rich architectural ornaments: and along the Grand Canal the curious antique buildings, the fallen arch, the boats moored under some vast ivy mantled ruin, besides other parts of the ancient town, abound in localities which fix the eye and the mind by their interesting associations."

Pages might easily be filled by a mere enumeration of the antiquities of this fine old Flemish town; the great difficulty is in deciding what is worthy of the first notice, but the Cathedral of St. Bavon may fairly claim precedence; it is said to be the finest church in Belgium, and although this may be disputed, as far as architectural beauty is concerned, it is so in point of decoration. The length and height are of magnificent dimensions, and the choir a perfect magazine of sculpture. A monument by Duquesnoy, to the memory of a bishop of Trieste, deserves especial notice, as the finest work of the kind in Flanders. In the nave stands one of the pulpits for which Belgium is so celebrated; it was executed by Delvaux, a native of Ghent. It is worked in white marble and dark oak (by no means a good combination). The crypt of this church has been highly spoken of by various travellers, but to our mind it will not bear a comparison either as to extent or beauty, with some in our own country, particularly those of Canterbury, Gloucester, and Rochester.

The church is enriched by a great number of fine paintings, including some of rare excellence by Rubens and the two Van Eycks. Although the remaining churches in Ghent are quite worthy of attentive examination, we must pass them over without further notice to say a word or two in praise of the town-hall. Incomplete as it is, it cannot fail to excite the admiration of the most casual observer. It was commenced in 1481, from the designs of Jean Stassens, who died in 1527, leaving the building unfinished. It was then confided to Just Pollett, whose first business was to alter the design of his predecessor, and to complete the work in a style totally at variance with the part already executed. Had the design been carried out as originally projected, it would have been one of the most splendid edifices in Europe.

Ghent is particularly rich in ancient domestic architecture; one building possessing great historical interest is the palace of the Counts of Flanders, in which we also feel nationally interested, as it was the birth-place of our famous John of Gaunt. Although there is little of architectural detail left, it is much to be regretted that a place so full of pleasant associations should have been turned into a manufactory, yet such is the case. Another building which has shared the same fate is the old palace called the "Cour des Princes," the birth-place of Charles V. It seems rather inconsistent that a city like Ghent, proud of its magnificent relics of departed greatness, should quietly consign to oblivion two such testimonials of its former power.

By the side of the Grand Canal (finished in 1822, at a cost of one million francs), are several fine specimens of domestic architecture, the most remarkable being the subject of the illustration; it is known as Watermans' Hall, and is at present occupied as a private dwelling-house. The front is entirely of stone, and although it has suffered somewhat from time, and that more wanton destroyer, man, it is still a fine specimen of the architecture of the 16th century; the windows on the ground-floor have a centre mullion and transom of wood, evidently modern, which are not shewn in the engraving; the steps are also of recent date, part of the base mouldings of the entrance having been cut away to make room for them; some square openings of various sizes have been made in the basement, and are omitted. Judging by the abrupt termination of the horizontal mouldings, and the imperfect arches at either end, we are inclined to think that this house is only a part of a range of buildings of the same period and style; how far this conjecture is reasonable let others decide. The house is said to have been built in 1522.

One word as to the encouragement given here to the fine arts. The schools for the study of architecture, painting, and sculpture, have been celebrated from the time of Charles V., and have not yet fallen into disrepute, the Government having taken steps to procure the most approved system of instruction, and to make it available to all who may wish to profit by it. Exhibitions take place here every year, and the national exposition once in three years; at the latter, prizes are given by the government for the most talented productions exhibited. It will be seen, that in Belgium, no means are left untried to give that encouragement to art which it should everywhere receive.

Figure 2 shews the plan of one of the piers and window jambs. W. C.

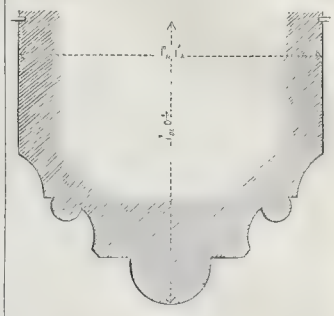
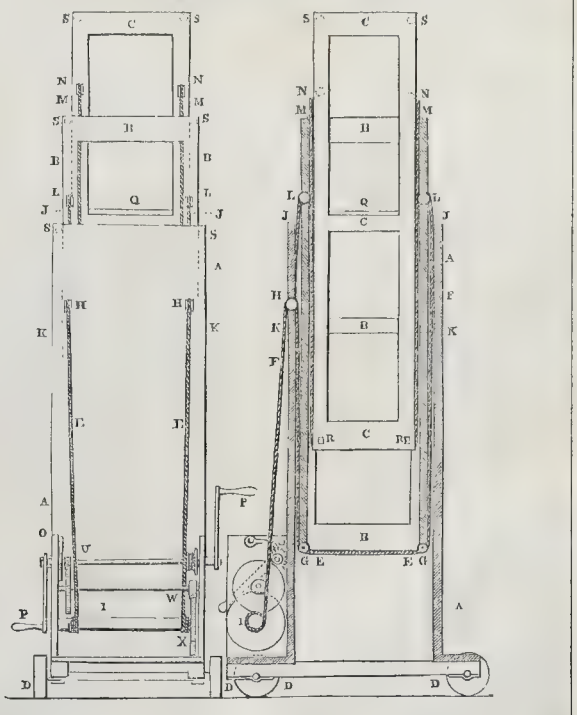


Fig. 2.

ELL'S ADJUSTABLE SCAFFOLD, OBSERVATORY, OR FIRE-ESCAPE.

The annexed diagrams will afford our readers a sufficient idea of the ingenious machine represented, without much minute description. It is an improvement of Reeves's, which gained the silver medal of the Society of Arts, and consists of a series of hollow rectangular frames, AA, BB, CC, &c., sliding one within another, after the manner of the tubes of a telescope, mounted on wheels, DD, and hoisted or lowered by ropes, EE, JJ, MM, working on rollers, GG, LL, and pulleys, HH, NN, by means of winch handles, PP, turning the barrel, I, round which is twisted the lower end of the rope, which thus passes successively along the several frames, within each other, drawing them one out of the sheath of the

ELL'S ADJUSTABLE SCAFFOLD, &c.



other, simultaneously, to the requisite height, by one simple operation; the power of which may be multiplied, when the machine has many frames, by aid of pinions, U and W; wheels, V and X; and ratchet and click, O. The smallest, and of course the uppermost or innermost, frame is made capable of holding one or two men, who can be raised by one or two others to the height of fifty or sixty feet, it is said, in two minutes. A folding gallery, with hand-rails, is added to the top frame for convenience; and as a fire-escape, ladders with hand-rails, one working within the other, are thrown out for escape; those in danger being thence lowered by tackle in frame boxes.

DECORATION OF THEATRES.

At the Decorative Art Society, on the 25th ultimo, Mr. Boulnois in the chair, a paper "On the decorations of theatres" was read by Mr. Dwyer, illustrated by several sketches from the interiors of the metropolitan theatres. The subject was introduced by observations upon the influence which dramatic art and its literature have had for good purposes, when judiciously conveyed, as being powerful auxiliaries in the education of a people, by successfully blending amusement with instruction; and Mr. Dwyer argued that the aid of decorative art, in its best developments, should always be applied in conjunction, for accelerating and promoting the grand social object of elevating the taste, and therewith the dignity, of the community. The just appreciation of the beautiful in scenic effect, now frequently displayed in our theatres, was adverted to as a proof that the production of superior decorations need only to be carefully attended to, to ensure successful and profitable results. The writer, after discussing the political use and necessity of wholesome recreations, said that he considered the best means of increasing the importance of theatres, and raising them in the public estimation, is to render them *magnificently* worthy, in every way, for the dissemination of moral truths and refinements. The prevailing coarseness, vulgarity, and slovenly disregard of cleanliness, was referred to as inducing negligent manners in an audience. He next noticed the construction of theatres; and, admitting that accommodation for the greatest number in the least possible space, with subdivisions for various classes of visitors, formed an important requirement, he argued that the form generally adopted (that of the horse-shoe) was not the most suitable and comprehensive for this end; and he referred to some positions in which seats are found, where, indeed, a view of the stage is unattainable. He maintained that the idea of making the audience feel as comfortably seated in a theatre as if in a drawing-room, had been very imperfectly if at all contemplated; and that, however much a curved side might with propriety be admired, *utility* should have the primary attention, so as not to restrict the view in any case to merely a portion of the opposite boxes. The circular and semi-circular forms employed by the ancients, the writer said, suggested a useful modification, which is somewhat approached in the plan of Drury Lane, and there contrasts favourably with the straight-sided, horse-shoe form in Covent-garden, where a long range of sittings of an inconvenient construction, and embodying impediments to both seeing and hearing, are to be met with.

An ignorance of acoustics was said to be singularly evident in the construction of our theatres. Mr. Dwyer referred to several well known forms, such as tunnels, archways, and long curved spaces; also to the stone canopied seats on Westminster-bridge; where the slightest whisper could be distinctly heard in that opposite to it; as so exceedingly suggestive, that he could not but feel the greatest surprise at such repeated blunders; more particularly as the results to actors and vocalists, with voices admirably adapted to more favourable circumstances, have proved so frequently disastrous to their reputations.

The proscenium in each of the London theatres was said to be remarkably different in arrangement; no two being alike, and none exhibiting an approach to any principle which the laws affecting sound would dictate. Some expressions followed, conveying censure of the prevailing use of massive Greek entablatures, with Corinthian columns in unusual proportions (at Astley's very lofty, at the Haymarket very short), evincing a disregard of harmony in form and proportion, from the entire absence of a medium for combining the gigantic massiveness in the one with the sub-division of parts throughout the interior of the house. The theatre at Versailles was referred to as an instance where Corinthian columns being placed on the stage, Ionic columns support the superstructure, and which, with some other arrangements, render this theatre particularly worthy of observation. Nevertheless, the proscenium there is imperfectly constructed for the distribution of sound. The writer considered the upper portion of the proscenium of Covent Garden the least objectionable of any in the metropolitan theatres, and awarded praise to the picturesque and agreeable manner in which it blends with the interior, and also as being in that part better calculated for the distribution of sound. A form of construction was then explained, which it was said would obviate the necessity for extraordinary exertions on the part of the performers, in attempting to produce an audible and satisfactory effect throughout the house. Mr. Dwyer propounded a theory which he said comprehended the principles embodied in two familiar instruments of sound, viz. the bell and the violin. He would construct two bold bell-shaped curves, diverging over not less than eight feet on the stage to the sides of the theatre. Each of these he would have composed of two thicknesses of wood, placed about six inches apart. The front one should be perforated, ornamentally, thus serving to receive and distribute equally within itself the sound given forth near to it. The elevation should assume the form of an arch, with spandrells, also perforated, thereby distributing, with distinct resonance, the words or music to all parts of the house. (A sketch in explanation was shewn.) In a subsequent part of the paper, the writer offered some remarks upon the construction of ceilings, which we take the liberty of now stating, such being apparently in immediate connection with the acoustic theory in construction last described. He proposed the use of a spherical or spheroidical roof, supported by iron ribs, which might be ornamented; the spaces between each rib to be enriched with elaborate perforations (or otherwise, according to the general style of the house) in a manner similar to the doorway in the circle at Astley's. The additional height thus given to the interior would enable the chandelier to be placed above the line of sight from the upper part of the theatre to the stage; and the objections that might be made to this position of the chandelier were met by the fact that a concave surface reflects much more than a flat one. Another important advantage arising from this form of ceiling was, the facility afforded for a powerful system of ventilation. The painting room would be raised some nine feet, and the absence of the rolls of canvas scenery and other properties from the top of the ceiling would add considerably to the reverberation of sounds, besides contributing greatly to the comfort and health of the artists belonging to the theatre.

Adverting to the general principles of construction exhibited in the theatres of the metropolis, he considered that the Surrey Theatre embraces, more than any other, the best arrangements for seeing and hearing; the proscenium being formed on bold bevel, judiciously diminishing the width of the stage. The disregard of unity in the construction of theatres generally was pointed out; and, among other instances, the St. James's was named; where light flowing ornaments in the French style are in juxtaposition with a massive classic style; and the ceiling to the Princesses was deemed an instance of discordant arrangement. Mr. Dwyer added that these, with many other defects, probably arose from everything theatrical being invariably done in a hurry. The application of various decorative materials, such as distemper paintings, paper hangings, composition, paper maché, the fittings up of the boxes, &c., received attention; and it was asserted that the Princess's was conspicuous for elaborate richness and diversity of ornament; but that it was questionable whether the Herculean expression therein, rather than the delicacy and grace of Apollo, may be deemed most appropriate. The usual enrichments on the fronts of boxes was commented on, and the use of bas-relief or raised ornament was recommended in preference to the most elaborate surface painting in panels. The velvet valances to the boxes in the Princess's Theatre were commended, but the practice of having them, as in several theatres, to extend only above the private boxes was deprecated. When it is not wished to have ornament in relief upon the fronts of the boxes, valances of this kind suspended from the cushion were suggested as imparting a peculiar and good effect.—The paper extended to a considerable length; and among the more important of the topics were ornamental iron-work, which it was said might be introduced with great diversity of design, for balconies, open fronts to the boxes, fret-work and ornaments in relief for various parts of a theatre; some remarks on the usual method of supporting the boxes by series of columns; and others condemnatory of the manner in which the tiers of stage-boxes are generally placed between large Corinthian columns. Sculpture was mentioned as offering an important adjunct in producing a higher class of decorations; and encaustic painting, as facilitating cleanliness and durability. Discussion adjourned to the 9th inst.

NOTES IN THE PROVINCES.

Her Majesty, the Queen Dowager, has contributed 20*l.* towards rebuilding the parish and deanery church of Ewell, Surrey.——The Earl of Onslow has given 200*l.* towards rebuilding Ripley church, Surrey.——From the vicinity of Poole, Dorsetshire, 37,500 tons of China clay are said to be annually shipped to the potteries: value nearly 50,000*l.*——The town council of Worcester has resolved on the establishment of public baths and washhouses.——It is reported by the *Sheffield Times* that an architect was lately requested to adopt the new church at Attercliffe as a model for the new church to be erected in the Wicker district at Sheffield; but that he "courteously but resolutely refused to damage his reputation by carrying out the design."——A Roman Catholic chapel "on a costly and magnificent scale not hitherto attempted in any part of England, with one or two exceptions" is to be erected at Sheffield. Designs by Messrs. Weightman and Hadfield have been laid before the Duke of Norfolk; and the ground, an extension of the site of the present chapel in Norfolk-row, has been purchased; though it will probably be three years, it is said, before the building is begun; exertions being only in progress towards the attainment of the means requisite for its realization.——The Guildhall, at Bury St. Edmunds, is undergoing repairs at present; improvements being made in the gateway, porch, and entrance hall.——It appears that the building for the Ipswich Museum is to be erected at the expense of the ground landlords, and let for the museum at 5 per cent. on the cost, with option of future purchase at the original cost itself.——The repairs of St. Nicholas' church, Yarmouth, are in progress, so far at least that contracts for benches and pews have been entered into, to be completed by 1st January next. These are to be temporarily used in the chancel, which accommodates 1,600 persons. The *Yarmouth Chronicle* recommends the church trustees to devote the sum of 1,250*l.* towards the reparation of the fabric, so that the restoration of exterior and interior may proceed simultaneously towards completion.——Levels and plans for the uniform and effectual drainage of the Denes, Yarmouth, are in course of preparation by the surveyor to the council.——The town of Fakenham has just been lighted with gas. The coffer-dam for the new dock at Grimsby is in progress. A new pile-driving engine is being erected. The interstices of the dam are filled in with chalk and clay, and the timbers and sheeting piles are bound with iron. Considerable advancement has been made with the work.——The nave and aisles of St. Andrew's parish church, Coston, a village seven miles from Melton Mowbray, have been lately divested of whitewash, repaired, and filled with open seats, and the chancel has been re-built by the incumbent, the Hon. and Rev. John Sandilands.——Canwick Church has also been brushed up and re-opened.——Operations have been begun for the restoration of the ancient chapel of St. Sampson, at York. The principal contractors are Mr. Laycock, mason, and Mr. Gray, joiner, whose contracts, however,

(amounting to 1,300*l.*) do not include the tower, the money for which is not yet forthcoming. The sum total requisite is 2,000*l.*, of which 900*l.* only have been yet realised.——The new church of South Otterington has been opened. It consists of a chancel, nave, north aisle, south porch, and tower, with a roof of equilateral pitch. The style is Norman, and the material stone, from Brussetton, said to be capable of retaining great sharpness; and the wood work, English oak and memel timber. The chancel windows are of stained glass, by Wailes. The sittings are mostly free. Mr. Salvin was the architect; Mr. Joseph Holmes, clerk of works; Mr. John Webster, master joiner.——The arches of the nave and transept of Hatfield Church have been restored; the body of the church painted in oak; and the exterior is also undergoing restoration, by Messrs. Anelay, builders, of Doncaster. Other improvements, including an organ, are said to be contemplated.——The contracts for the Hull Cemetery have recently been making further progress. "One of the cheapest things that ever I met with," says a correspondent of the *Hull Packet*, "is the contract for the erection of an engine-house, engine, &c., for 195*l.*" The outer drainage and surrounding culvert have been contracted for by Mr. Musgrave for 400*l.* The drainage of the ground itself, which is to be done so as to enable graves to be dug 12 or 13 feet deep, is contracted for by Mr. Harker, for 159*l.* 6*s.* This is the cheap contractor above alluded to. All the works are in rapid progress, and bodies will soon be interred in the cemetery.——The Queen Dowager has contributed 20*l.* towards the building of a new church at Gateshead, now in course of erection.——The famous iron bridge at Sunderland has at length been made toll free. A profit of 79,666*l.* has been reaped from its tolls since its opening in 1796. ——A new harbour is proposed to be erected at Macduff, in the north of Scotland. A plan by Mr. Bremner, engineer, Wick, has been mainly approved by Lord Fife's trustees. The probable estimate given in was about 55,000*l.*

RAILWAY JOTTINGS.

We lately, though with all the diffidence due where the opinion of so high a judicial authority as the Lord Chief Baron of the Exchequer was in question, ventured to say, that we did not agree with the chief baron in his judgment against provisional committeemen.* His lordship no longer agrees with himself, it now appears, but is veering round to our own humble opinion, so far, at least, as he has granted the application for new trials in two cases, which are at this moment exciting no little interest in the railway world and the law profession; and that on the ground, advocated by Attorney-General, and apparently held by his lordship himself, that the mere fact of a man being a member of a provisional committee was not sufficient of itself to render him liable for the debts of the company, as it amounted to no more than a promise of co-operation; unless he appointed, or assisted, actively or passively, in appointing, an acting committee or agent; for whose legitimate acts, moreover, alone, he is responsible. The *Times*, correctly we think, maintains that "if the directions of Chief Baron Pollock to the juries in the cases above-mentioned be compared with the judgment of the Court of Exchequer, delivered by the same judge, they will be deemed irreconcileable." The feeling of a portion of the press has already begun to manifest itself to be now with the Lord Chief Baron, or at least with the Attorney-General, who is thus endeavouring to shake the hitherto received notion of the liabilities of committeemen, as virtual joint stock companies; and the advice of their counsel to compromise actions, so as to avoid a worse alternative, is not now likely to be so indiscriminately followed as it has been; nor their wholesale self-inflicted exile to be longer persisted in. On the contrary, as observed by the *Bristol Journal*, "If this view of the question be admitted by the courts of law—and certainly it seems just—a host of families will be restored to their country, who, before this time, had nothing to look forward to but years of hopeless exile. It certainly carries with it the sympathies of most people."——The Government appear to be extending their countenance to the electric telegraph, and appreciating its importance, more and more. A detailed and specific plan of operations is said to be contemplated for the establishment of an immediate electro-magnetic communication between the royal palaces and the government offices, dockyards, garrisons, and fortresses, throughout the whole empire.——The Tunbridge Wells extension railway has been opened for general traffic. "The rail is nowhere above the surface of the town," says the *Morning Herald*. "At a considerable depth it passes under the very centre of it. From the former station, outside the town, it branches some 250 yards through a deep cutting, when it enters a tunnel 800 yards in length, which, within 70 or 80 yards, brings the visiter to the terminus." The station is in the Italian style. The terminus is close to the church, and as nearly as possible in the centre of the old and new towns. The tunnel forms two curves, and is said to be built with materials of the greatest solidity. The approach to the town on the Hastings side, by the Tunbridge Wells and Hastings line, is also by a tunnel, so that the existence of a railway at Tunbridge Wells is scarcely perceptible.——The cuttings for the London and York line began on Wednesday week at the north end of Barnsbury Park and Islington. The terminus is to be between Gray's Inn and Bagnigge Wells road, at the north end of the Middlesex House of Correction.——The Great Western have given notice of application for powers to erect bridges over their lines where the public roads cross on the same level.—— The South Western have purchased 200,000 fir sleepers, of a very heavy and durable nature, it is said, in Prince Edward's Island. Some of them have been already landed at the Southampton docks. They are almost ready to be laid down as imported.——Five tenders for the tunnelling of the Birmingham, Wolverhampton, and Stour Valley line from Navigation-street, Birmingham, towards the grand central station, have been lodged; and that of Mr. Henfray, of Manchester, for 69,612*l.* chosen. The length of this contract is about a mile and three-quarters. "There was one rather remarkable fact," says a correspondent of the *Morning Herald*, "connected with the whole of the tenders (on two contracts on this line, which by the way were below the parliamentary estimates)—namely, there was comparatively very little difference between them in amount, considering the magnitude of the undertakings. It was quite obvious that there were no random or hazardous efforts made to secure the work, but that all the proposals were based upon sound calculations." ——The cost of the Bedford line, just opened, was 16,000*l.* to 17,000*l.* a mile. It is 16¼ miles in length, of first-class gradients, being almost wholly on a dead level and of very easy construction. Five stations have been erected in the style of the offices scattered over the estate of the Duke of Bedford.——A contract for 60,000*l.* has been taken, and operations have been already commenced, for the enlargement of the Stratford station of the Eastern Counties, at the junction of the lines, where a locomotive depôt is to be erected on 10 acres of ground. It is said that 200 cottages for the servants employed by the company are also to be built near the same spot with small gardens attached.——The foundation piling for the new railway station at Ely, an extensive building in the Italian style, is nearly completed. ——All the contracts for the works on the Ely and Lynn line, between Ely and Denver sluice, have been taken up, and the whole is to be completed by July next, if labourers, masons, bricklayers, and carpenters can be found. At present workmen for stations, culverts, bridges, viaducts, etc. are at a premium, and there is considerable competition for good hands amongst the sub-contractors. The bridge over the Great Ouze will be the greatest work on this line. It will be 120 feet span between the abutments, and 16 feet high, above low-water mark. The abutments, it is said, will be built of stone, with concrete foundations, sunk 20 feet under water. Semicircles of piles have been driven in the stream, on each side of the river, which are boarded and caulked like a ship's hull, to keep off the water while the men are at their work. The line for the rest of the way to Ely will run nearly on a ground level, but will cross about 50 bridges, viaducts, and culverts, over streams and wide drains; the district being intersected by the latter in all directions.

* Vide "Builder," vol. iv. p. 293.

THE NUISANCE ACT NULLIFIED.

The provisions of 9th & 10th Vict. c. 96, "For the more speedy removal of certain nuisances, and prevention of contagious and pestilential diseases," in cases "where the *existence* of any offensive or noxious matter can be proved;"—provisions from which great benefit was expected to result;—are likely to be altogether neutralized by the dilatory operation of this very Act for "speedy removal," as evidenced in a recent decision by Mr. Broderip, in the Thames Police Court, that the phrase and question of "existence" put the case before him (as it may do every other) out of his jurisdiction; the evidence, in that case, being to the effect, that though, on the 28th October, baneful effluvia were emitted from the sundry tons of putrifying flesh-adhering bones complained of, yet, when visited on Monday week, by witnesses for the defendant, the only effluvium emitted was the wholesome vapour of ammonia, a substance only calculated to antagonize the evil effects of the "villanous compound of smells" complained of, which was consequently not then in *existence*. Thus, in the lapse of time which the law allows, its provisions may be either nullified or evaded, and the most scientific evidence be rendered apparently contradictory. And thus too, by a quibble worthy of Martinus Scribblerus himself, the *existence* or non-existence of the noxious matter—namely, putrifying flesh and bones,—is identified with the existence or non-existence of the successive effluvia emitted by them, in the course of those changes incidental to the progress of putrefaction, during which identity of existence is sported with by that wondrous thimble-rigger Time, in a way scarcely comparable to any thing so aptly as to the subject-matter of the learned question of the identity of the existence of Sir John Cutler's worsted stockings, which were darned so long with silk, that it came at length to be a very grave and learned question, whether they were not silk stockings rather than worsted.

New Books.

Gutch's Literary and Scientific Register and Almanack for 1847. Simpkin and Marshall.

This little work contains an immense mass of useful information, with all the conveniences of an ordinary pocket-book. We cordially recommend it, though architecture is treated rather shabbily; the chapter under that head consisting simply of part of a chronological table, published by Mr. Godwin some years ago (not acknowledged, by the way), and a somewhat similar table afterwards published by Mr. Griffith.

City, Town, and Country Architecture. By Mr. S. H. Brooks. No. I. Williams, Strand. 1846.

The object of this work is to supply a series of original designs for street elevations, with working-drawings, specifications, &c.; and, if well carried out, it will be very useful. The wrapper, however, of the first No. is such a melancholy example of bad drawing and worse taste, that if we were certain it had been seen by the author, we should give up all hope for the book.

Ainslie's Brick Burning Kiln.—This kiln, for drying and burning bricks and tiles, is composed of various compartments, by which the heat from the first passes into the second, from thence into a third, and so on—thus economising the fuel; and, when the tiles in the first are burnt, the second are half-burnt, to which the greatest heat is then applied, and the chambers are taken in succession—the thorough drying of the bricks being completed by using the heat after it has completed the burning. This new apparatus has been proved on a large scale; and, unlike the common method, by which, frequently, one quarter of the article is spoiled, in this every brick and tile is said to be as perfect in shape as it entered, and as thoroughly burned.

[Advertisement.]

HOLBORN HILL VIADUCT.

Athenæum Club House, London, December 1st, 1846.

TO THE EDITOR OF THE BUILDER.

SIR,—I perceive you have, in your commendatory remarks on Mr. Stead's plan of the viaduct from Holborn to Snow-hill, observed, in your leading article of the 14th November, you had not then seen the financial details of the scheme. That defect I now beg to remedy by inclosing a printed copy of what a friend has extracted from the reports of the Commons House of Parliament, to which he now proposes to add only one-third for increase since its date in 1839, being thirteen years of the most unexampled prosperity and peace that the British empire ever enjoyed; and during which period the railroads have more than doubled the previous ingress and egress of *strangers into the metropolis*: the results are the most gratifying and remunerative.

I beg to add, that besides your own, the project has received the suffrages of many other influential and widely circulated journals, unbiased, and spontaneous; and that many of the leading members of the City Government are fully coinciding on its *plan* and *details*, and as a necessary consequence, the offers of taking shares are numerous, substantial, and satisfactory.

The necessary plans have been deposited with the authorities, and all other legal steps are being carried into execution to prevent any failure in Parliament from any want of form. I have no doubt its merits, and the great necessity for its completion, will carry it triumphantly through both houses, even if assailed there by ignorance or interested opposition, and it will there burst upon the world and the country, *un fait accompli*, as startling in its conception and execution, though we may easily believe not, like them, disastrous in effect, as the Spanish-Franco marriage or the unprincipled and tyrannical seizure of Cracow.

I remain your obedient servant, A COSMOPOLITE.

Evidence of the traffic passing this thoroughfare in the year 1839, and revised in the year 1839, before Sir Matthew Wood and a special committee of the House of Commons.

	£.	s.	d.
20,000,000 pedestrians: then suppose one-third, or 5,666,666 to pass over the viaduct ..... at a halfpenny	13,888	17	0
87,640 equestrians: then suppose one-half, or 43,820, ditto at a halfpenny	91	5	10
372,470 carts and waggons at three halfpence.....	2,327	18	9
236,628 cabs, &c..... at one penny	985	19	0
218,160 omnibuses ..... ditto....	908	15	0
460,110 chaises and taxed carts ditto ..	1,917	2	6
354,942 chariots ..... ditto ..	1,478	18	6
	21,598	16	7
To rents of houses and shops.....	5,700	0	0
	27,298	16	7
By these data, it may fairly be assumed, since 1833, the traffic has increased one-third.....	9,099	12	2
Annual income	36,398	8	9
Minus annual expenses of repairs, toll collectors, and other agencies.....	1,300	0	0
Net annual income	35,098	8	9

The estimated cost of the viaduct, including purchase of property and compensation, 170,000*l*.

The public generally may judge for themselves, by the foregoing remunerative table, as to whether the Holborn Hill Viaduct will be a productive scheme or not.

1st December, 1846. VERITAS.

Miscellanea.

CHARING-CROSS.—In the thirteenth century, Charing was a small hamlet of some half-dozen houses; and the foolish tradition which asserts that it derived its name from "*chere-reine*," is sufficiently disproved by the name having been in use before the death of Queen Elinor. The cross that stood here was one of those erected to that queen's memory; but as to its being "from a design of Cavalini," later inquiries have proved that he had nothing to do either with the crosses or the monument in the Abbey—he being a boy at the time of Elinor's decease. From the curious rolls published by Mr. Turner in his "Manners and Household Expenses in the Thirteenth and Fifteenth Centuries," we learn that the cross at Charing was commenced by Richard de Crundale; who, dying before it was finished, left its completion to Roger de Crundale, the joint builder of Waltham Cross. The figures that adorned it were the work of Alexander of Abingdon. Indeed, there is every reason to believe that these beautiful crosses were almost entirely the work of Englishmen.—*Athenæum.*

CONSECRATION OF ST. JOHN'S CHURCH, FAILSWORTH.—This church, the foundation-stone of which was laid on August 7th, 1845, was consecrated on Thursday by the Lord Bishop of Chester, in the presence of a large assembly of the clergy. This church is designed in the early English style of architecture, by Mr. Shellard. It consists of a lofty nave, with clerestory, north and south aisles, chancel, western tower, with broach spire, and north porch. The tower, at the present time, is only carried to the height of the nave roof, in consequence of the shortness of the means placed at the disposal of the committee. The accommodation on the ground floor, and in the gallery at the west end, is for about 800, and the cost, without the tower, has been but little more than 2,400*l*. The builders were Messrs. Coulthurst and Foggett, of Cheetham Hill, and Messrs. Heyworths, of Todmorden.

ROCK-TOMBS AT MYRA, ASIA MINOR.—We devote to-day to the examination of the ruins; and repair, after breakfasting, to the group of rock-tombs a few yards south of the theatre, where the face of the bold hill rising above it is studded with carved sepulchres wherever the rock is of good texture. All of them are elaborately chiselled. Several have angular pediments, bearing groups of figures in low relief, and one or two are detached except at their bases, in imitation of built habitations. The greater number are of that striking and elegant form peculiar to Lycia, having square mullions and empanelled fronts, ornamented with flat projecting ledges, carved beneath in elegant imitation of rafters of wood supporting a roof. The whole presents the most unique and picturesque assemblage of rock-tombs in Lycia, and they have been considered as a group superior to any in Petra, by a traveller who has seen both localities. We separated, as usual, to examine the inscriptions; and, after collating the two or three copied by Sir C. Fellows, we were so fortunate as to find several others, both Greek and Lycian, that had never before been copied. More interesting than a hundred funeral inscriptions was one scratched or notched in the wall of the ante-chamber of a rock-tomb, by some Greek lover of old. It proclaimed his passion, "Moschus loves Philiste, the daughter of Demetrius." From these rock-tombs we literally stepped into the theatre, which is overlooked and joined by some of them,—a strange and unnatural union, the playhouse married to the grave—the playgoer resting against the house of death, whilst gazing on the most vivid of the recreations of life. The entrance to the theatre from below is by an arch supporting the seats at its southern extremity, and leading through a labyrinth of vomitories, passages, and stone staircases, to the diazoma. This enormous fabric has almost all its rows of seats perfect. Its diameter, according to Mr. Cockerell, who first discovered it, is three hundred and sixty feet. The arena is now a corn-field. A large portion of the proscenium is still standing. It appears to have been a highly finished building, the wings ornamented with polished granite columns surmounted by Corinthian capitals of white marble, one of which is still in its place.—*Travels in Lycia. By Lieut. Spratt.*

PROFESSIONAL EDUCATION.—What is the present education of our engineers, architects, and surveyors? A youth who may, or may be thought to possess "a taste for drawing," whose parents are what the world calls "well to do," is sent into the office of a man whose eminence must be in ratio with the sum paid for the articles. Here he finds others with the same happy genius as his own. Forthwith he is set to draw plans, elevations, and sections. He sees much, he hears much, he does much,—but is the wiser for none. His companions cannot instruct him, and his master has something more profitable to do than to teach tyros an art which engrosses his time and fills his pocket. Left to himself, by dint of time and practice, he becomes thoroughly acquainted with that all-important subject, "the routine of the office;" knows well the style of thing that suits client So and So, and the London and Somewhere-else-Railway; but of the elements, principles, theory, and practice of the science, few pupils carry with them from their masters' offices a thorough, or even sufficient knowledge. We are far from saying that a right-minded, talented youth may not, in the ordinary practice of an office, combined with earnest home-study, acquire a thorough knowledge of his profession; but this implies, what is not commonly found in young men, an innate love of learning and ardent desire of fame. It cannot be said that the picture is too highly coloured. We put it to the professions whether this statement of the manner of educating our young engineers, &c., is not strictly true? They will admit that the mere routine of practice is the great end of the instruction given; the acquisition of elementary and theoretical principles being left to the pupil's private study, or more probable utter neglect.—*Patent Journal.*

INTRA-MURAL BURIALS.—Mr. G. A. Walker's powerful lecture on this subject, last Friday, at the London Mechanics' Institution, was a knock-down blow to the system, from which it can scarcely recover. We look anxiously for the promised Government measure.

BED ROOMS.—"Their small size and their lowness," says Sir James Clark, "render them very insalubrious, and the case is rendered worse by close windows and thick curtains and hangings, with which the beds are often so carefully surrounded as to prevent the possibility of the air being renewed. The consequence is, that we are breathing vitiated air during the greater part of the night; that is, during more than a third part of our lives; and thus the period of repose, which is necessary for the renovation of our mental and bodily vigour, becomes a source of disease. Sleep, under such circumstances, is very often disturbed, and always much less refreshing than when enjoyed in a well-ventilated apartment. It often happens, indeed, that such repose, instead of being followed by renovated strength and activity, is succeeded by a degree of heaviness and langour, which is not overcome till the person has been some time in a purer air. Let a mother, who has been made anxious by the sickly looks of her children, go from pure air into their bed-room in the morning before a door or window has been opened, and remark the state of the atmosphere, the close, oppressive, and often fœtid odour of the room, and she may cease to wonder at the pale, sickly aspect of her children. Let her pay a similar visit some time after means have been taken, by the chimney ventilator or otherwise, to secure a full supply, and continual renewal, of the air in the bed-rooms during the night, and she will be able to account for the more healthy appearance of her children, which is sure to be the consequence of supplying them with pure air to breathe."

ARCHITECTURAL SCHOOL OF DESIGN.—We are requested to mention that it is proposed to hold a private meeting, in a few days, to take into consideration the best course to be adopted with regard to the formation of an Architectural School of Design; and it is requested that gentlemen favourable to the scheme will communicate with Mr. Keble, 12, Camden-street North, Camden-town, or with Mr. Gray before mentioned. Two correspondents suggest, that the Institute should aid the endeavour by granting the use of a room periodically.

A LUCKY ARCHITECT.—Mr. Shellard, the architect, of Manchester, is at present engaged in the erection of a church at Everton, Liverpool, for the Horsfall family, which will cost about 7,000*l*., exclusive of the endowment, and of the expense of the schools to be erected in connection with it. The *Manchester Courier* says Mr. Shellard is at present engaged upon *twenty-nine new churches*, to be erected, or in course of erection, in the diocese of Chester and the neighbouring dioceses.

PROJECTED WORKS.—Contracts have been called for, by advertisment, for works in stone and wood at Holyhead Harbour; for a wooden swivel bridge, and other machinery and works in iron, stone, brick, wood, and concrete, at Folkestone Harbour; for a stone breakwater at Granton Harbour, near Edinburgh; for about ten miles of the Shrewsbury, and Birmingham, and Shropshire Union Railways; for maintenance of the way and works of the London, and South Coast Railway, &c.

THE SEWAGE COMPANY.—Notices have been given of the intention to apply to Parliament for an Act to enable the Sewage Manure Company to make drains, tunnels, sewers, &c., under the city, to Barking-reach, where reservoirs, &c., are to be formed for the reception of the manure.

DESTRUCTION OF ANTIQUITIES.—The Town Council of Gloucester have determined, by a majority of *one*, to destroy the ancient Boothhall in that city. The Archæological Association should make some efforts in its favour, and endeavour to avert the contemplated act of Vandalism.

WAGES IN IRELAND.—There are now employed on the works of the Waterford and Limerick Railway, in and about Limerick, 120 carpenters at wages varying from 3s. 4d. to 4s. per day; 52 smiths earning from 3s. 10d. to 4s. per day; 250 masons at 4s. 4d., and 50 labourers at 1s. 6d.

REWARDS TO SCIENCE.—At the anniversary meeting of the Royal Society, on Monday last, medals were presented to M. La Verrier, for the discovery of the new planet which bears his name; to Faraday; and to Professor Owen. A cloud of honours, narrowly escaped by an Englishman, is falling over La Verrier,

TENDERS

For the alterations and additions at the Basingstoke Union Workhouse, Mr. S. O. Foden, architect, on the 27th of November, 1846:—

Thompson (Basingstoke)	£2,348
Thorne (ditto)	2,250
Cooper and Davis (London)....	2,145
Kerk (Lincoln)	2,100
Nichols (Basingstoke)	2,100
Mason (London)	1,999
Gover (Winchester, accepted) ..	1,990

MEETINGS OF SCIENTIFIC BODIES

During the ensuing Week.

TUESDAY, Dec. 8.—Freemasons of the Church, 3, Great Newport-street, 8 P.M. (anniversary); Syro-Egyptian; 71, Mortimer-street, Cavendish-square, 7½ P.M.

WEDNESDAY, 9.—Society of Arts, Adelphi, 8 P.M.; Graphic Society, Thatched House Tavern, 8 P.M.

THURSDAY, 10.—Royal Society, Somerset House, 8½ P.M.; Society of Antiquaries, Somerset House, 8 P.M.

FRIDAY, 11.—British Archæological Association, Sackville-street, 8 P.M.

TO CORRESPONDENTS.

"*E. H. M.*"—We are obliged by the offer, but do not think it advisable. Drawing shall be returned.

"*J. J.*" shall hear from us.

"*G. H.*" (*Lancaster*).—30s.

"*A Traveller.*"—We shall be glad to see the book, and will return it safely, whether used or not. We know a "clever stone carver," and would send him to an address, if named.

"*Zinc Work.*"—A Correspondent inquires where a machine may be obtained "for making zinc guttering, sashbars, &c.

"*Old Brompton.*"—Lord Morpeth, office of Woods and Works.

"*Baths and Washhouses.*"—A Correspondent suggests that the carcase of the theatre in Portman-market might be made available for an establishment of baths and washhouses.

"*R. S.*"—The sketches will scarcely suit us. Thanks. The book shall be left at the office.

"*H. B.*"—Seventeen windows pay 4*l.* 7*s.* Eighteen windows 4*l.* 15*s.* 3*d.*

"*Dorna.*"—No. 48 can be had through any bookseller. Most of the numbers from 84 to end of second volume are out of print.

"*Young Builder*"—Will find information at p. 455, *ante*.

Received.—"G. L. T," "Vincent Yardley," "G. H. L," "C. C.," "W. L. B. G.," "Veritas," "R. Adair," "B. P. T.," "Z. A.," "Ante Humbug."

TO PROVINCIAL READERS.—In reply to complaints of the irregular delivery of THE BUILDER in provincial towns, we beg leave to state that it is invariably published by seven o'clock on Friday morning; and that the irregularity complained of rests entirely with the parties through whom it is obtained.

ADVERTISEMENTS.

PORTER'S CORRUGATED and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanizing Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway and other Iron and Smith's work Manufactured of the best quality. Iron Fence and Hurdles as usual.—The Trade Supplied.

By Her Majesty's Royal Letters Patent.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED METAL.—This article was at first sold under the name of Galvanised Tin Plates, but the Patentees finding that the public, in some instances, overlooking the word Tin, confounded the article with Galvanised Iron, and that the character of their metal has thereby sustained injury, are desirous of giving it a name so distinctive as to prevent such mistakes, and consequent disappointment to purchasers in future. They therefore respectfully request purchasers to inquire for MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON. In order to enable the public readily and at first sight to distinguish between the two metals, it may be well to inform them, that Galvanised Iron has a plain zinc-like appearance, while M. and R.'s Patent Galvanised Tinned Iron has a smooth crystalline surface.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON, Patronized by the Admiralty and the Honourable Board of Ordnance, being extensively used in her Majesty's Dock-yards, at the Tower, and elsewhere, for every variety of Roofing, and other purposes, where a strong, light, cheap, and durable material is required.

It has been found by experience that this article is beyond all comparison superior to zinc; possessing, as it does, all the advantages arising from the strength and firmness of iron, combined with perfect immunity from rust; whilst it is free from the very serious objection which applies to zinc, viz. its contraction and expansion, consequent upon every change of temperature, and from which circumstance leakage must of course result.

This material is not likely to be destroyed by fire, as is the case with zinc and lead, which melt and run down, thus freely admitting fresh air to the fire, and causing it to burn more fiercely. It is, therefore, obviously well adapted for all the purposes above-named, and most importantly so, when there is the possibility of fire. It is also peculiarly suitable for chimney-tops, gutters, spouting, and out-door work generally, possessing the strength of iron, without its liability to corrosion. It is by far the most economical metal roofing that can be obtained, in consequence of its strength, as it may be laid without boards, and upon the lightest rafters.

his mode of preserving metal from rust does not only apply to sheet-iron, but also to manufactured iron in any form, as bolts, nuts, hinges, nails, &c. &c.

For full Particulars apply to S. HOLLAND, 34, Gracechurch-street,

CAEN SUFFERANCE WHARF, ROTHERHITHE.

LUARD and BEEDHAM beg to inform architects, surveyors, builders, and others, that they have removed from Norway Wharf, Greenwich, the whole of their Caen stone business, to the above extensive premises, where a large stock will be kept up by continual fresh arrivals from their quarries at Allemange. Orders received at the wharf, and further particulars may be obtained of Mr. GEORGE GATES, 19, Southwark-square, Borough, London.—Orders shipped direct from Caen to any port.

The Waterman steam-boats call at Lavender-wharf, adjoining Caen Wharf.

CAEN STONE.

TUCKWELL'S Norway Sufferance Wharf, Greenwich.—Architects and Stone Merchants are informed, that this stone may be procured at the above Wharf in any quantity, in blocks up to 12 tons. The stone, which is exclusively the product of the Allemagne Quarries, and of the very finest quality, is consigned solely to W. TUCKWELL, who is prepared to execute orders to any extent, having a Large Stock always on the Wharf.—Orders received by, and further information with samples may be obtained of Mr. R. A. WITHALL, Surveyor, 80, Cheapside, and of Mr. W. TUCKWELL, at the Wharf.

N.B. Cargoes shipped direct to any Port.

ARCHITECTS and SURVEYORS will find by making their selection of MARBLE CHIMNEY-PIECES at the Westminster Marble Company's Show Rooms, containing a great variety of elegant drawing and dining-room chimney-pieces, executed in a superior manner, and sold at such reduced prices to enable the public to realize a great saving, by their patent machinery. An unabated zeal will be maintained to continue the patronage so liberally shown to this establishment.

Address, Earl-street, Milbank.

N.B. Country Orders promptly attended to.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

SAMUEL CUNDY begs to inform Architects and others that GOTHIC WINDOWS, and every other branch of Stone-work, &c., is executed at the cheapest possible rate, and packed for the country ready for fixing or fixed, enabling ARCHITECTS to have the most difficult TRACERY for CHURCHES, or other buildings in the PROVINCES, executed under their immediate inspection in TOWN.

BUILDERS and MASONS can have every description of Stone in the London Market, either in the rough block, or cut to sizes from the saw, or prepared ready for fixing or fixed, avoiding either waste in the goods or carriage.

Box Chimney-pieces from 12*s.* upwards.

THE WORCESTER ENCAUSTIC TILES, in all their beautiful variety, may be inspected, in addition to the usual extensive stock of Chimney-pieces and FONTS.

Estimates given for building generally.

BARRETT, STONE MERCHANT, 24, Wharf, Harrow Road, Paddington, respectfully informs Builders, Stone Masons, and others, that he has opened a Depôt at the Great Western Terminus for the sale of Wall's Quarry Stone. Having been established at the above place for the last twelve months, and the sale of the stone increasing so much, the Great Western Company has had the kindness to favour me with a Depôt at their Terminus. The Wall's Quarry Stone is equal to Portland for Staircases, Hall Floors, Porticoes, Balconies, Chimney-pieces, Coping, Window Sills, &c. The same stone being used in Gloucestershire for all the above purposes. The stone is sawn to all sizes while in the Quarry to save expense of waste and sawing in London, on which account can be rendered much cheaper, and is free from all flints, shells, and holes.—List of prices and samples sent to any part of London, carriage free, by directing all letters to No. 24, Wharf, Paddington.

P.S. Nailsworth and Paniswick Stone in Block.

DECORATIONS in WOOD.—The unrivalled perfection at length attained by the patent process of Carving, enables its proprietors to offer to the public, at an extremely reduced price, every possible variety of Carved Wood for external and internal enrichment—thus substituting the genuine material for those numerous imitations which have invariably been found fragile or unsatisfactory.

Mouldings and Carvings of all kinds are thus supplied, adapted for Church or Library Fittings, Altar Chairs, Picture Frames, Chimney-pieces, and every description of Gothic or Elizabethan Furniture.

Specimens may be seen and Drawings obtained at the Patent Wood Carving Offices, 444, West Strand, or at the Works, Ranelagh-road, Thames-bank.

ESTABLISHED MORE THAN A CENTURY.

JOHN MACHEN and SON, CONVERTERS and REFINERS of STEEL, and Manufacturers of Cast-Steel Files, Rasps, Screw-Bolts, Screws, &c., beg to inform their Friends, and all large purchasers of Steel, Files, &c., that they have, in conjunction with their Manufactory at Sheffield, established a Depot in London, at No. 7, EARL-STREET, NEW BRIDGE-STREET, City, for the convenience of supplying their valued connexion in London and the south of England.

J. M. and Son deem it almost superfluous to speak of the quality of the goods manufactured by them, tested as they have been for more than a hundred years, and approved of by a great proportion of the largest consumers in Great Britain; suffice it to say, that the same strict attention will be paid in every department of the manufacture so as to merit the confidence they have hitherto enjoyed.

J. M. and Son respectfully solicit a trial from those who are not yet acquainted with the quality of their goods. A large and well-assorted stock will always be kept on hand at the London Warehouse, 7, Earl-street, New Bridge-street.

Agent—W. S. ALDERTON, Steel Pen Manufacturer.

JENNINGS'S SHUTTER FASTENER.

Shop Fronts are more damaged and disfigured by the Shutter Bar than from any other cause. Bars are a trouble to put up and take down, and troublesome when down. JENNINGS'S REGISTERED SHOP SHUTTER FASTENER supersedes the destructive Bar, and answers the purpose also of a shutter-shoe. The shoes and fasteners being made of brass, afford greater protection to the corner of the shutter, and leave no rusty deposit on the stall-board in damp weather. Hundreds of shops have been secured by the inventor, and testimonials of their ease and efficiency may be obtained from the occupiers. A front, containing eight shutters, secured for 24*s.*, or a new front shod and secured for 40*s.* A liberal discount allowed to Builders, Ironmongers, and Painters, who introduce it to the notice of persons whose shops they decorate. To be had of the Inventor, 29, Great Charlotte-street, Blackfriars'-road; or of any respectable ironmonger.

TO ARCHITECTS.

THE attention of Architects is directed towards the new Patent for CARVING IN WOOD, STONE, and MARBLE, by MACHINERY. This interesting invention will enable them to see their plans carried out, which in many cases they are prevented doing, owing to the enormous expense attending hand-carving. The work, when executed by this machine, whether in stone or wood, has the appearance of hand-carving done in a masterly style. Monuments beautifully executed to any design, at an immense saving in price. The works are in full operation, and Architects are invited to inspect their merit at Eccleston-place, Eccleston-street, Pimlico, late Chauntrey's foundry.

CHEAP ROMAN CEMENT is sold in Casks that will not contain five bushels, even by some manufacturers of a very respectable name. Consumers should see that the standard size cask is 29 inches long by 17½ across the head, outside measure. Any workman with a rule in his pocket can ascertain this.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.

Manufactured by J. B. WHITE and SONS, of Millbank-street, Westminster; and sold at their warehouses—Earl-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and undestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Milbank-street, Westminster, and Seel-street, Liverpool.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

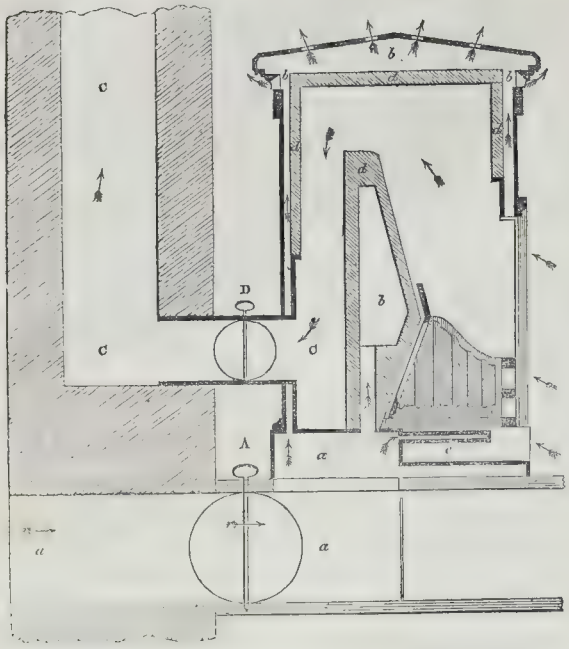
JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or painted with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

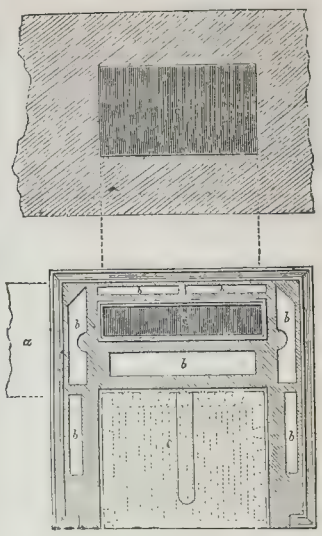
Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London; of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

CUNDY'S PATENT IMPROVED OPEN FIRE PLACE, HOT AIR, VENTILATING STOVE.





PLAN.

Description of Diagram.

a a a a Fresh air channel, for admission of external air.
b b b b Hot air chambers (formed with artificial stone, *d d d d*) through which the air passes into the room, and is heated without being injured.
C C C The direction the smoke and vitiated air takes after it has passed through the fire and heated the artificial stone of the hot air chambers.
e Blow pipe to preserve perfect combustion placed immediately underneath the grating of fire place.
A and D are regulators.
The arrows shew the way the external fresh air is admitted, next passing through the hot-air chambers into the room, and lastly taken out of the room through the fire and up the chimney—thus completing ventilation.

This STOVE embraces the following most important principles connected with the economy of

WARMING AND VENTILATING CHURCHES,

And other Public and Private Buildings, viz.:—

HEAT by RADIATION from the Open Fire.

HEAT by CONDUCTION.—A copious and continuous stream of PURE WARM AIR is conducted into the room through the large Stove, at a regulated rate, by means of an air channel underneath the floor, communicating with the external air.

HEAT by REFLECTION.—The external casing of the Stove becoming warm, communicates its heat to the surrounding atmosphere.

VENTILATION produced by the OPEN FIRE—which will carry off the Vitiated Air through the chimney at the same rate the Pure Air is conducted into the room through the interior HEATING APPARATUS of the Stove, thereby keeping up a regular and agreeable system of Ventilation.

ECONOMY of FUEL.—This Stove, from the peculiar construction of the Fire Place, will produce a most BRILLIANT FIRE with the least possible quantity of fuel, and will continue to burn so long as any particle of coal remains.

TESTIMONIALS AFTER A WINTER'S TRIAL.

Gothic Villa, St. John's Wood, Oct. 22, 1846.

SIR,—Perhaps there are few private individuals who have had more experience in stoves than I have had; I have tried most of the newly invented ones, and rejected all but yours, two of which I have tried in my temporary church, and found them to succeed so well, that I have introduced them into All Saint's Church, St. John's Wood.

The following reasons induce me to approve of them:—Exemption of effluvia; the emission of a great body of pure warm air; the perfect system of ventilation; the sight of the fire; the consumption of vitiated air; the little attention requisite; the cleanliness connected with them; and though last, not least, the great economy of fuel.

All more I can say in favour of your stoves is, that whenever I require a stove, either for my house or church, I shall purchase your patent, and recommend all my friends to do the same.

Yours truly,
ED. THOMPSON, M.A.
Incumbent of All Saint's, St. John's Wood.

29, Charter-house-square, Monday, Feb. 17, 1846.

DEAR SIR,—The Stoves which you have recently erected in my church have been highly successful, and I have great pleasure in expressing to you the entire satisfaction which they have given to all parties. The church, which was notoriously noted for its coldness and bad ventilation, is now most agreeably warmed and well ventilated. I shall be most happy, on any occasion, to bear testimony to the excellency of your stoves; and I will endeavour, to the best of my power, to make them known, and I will certainly recommend them to my friends.

I remain, Dear Sir, yours faithfully,
JN. WM. ROGERS, St. Thomas's Charter-house.

St. Thomas's, Charter-house.

We, the undersigned, do hereby certify, that during the last three winters we suffered severely from the cold in the Church of St. Thomas's, Charter-house, although we had three large Arnott's Stoves, which consumed one sack and half of coals each day they were lit. The building was never warm; in consequence of which the congregation fell off, though we had a zealous preacher in the Rev. Dr. James. We have now two of Cundy's Patent Stoves, which consume but one cwt. of coal per day between them, and they impart to the church a comfortable heat and ventilation.

WILLIAM BUSHMAN, Verger.
THOMAS GEORGE, Beadle.

St. John's, Fulham, 2nd May, 1846.

My Dear Sir,—I have very great pleasure in giving my testimony to the efficiency of your Stove, as combining the double advantage of thoroughly warming and constantly ventilating any large church or building. Your invention appeared to me to be in theory all that could be desired; and I can honestly say, that I have not yet discovered the point in which the practice falls short of the theory.—The area of my church is computed to be nearly 200,000 cubical feet, and though a second stove will be required, the one already erected has fully answered my highest expectations, and realized all that you had given me to expect. If confirmation were needed for evidence of its efficiency, I might further state, that I had peculiar difficulties to contend with,—that various attempts had been made, and that every attempt had proved a signal failure,—that I was exposed to the charge of boldness in attempting what had baffled others; but that such is the power, the efficiency, and the comfort communicated by your Stove, that I know not of a dissentient voice, and have heard only of approval with unanimous consent.—I might add, that I was first led to the making inquiry respecting your stove, having gathered indirectly, that a disposition not unfavourable towards it was entertained in a certain high quarter, where, on account of ability of discernment, the smallest approach to approval must carry with it great weight.—I remain, Dear Sir, yours faithfully,
WILLIAM GARRATT, Minister of St. John's, Fulham.

Letter from the Rev. MATTHEW O'BRIEN, (Professor of Natural Philosophy and Astronomy), M.A., F.R.S., &c., King's College.

Upper Norwood, 22nd June, 1846.

I beg to certify that one of Mr. Cundy's Patent Stoves was put up in my lecture room at King's College, last year, in place of a common stove (of Arnott's construction, I believe). I have no hesitation in saying from actual experience, that Mr. Cundy's Stove is far superior both in producing warmth over the whole room, and in promoting ventilation, without disagreeable currents of air, or close smell.

MATTHEW O'BRIEN.

*** Since this stove was put up, four others have also been fixed, one of which is placed in the Medical Library.

Letter from Professor BRADLEY.

King's College, London, July, 1846.

Sir,—I am happy to be able to bear testimony to the efficiency of your stove, which is fixed in my lecture-room at this Institution. It seems to have all the essential requisites of a good stove, a rapid draught, freedom from all smoke, and from that smell which arises from iron, heated in contact with the air of a dwelling-room, which is entirely avoided by your arrangement.—I am, Sir, your obedient Servant,
THOMAS BRADLEY.

To be had of the Manufacturers,

MESSRS. DOWSON, 69, WELBECK-STREET, CAVENDISH-SQUARE,

Where they may be SEEN IN OPERATION, and where also may be seen an ELEGANT assortment of REGISTER and other STOVES, FENDERS, CULINARY APPARATUS, &c. &c. ARCHITECTS and BUILDERS supplied with IRON and BRASS CASTINGS, at Messrs. DOWSON'S FOUNDRY, 5, SEYMOUR-PLACE, BRYANSTON-SQUARE. Smith's Work, Gas Fittings, and all other works appertaining to a Smith and Founder, undertaken at estimated prices.

The Builder.

No. CCI.

SATURDAY, DECEMBER 12, 1846.

LATELY passing Trinity Church, Paddington, which was consecrated about four months ago, and cost nearly 18,000*l.*, we observed men busily employed in pointing the joints of the parapets, and other portions of the masonry, and so were led to make an examination of the building. A glance inside shewed us that a slip had taken place, especially at the east end, where the main arches on each side of the nave are broken; and that remedial measures had been adopted only just in time to prevent worse mischief,—even if the probability of this be yet removed.

The level of the ground on which the church stands, is a newly made one; and the building is raised on arches at considerable expense, to bring it up from what was thought solid ground. According to the newspaper paragraphs at the time of the consecration, above 2,000*l.* were spent in preparing the foundations.

Nevertheless they have failed—partially, at all events; and, therefore, it would be useful to know what were the measures actually employed, in what respect they proved inefficient, and what remedies have since been employed.

Perhaps the architect himself may think it worth while to give us this information. It is not asked for impertinently, but in the belief that such statements are very valuable.

From the days of Vitruvius upwards, the necessity of a good bottom for a building has been urged by most writers on architecture. Experience shews that reiteration is nevertheless desirable. The foundation is the most important of considerations,—unless a stable one be obtained, all that follows is vain. The provisions for rendering it secure are as much the duty of the architect, as the harmonious arrangement and artistical decoration of the building; and if he neglect the study of this and other branches of construction, he will find every work committed to his charge a source of annoyance and loss; and however brilliant his fancy, and pure his taste, may give up all hopes, under ordinary circumstances, of establishing a lasting reputation as an architect.

We do not make this remark in direct application to the architect of the church above mentioned, who is understood to be an experienced man, and to have given due consideration, as he thought, to the precautions required in this particular case; but are led to it by a cry now being raised, that a knowledge of construction is unnecessary for an architect,—architecture having its province merely *in appearance*. We had thought this injurious doctrine, which has done more to degrade the art in England than any other circumstance, was exploded long ago, and can scarcely persuade ourselves that it will be revived to any extent. The chief object of architecture is utility. We do not build simply for the production of beauty, but for occupation,—for use. Convenience, strength, fitness, are the first requirements in an edifice; decoration should follow, and grow out of these.

Structural propriety is a main element in the production of beauty; all that we most admire in the works of both the classic and medieval times, grew out of the constructional arrangements, by the application of taste and genius. A desire to produce beautiful forms did not lead to the introduction of columns, entablatures, or pediments; of flying buttresses, pinnacles, groined vaults or spires;—but the requirements of the building; and beauty resulted from the skill with which the structural wants were supplied and adorned. New wants and new difficulties led to new inventions and new beauties, which has never been the case where the converse mode has been pursued.

Soane, to whom we lately referred, seldom failed to combat the error in question. Looking to our own notes of his lectures in 1835, we find him saying:—

"A knowledge of construction, which is unfortunately too little regarded, is most essential to the student; the ancients have given proof in their buildings, how highly esteemed and how well understood it was by them. Some modern author has said, that when the architect has conceived the design, all he has to do is to have the building raised as lightly, as cheaply, and as quickly as possible. Nothing can be more false; and had the ancients thought thus, we should not have for our study and admiration those glorious monuments of their skill which remain to us."

Again, he urged,—"By a knowledge of construction, the architect is enabled to direct the artificers, instead of being directed by them, and to ascertain correctly the expense of his design. The duties of an architect require his entire attention: without a perfect knowledge of construction, unlimited command over his pencil, and an acquaintance with the quality and strength of the various materials, the most brilliant invention will be worse than useless, and can but bring dishonour to the architect, and disgrace to the profession."

And then, at the close of the course, he said,—"Students should examine the construction of every building to which they can gain access; by attending even to the defective construction of speculators, they will see errors to be avoided,—they will gain a knowledge of light and shade, and store up new forms. They should read Scamozzi, Vignola, and the best authors, and by thus uniting theory and practice, if they do their duty steadily and resolutely, they would be admired and esteemed when living, and regretted when dead. The cure of defects is part of an architect's duty. The dry rot, a noisome disease, was unknown till lately—what is the cause of it, he asked? A knowledge of this will suggest a remedy. To build a mansion was at one time a work of consideration; the walls were allowed to dry, and the timbers were well seasoned. Now, stone and timber are hurried from the quarry and forest; edifices are erected in a few months, which should have occupied years; damp is shut up in the walls, and thence the dry-rot and other evils. It is necessary the architect should have an acquaintance with these things: he has much more to do than making drawings."

To say that construction is not *architecture* is unnecessary; but it is a main part of it. A man may have a knowledge of construction generally, and yet not be an architect: but no man is entitled to the rank of architect, or, indeed, is likely to obtain it, who is ignorant of construction. The greater includes the less. Further, it may be said, that he who simply understands construction, is nearer to being an architect, than he who can merely make an architectural drawing.

The doctrine which teaches that architecture has its province merely in *appearance*, and would separate design from construction, is an utter fallacy, full of danger.

A CHAT ABOUT KEYNSHAM AND BITTON.

WE stopped the other day with our old friend John Britton, at the Keynsham Station, on the Great Western Railway, to pay a flying visit to Bitton Church, Gloucestershire, and found much to interest us. The floor of a room in the station-house is formed of a tesselated Roman pavement, which was discovered at Newton Saint Loe, when excavating for the line. It is 11 or 12 feet square, and represents Orpheus playing on his lyre with a circle of beasts around him, similar to one in Lord Bathurst's Park, at Cirencester, but is not of such good workmanship.

Keynsham* Church has some parts of great beauty, especially the west end of the south aisle, with its stairs' turret, and deserves better treatment than it has received or is promised. The south porch has fallen into ruin, and it was gravely proposed a short time ago, to pull it down as the cheapest way of repairing it! Fortunately, a defender was found, and it is to be hoped he will succeed in inducing the parishioners to restore it.

"We love the ivy-mantled tower,
Rock'd by the storms of passing years;
The grave, whose melancholy flower
Was nourish'd by a martyr's tears.

Long be our Father's temple ours,
Woe to the hand by which it falls;
A thousand spirits watch its towers,
A host of angels guard its walls."

Keynsham Church is remarkable for a perpendicular gothic tower, rebuilt as late as the year 1612, at a cost of 230*l.* The details, as may be expected, are bad, but the general proportions are satisfactory. It has been usually described as of the late perpendicular period, and the writer of the "Church Notes," in Bourne's fine work on the Great Western Railway (Mr. George Clarke), has fallen into the same mistake.

There are several interesting bits of domestic architecture in Keynsham, among which may be mentioned a street front, with a curious bay window of stone supported on two boldly sculptured half-length figures, in costume of early date.

At Saltford, by the way, a short distance from Keynsham, there is an old stone house (now occupied by Mr. Flowers;—we mention this as a guide for those who would seek it), the structure of which is Norman. A floor of oak trees (unplaned), and walls four feet thick explain its long duration. One semi-circular headed window, with zig-zag moulding round it remains, but the greater part of the exterior seems to have beeen *modernized* in the sixteenth century. A seated lion on the apex of the gable; an old door and hinges; a porch with a cross over the gable; a sculptured corbel near it; and a chimney-piece marked 1645, in one of the rooms, are the points which will attract a visiter's attention.

A very short ride from Keynsham brings you to Bitton Church, a fine structure, consisting of nave, chancel, north chapel, and tower. The foundation is Norman, and much of the structure of the church is of that date, but its general character is now perpendicular. The nave has Norman north and south doors (the latter is altered into a window), and the chancel arch has been restored recently, by the present excellent and enthusiastic vicar, the Rev. H. T. Ellacombe, also in the Norman style. The north chapel is a charming example of the transition from early English to decorated, and contains three handsome sedilia and a piscina. About twenty years ago, an incised stone, representing a cross-legged knight, was found on the south side of the nave. Investigation shewed that this was a memorial of Sir Thomas de Button, or Bitton, who died in 1227, and was buried there; and over whose grave a chantrey chapel had been erected in 1299. The stone is now preserved in a vestibule at the north entrance.

The tower of this church is very handsome: it is in three stages, with diagonal buttresses, carrying crocketted pinnacles in each stage.

* St. Keyn's ham.

A series of pinnacles rising from the embattled parapet on all four sides, larger pinnacles at the angles, and a beautiful spiret surmounting a stairs' turret on the north side of the tower (restored in 1842), render the upper part of it exceedingly picturesque. The tower is an excellent piece of masonry, and in good preservation. It can scarcely be considered earlier than the 15th century, notwithstanding that the drip-corbels of the west door are supposed to represent the heads of Edward III. and his queen.*

The view from the churchyard, embracing Stoke and Lansdown, is beautiful; and the vicarage, rebuilt by the present incumbent, who, for many years here quietly placed, seems to have found a chief delight in the restoration and improvement of his church, offers many points of interest. Himself a zealous antiquary, Mr. Ellacombe welcomes all who pursue the same study, or find pleasure in examining the architectural works of our forefathers.

MAGISTRATES AND THE BUILDING ACT.

DIVIDING-WALLS IN WAREHOUSES.

On Friday, Mr. G. Todd, the builder, was charged on an information before Mr. Jardine, at Bow-street, under 7th & 8th Vict. cap. 84, with neglecting to build a party-wall to divide a warehouse he had erected in Oxford-street, containing within the same more than 200,000 cubic feet.

A solicitor who attended to support the information on behalf of Mr. Pownall, the District Surveyor, stated, that the Act came into operation in January, 1845, and its object was to prevent serious casualties from fire, &c. The Act provided, that every warehouse containing with the walls more than 200,000 cubic feet, should be divided by a party wall. The defendant received notice from the district surveyor, soon after the commencement of the works, that he must build a party wall, or he would infringe the Act; but as he still continued to build, the matter was laid before the official referees, who made an award, that the building was constructed contrary to the Act, and that it contained more than 300,000 cubic feet, without any party wall. Upon this the defendant applied to the Commissioners of Woods and Works, for a modification of the rules of the Act affecting his building, but they declined interfering in his favour. Mr. Merrick, for whom the premises were built, occupied them when finished, and carried on the business of a paper-stainer; but as the builder refused to alter the premises, the referees withdrew a temporary license they had granted to Mr. Merrick to carry on his business there; and on his refusing to discontinue it, or build a party wall as directed by the referees, the present proceedings were taken against the builder.

Mr. Prendergast, who appeared for the defendant, took a preliminary objection to the wording of the information, which the magistrate overruled.

Mr. Pownall was then called to give evidence in support of the charge, but the defendant's counsel raised the objection that he was an interested party, inasmuch as he would be entitled, in case of conviction, to claim the expenses of the information, which objection Mr. Jardine held to be good.

Mr. Gosling, his clerk, was then called, and the certificate of the official referees declaring the building to be contrary to the provisions of the Act being put in, he proved the handwriting of the referees and the seal of the registrar; on describing, however, the situation of the premises, there appeared to be a discrepancy between the preliminary notices and information, and the certificate of the official referees; the two former stating that the premises were situate at the back of a street called "Oxford-street," while the last-named document described them as being at the back of a street called "New Oxford-street," or Oxford-street East."

The magistrate regretting that the case was stopped on such a point, as well he might, held the discrepancy to be fatal, and the summons was dismissed. The matter of course will not end here, and expensive litigation will probably be the result. The ruling by Mr. Jardine that a district surveyor cannot be a witness is important.

* Mr. Ellacombe thinks that, like New College, Oxford, it may belong to the 14th century.

THE LIFE OF SIR JOHN SOANE.

The following is the chronological view of Sir John Soane's life, by Mr. G. Bailey, referred to last week:—

Born at Reading, 10th September, 1753; entered the office of Mr. George Dance, 1768; exhibited his first drawing at the fourth exhibition at the Royal Academy, "Front of a nobleman's townhouse," 1772; the same year he obtained the silver medal at the R.A for the best drawing of the front of the Banqueting House at Whitehall, 1772; he was an unsuccessful competitor for the gold medal at the R.A., 1774; he gained the gold medal for the best design for a triumphal bridge, 1776; he left London for Italy, 1777; his first publication, entitled, "Designs in Architecture," appeared in 1778; elected member of the Academy of Fine Arts at Parma, and returned to London from Italy, June, 1780; designed and executed extensive alterations and additions to Mulgrave Hall, near Whitby, Yorkshire, for the Earl of Mulgrave—and to Ryston Hall, 1784; a house for the Rev. G. Gooch, Norfolk, 1784; Tendering Hall, in Suffolk, for Admiral Sir Joshua Rowley, 1784; a house at Shottisham, near Norwich, for Robert Fellowes, Esq., 1785-8; Letton Hall, for B. G. Dillingham, Esq., 1785-8; appointed architect and surveyor to the Bank of England, 16th October, 1788; rebuilt Blackfriars-bridge, at Norwich, 1789; designed and executed extensive additions to Chillington, the seat of Mr. Gifford, 1789; a house for the Rev. Charles Collyer, Gunthorpe, 1789; extensive alterations and additions to Bentley Priory, near Stanmore, for the Marquis of Abercorn, 1789-1790; to Skelton Castle, for John Wharton, Esq., 1791; alterations and additions to Norwich Castle, 1788-1794; alterations and additions to Mogger-hanger House, Bedfordshire, the seat of Godfrey Thornton, Esq., 1790-9; appointed Clerk of the Works to St. James's Palace, the two Houses of Parliament, and other public buildings in Westminster, 1791; designed and executed alterations and additions to Barons Court, in Ireland, a seat of the Marquis of Abercorn, 1791-2; to Wimpole, the seat of the Earl of Hardwicke, 1791-3; his own house, No. 12, Lincoln's-Inn-fields, 1792; Buckingham House, in Pall Mall, for the late Marquis of Buckingham and a town mansion for the Duke of Leeds, in St. James's-square, 1790-4; designed and executed alterations and additions to Sulby Lodge, Northamptonshire, the seat of René Payne, Esq., 1792; published a work, entitled, "Sketches in Architecture," 1793; designed and executed Tyringham Hall, near Newport Pagnel, for Wm. Praed, Esq., 1793-6; a house at Reading, for W. B. Simmonds, Esq., 1794-1802; the entrance gates and lodge in Hyde-park, opposite Great Cumberland-street (since taken down), 1794; a house for the Hon. Mrs. Yorke (near Southampton), 1794; became a member of the Society of Antiquaries, 1795; elected Associate of the Royal Academy, 1795; appointed architect for new buildings and repairs in the royal parks, woods, and forests, July, 1795; designed and executed extensive alterations and additions at Bagden House, for the Earl of Ailesbury, 1795; ditto at Hinton St. George, for Earl Paulett, 1796; designed and executed a house at Reading, for L. Austwick, Esq., 1796; alterations and additions to Holwood House, the seat of the Right Hon. W. Pitt, 1797-99; erected a house in Stratton-street, Piccadilly, for Col. Graham, 1797-8; designed and executed alterations and additions to a house for the Countess of Pembroke, Grosvenor-square, 1797-8; offered himself candidate for the surveyorship of the East-India Company, 1799; Letter to the Earl Spencer, K.G., 1799; designed and executed extensive alterations and additions to a house in St. James's-square, for Samuel Thornton, Esq., 1799-1808; to Aynho, Bucks, the seat of W. R. Cartwright, Esq., 1800-1; designed and executed the Banking-house in Fleet-street, for Messrs. Praeds and Co., 1801; elected Royal Academician, 1802; designed and executed alterations and additions at Albury Park, the seat of Samuel Thornton, Esq., 1802; ditto, at Cricket Lodge, near Chard, the seat of the Viscount Bridport, 1802; designed and executed the obelisk in the market-place at Reading, erected at the expense of E. Simeon, Esq., 1804; built a large house, counting-houses, warehouses, &c., in Fountain-court, Aldermanbury, for W. A. Jackson, Esq., 1804; a villa, for himself, at Ealing, 1804; designed and executed alterations and additions to Port Eliot, St. Germans, Cornwall, the seat of Lord Eliot, afterwards Earl of St. Germans, 1804; at Ramsey Abbey, Huntingdonshire, the seat of W. H. Fellowes, Esq., 1804-1807; to a house at Roehampton, for John Thomson, Esq., 1804-1806; to a house in St. James's-square, for Lord Eliot, and the Earl of St. Germans, 1805-1819; the Gothic Library, at Stowe House, Bucks, 1805-1806; alterations and additions to Macartney House, Blackheath, the seat of the Hon. G. F. Lyttleton, 1806-1807; elected professor of architecture, in the Royal Academy, 1806; erected a new mansion at Moggerhanger, in Bedfordshire, for Stephen Thornton, Esq., 1806-1811; a monumental tomb, in the churchyard, at Leytonstone, in Essex, for Samuel Bosanquet, Esq., 1807; appointed clerk of the works of the Royal Hospital, at Chelsea, 1807; made designs for the completion of Taymouth Castle, the seat of the Earl of Bredalbane, 1808; for the Royal Academical Institution, at Belfast, 1808; designed and executed a mausoleum, adjoining the house of Mr. Desenfans, in Charlotte-street, Portland-place, 1808; the five new houses, in Princes-street, forming "New Bank Buildings," 1808-1810; the new infirmary, at Chelsea Hospital, 1809; read the first lecture, Royal Academy, 27th March, 1809; repeated the first lecture on the 8th January, 1810; lectures stopped, at the fourth lecture, on the 29th January, 1810; designed and executed alterations and additions to Whitley Abbey, near Coventry, the seat of the Right Hon. Lord Hood, 1810; the entrance to the London Dock Company House, and to the counting-house of Messrs. Thellusson and Co., in Meeting-house Court, Old Jewry, 1811; lectures resumed, 9th of January, 1812; designed and executed a house in Park-lane, for Mr. Robins, 1812; alterations and additions to Everton House, Bedfordshire, the seat of William Astell, Esq., 1812; designed and built his own house, 13, Lincoln's-Inn-fields, 1812; the New Gallery, at Dulwich College, to receive the collection of pictures, bequeathed by Sir Francis Bourgeois, and a mausoleum, wherein are deposited the remains of Sir F. Bourgeois and Mr. and Mrs. Desenfans, 1812; elected Grand Superintendent of Works to the United Fraternity of Freemasons, 1813; designed and executed additions to the Earl of Hardwicke's house in St. James's-square, 1815; appointed one of the attached architects to the Office of Works, 1815; designed and built a farm-house, for Thomas Swinnerton, Esq., at Butterton, in Staffordshire, 1816-1817; designed and executed extensive alterations and additions to the banking-house of Messrs. Grote, Prescott, and Co., in Threadneedle-street, 1818; designed and built the National Debt Redemption and Life Annuities Office, in the Old Jewry, 1818-1819; alterations and additions to Marden Hall, near Hertford, the seat of George Thornton, Esq., 1818; designed and built a house for the Rev. G. Monins, at Ringwould, near Deal, 1813-1815; houses in Regent-street, for Mr. Robins, and others, 1820-1821; the new law courts, at Westminster, between, 1820-1827; designed and superintended the re-building of Wotton House, in Buckinghamshire, the seat of the Marquis of Chandos, 1820-22; chosen a fellow of the Royal Society, 1821; designed and executed Pelwall House, near Market Drayton, for Purney Sillitoe, Esq., 1821; a new church at Walworth, in the parish of St. Mary, Newington, 1822; the new Scala Regia Royal Gallery and Library, in the House of Lords, 1822-1824; Trinity Church, St. Marylebone, 1824; a new chapel in the parish of St. Matthew, Bethnal-green, 1824; designed and erected the new office for the Board of Trade, and the Privy Council offices, 1824-7; additional committee-rooms, House of Lords, 1825; additional committee-rooms and a new library for the House of Commons, 1826; the new grand Masonic Hall, adjoining Freemason's Hall, in Great Queen-street, 1826; Printed for private distribution, "Designs for public and private buildings," 1827; published, a brief statement of the proceedings respecting the new law courts, at Westminster, 1828; designed and executed the New State Paper Office in Duke-street, Westminster, 1829-1833; the ante-room to the Sculpture Gallery of Sir Francis Chantrey, R.A., 1831; received the honour of knighthood from his Majesty King William IV., 21st of September, 1831; printed for private distribution, a "Description of the house and museum on the north side of Lincoln's-Inn-fields," 1832; resigned the appointment of architect and surveyor to the Bank, 16th of October, 1833; Procured an Act of Parliament for settling his museum, library, and works of art in Lincoln's-Inn-fields, for the benefit of the public, 20th April, 1833; presented with impressions in bronze, silver, and gold, of a medal, struck in his honour by the architects of England, March, 1835; received a medal from the Société libre des Beaux Arts at Paris, 1835; elected member of the Academy of Fine Arts at Vienna, 1835; elected consigliere corrispondente of the Academy of Fine Arts at Parma, 1836; elected honorary member of the Société libre des Beaux Arts, at Paris, 9th December, 1836; expired at his house in Lincoln's-Inn Fields, 20th of January, 1837.*

* The following is a list of the more important designs and compositions made by Sir John Soane:—A design for a British senate house, and design for a royal palace, 1777; a design for a castello d'acqua, 1777; a design for a casina 1778; a design to convert a Roman temple into a casina, 1778; a design for a summer dining-room, for the Bishop of Derry and various designs for the improvement of his lordship's private residence, at the Downhill, near Armagh, in Ireland 1778-1779; a design for an ornamental dog-house, 1780; design for a mausoleum and cenotaph, to the memory of Lord Chatham, 1778; designs in competition for two penitentiary houses, the one to contain 600 males, the other for 300 females, 1781; designs for a building to correspond with

MR. REDGRAVE ON THE SCHOOL OF DESIGN.

TO THE RIGHT HON. LORD JOHN RUSSELL.

My Lord,—As your lordship's attention will be engaged, during the recess, on those great educational measures which your administration has led the country to expect, you will, I hope, pardon my laying before you some observations, which are calculated to improve the efficiency of the schools founded for the improvement of design as applied to manufactures, since it is to be expected that the removal of commercial restrictions must be met by great exertions on the part of the manufacturers—and it is in the application of *design* that manufacturing industry is most deficient, as compared with the advance in other directions; and, since there is reason to believe that the endeavours of her Majesty's Government to assist in supplying that deficiency are *not* the most effectual that might be made even at the existing scale of expense.

There are three stages of instruction in design: the first, the acquisition of *technical* skill, consisting of the power of *imitating* the form and colour of objects, acquired by carefully copying the fine examples of former times, and the works of nature.

The second, the inculcation of a pure taste in design, together *with the exposition of the principles* upon which those fine examples have been composed, and their adaptation to the end for which they were composed; and, including, therefore, the knowledge required to form *original* combinations *from nature*, and to apply them to the new purpose required.

Thirdly. The knowledge of manufacturing processes, with which the masters should be conversant, that they may be able to direct design into the proper channels, and to teach the students to unite beauty and fitness with practicability.

Of these three divisions of education in design, in the schools now open at Somerset House, the first division alone is in any degree effectually taught, the second very imperfectly, while the third is not at all attended to—and yet the masters selected are men well adapted by their acquirements and talent to give effectual instruction to the pupils: it is true they are too few for the requirements of such an educational establishment, but, what is worse, they are cramped by the present constitution of the school, which prevents them from making their talents effectual for the benefit of the pupils, so that the school seems liable to merge into a mere Government Drawing School, from which *creative design* will soon be wholly expelled.

Art has grown up in this country individually, each man actuated by his own spirit, and independently following his own path; and this, opposed as it is to the continental growth of art, in schools adopting the opinions of one master—by some considered its weakness—may, on the contrary, be viewed as its strength, by the originality of aim which it induces. From this cause our artists have an independent self-reliance, which, whilst it gives them great energy in the pursuits they undertake, unfits them for working in subordinate relations, even if it were requisite they should do so under one of great eminence in their own pursuits; yet the foundation of the School of Design is such, that men selected for their talents and acquirements are controlled in the use of them by a *director*, who, however generally competent, must be far less acquainted than they are with that peculiar knowledge which they are required to impart—and whose object it must be, by occasional interference, to assert his own primary authority to which they are bound to submit. This causes the masters either gradually to remit their exertions, *which, even if successful, redound to the credit of the director*, and to content themselves with merely routine instruction; or leads to dissensions which equally impair the efficiency of the school. Permit me here to assure you, my lord, that in these, or any other objections I may make, I am most anxious to be considered as having no personal reference to the present director, but only to the office, which I think a useless one, and that it might well devolve on the secretary, or at least be confined to the *business* apart from the *teaching* in the schools. From this clashing of the offices of director and masters, men of the *highest talent* have already been lost to the schools, and it will, I am convinced, from *personal knowledge** of the working, again produce, if continued, the same result, or that other which I have pointed out above.

This arrangement of the relative offices of director and master, whereby the latter is subordinated, is of itself a great hinderance to the progress of the schools; but Government further retards the energies, and indeed the means of usefulness, of the masters, by the inadequacy of their salaries. I speak principally, at present, as to the evening school, the most important as regards amount of attendance, and as meeting the wants of that large class whose daily engagements prevent their study at other hours. To this school the Government has appointed gentlemen of much ability in their several departments of art, and seems to have supposed that as but an *apparently* small portion of their time is required, a small payment may suffice for their remuneration—forgetting the inroad into that *quiet* which their professional pursuits require, and the lost *energy* which the wearying and constantly recurring duties of teaching, as *at present* demanded of them, induces; forgetting also, that talent, such as is requisite that these schools may be raised to the greatest amount of efficiency, cannot, under present arrangements, be at all repaid by that public estimation of their labours which all men prize, and which ought at least to obtain the appreciation of the Government which employs it, and such *pecuniary* payment as would induce men to devote heart and energy to bring the schools to the greatest state of usefulness, instead of being obliged to consider them a *secondary* object.

I trust, my lord, that you will feel with me, that the intention of these schools is not to educate artists, in the usual acceptation of the word, but ornamental designers; and to do this, the appreciation of talent in design should be high, and the office of professors in these schools should be so upheld, that they may take a scarcely inferior rank to the professors of the higher schools of the Royal Academy, and then there would be less inducement for students in design to turn from a diligent pursuit of industrial art under them, to burthen the higher walks with indifferent artists; but how can this be the case when those artists who are appointed to the office are placed in a situation little, if any, better than mere drawing masters, to teach the common routine of imitation?

This leads me to remark on the efficiency of the system, as regards the inculcation of *principles* of design, the second division in my classification: this must at present be done individually to each student in the course of his drawing lesson. How much better and easier, both to student and master, might this be done, by occasional *lectures*, pointing out to all—

The principles of beauty in composition.
Of preference in the choice of forms.
Of opposition, contrast, and arrangement of colours.
The governing principles of the various styles.
The mode of *imitating* nature, and of applying imitation to the various wants of art in stone, metal, wood, the various textile and fictile fabrics, &c.

The principles of *fitness* in the application of ornament, which is, and has been, almost wholly overlooked.

The ancients deeply studied *fitness* in all their works; but their designs are applied by the moderns without any regard to that *fitness;* hence mural crowns and wreaths of victory decorate the front of a spirit shop; and in the interior of a church (as at Dorney, in Berkshire), we find Lictor's rods coupled with the thyrsus of Bacchus, in a Christian temple: these faults are more apparent in architecture, since that art has become almost wholly one of imitation and precedent, but the incongruities are equally great in many other applications of designs. This alone is an argument against the *long*-continued reference to, and study of, the antique, which from its very beauty becomes an object of idolatry, from the worship of which it is hard to escape. Surely if the Greeks avowed, that NATURE, as in the honeysuckle and ammonite, was their model, we may well return to such a source;—if Sir Christopher Wren studied the structure of a shell, to found on it a new construction for a spire, and Smeaton from the growth of an oak gathered the best form for his enduring light-house—NATURE, teeming with the beautiful, may at least be thought a fit source whence we should derive our ornament, after the *principles* have been studied, by which nature is submitted to art in the models of the great artists who have gone before us.

Lectures on those and other subjects should form an important part of the duties of the professors; while the junior masters, themselves preparing for higher office in the provincial schools, might fitly take the burthen of elementary instruction.

Again, the remuneration for the labours of those whom I would fain look upon as professors rather than mere teachers, precludes their attention to the third division of my arrangement entirely—that is to say, the knowledge of manufacturing processes; to fit them for this, they should be enabled and required to pay occasional yet repeated visits (perhaps during the recesses) to the great seats of manufactures both here and abroad, in order to appreciate their wants in design, and the amount of art which has been, and may be, applied in the improvement of their various manufactures. This I look upon as a very important part of the knowledge required of a professor in the School of Design, as being greatly suggestive, and also as enabling him to direct successfully the attention of the students to, and to advise them in, the best application of their talent.

Thus, with alterations in the position, and perhaps in the number of the masters, and under the new mode of instruction suggested, we might hope that the trammels of mere imitation would be broken, and NATURE, as the true source of ornamental design, more fully insisted on, and then the students called on to adapt ornamental design to purposes and fabrics with which the Greeks and Romans were totally unacquainted, would learn that the *principles of taste only* are to be sought in the antique application of art to the wants of their age, and that while we are content to seek the *principles*, we are not to be fettered by the mere imitation of their application; and the schools, taking their true position, would produce artists capable of original inventions, and would soon supply the wants of the manufacturers with a race of designers able to rival, nay surpass, the tasteful exertions of the foreigner,—thus fulfilling the hopes of the country, and the intentions of her Majesty's government.

Having thus urged upon your lordship's attention regulations as to the masters, I would in the second place, advocate an addition to the school, which I trust would be found of eminent advantage,—the establishment of a biennial exhibition of works of design, open to the public, and to contributions from others as well as from students. To this might be added a few prizes for careful and elaborate drawings from nature of uncultivated plants, and their *display* as *ornament*, and for the best application of ornamental design to useful purposes. I am aware that the Society of Arts are desirous to offer their prizes largely through such an exhibition. There is no doubt, also, that it would interest the public and improve

the Senate-house at Cambridge, containing a museum, picture-gallery, lecture-room, &c., 1791; designs for additions to Caius College, Cambridge, 1792; directed by a committee of the House of Lords to prepare designs to render the House of Lords, and the rooms and offices connected therewith, more commodious, and subsequently to design an entire new House of Lords, 1794; design for entrance and lodge in Hyde-park, from Piccadilly, exhibited 1795; designs for additions to the East-India House, 1795; designs for the National Bank of Ireland, 1799; design for a house at Weston, near Southampton, for W. Moffatt, Esq., 1799; design for a house for Mr. Mansell, 1799; design for additions to Brazen-nose College, at Oxford, 1807; design for alterations and additions to Coombe House, Devonshire, the seat of Reymundo Pett, Esq., 1811; design for alteration and additions to Camolia-park, the seat of Viscount Valentia, 1815; design for a house, proposed to be erected at Butterton, in Staffordshire, for Thomas Swinnerton, Esq., 1816; designs to connect the entrances into Hyde-park and St. James's-park, with a monument to commemorate the splendid victories of Trafalgar and Waterloo, the entire group forming the great western entrance into the metropolis, exhibited, 1816; designs for a new palace, proposed to be erected on Constitution-hill, in the Green-park, exhibited, 1821; designs for a new church, for the parish of St. Marylebone, 1821; designs for an entrance from St. James's-park into Downing-place, Downing-street, and Whitehall, for the entrance of the Board of Trade and Privy Council offices, and for the completion of those offices, and others connected therewith, 1826; designs for a sepulchral church, to be erected on the parade in front of the Horse Guards, as a monument to his late R. H. the Duke of York, 1827; designs for a monument to commemorate the services of his Royal Highness the late Duke of York, as commander-in-chief, submitted to the committee, 1839.

* I attended the Figure Class for one month during the absence of Mr. J. Callcott Horsley.

its taste; that it would be contributed to by artists of eminence, who only occasionally make ornamental art their study; and that it would be resorted to by our manufacturers as purchasers of models and designs. Thus it would be an immense stimulus to emulation and exertion, and help to prevent in the students of the school that craving to come before the public as exhibitors of works of art in other exhibitions, which draws many aside from the true purpose of their education.

Allow me to recapitulate to your lordship the objects which I have urged on your attention in this letter.

First, The independence of the masters, as to their views of the *instruction* to be given in the schools, which implies the uselessness of much of the present duty of the director.

Secondly, The establishment of lectures by the master, treating fully of the *principles* of design, &c. &c.

Thirdly, The better remuneration of masters, with a view to increased efficiency, and to their being enabled to visit the manufacturing districts at home and abroad, to study their wants in ornamental art.

And fourthly, The establishment of an open biennial exhibition, with prizes for original designs, &c.

My chief apology for this intrusion on your lordship must be, that I feel strongly impressed that the present arrangement of the Schools of Design is defective and injudicious, and that prompt measures should be taken to improve their condition.

RICHARD REDGRAVE, A.R.A.

ARCHITECTURAL HISTORY.

ON the 23rd ult. Mr. T. H. Sealy, of Bristol, delivered, to the members of the Athenæum in that city, the first of a course of two lectures upon the history of Gothic architecture.

The lecturer commenced by stating that the president of the Athenæum had requested him to deliver a lecture on an architectural subject of great local interest — St. Mary Redcliffe Church; and, as the restoration of that edifice was a matter in which he took a deep interest, and one towards which he would not willingly lose an opportunity of directing the public attention, he had readily consented to do so: and he had thought it well to preface his notice of that splendid building by some general account of the rise and progress of Gothic architecture, with a description of the chief phases it had presented in this country. He should principally confine himself upon that occasion to the latter part of the subject, and on Wednesday evening Redcliffe Church would supply him with material to illustrate much of what he should have to set before them. In tracing the genealogy, so to speak, of Gothic architecture, they were led back to the temples of Luxor and Thebes. The airy filagree of the Gothic-groined roof, supported on thin walls and slight columns, the tower with its light and rich array of buttresses, niches, pinnacles, and battlements, grouped and clustered together—and the graceful and delicate spire, soaring into the air to such a dizzy height, might all be traced back to the enormous walls, unwieldy columns, and ponderous roofs of the Egyptian temple. Though the one may seem to be produced by the easy work of fairy finger, and the other to be raised by the stupendous labours of a Titan race, still it was not difficult to follow the gradations by which the change had been wrought, and to observe the progress of an organic principle which, manifesting its faintest trace in the rock-hewn caverns of Nubia, seemed to exhibit an almost vegetative vitality in the branching stone-work of a Christian cathedral. An ingenious writer, Thomas Hope, had endeavoured to break the connection, by referring Grecian and Egyptian architecture to independent sources. He asserted that the Egyptian buildings were imitated from the rock-temples of Nubia and Abyssinia, and those of Greece from the log buildings of the Scythians, who settled in the woody districts of Greece. But, although in the Greek Doric temples there were evidences of an imitation of wooden structures, still the principles of the composition were precisely those of the prior works of the Egyptians, and belonged not less naturally to construction with stone than with timber—nay, in many respects more so. Besides, on the borders of the Nile they found columns and mouldings closely resembling the Grecian Doric; and, as these stood in connection with buildings known to be more ancient than the earliest Doric temples of Greece, it was certainly more probable that the Greeks derived their architectural notions direct from Egypt, and only introduced such modifications into the practice of their art as were suggested by the application of new materials, or derived from their finer sense of proportion and grace of form, than that two styles, originating from perfectly distinct types and perfectly distinct necessities of construction, should have exhibited the coincidences, both in arrangement and details, which were found between the columnar buildings of ancient Egypt and the temples and villas of the Greeks. Greek architecture, then, arose out of Egyptian, and, in a more distinct and unquestionable manner, Roman arose out of Greek. But, though those formed distinct and defined styles and substyles, one general principle of composition was evident through all. The leading lines in all were horizontal; the principal buildings low in proportion to the extent of ground plan; the perpendicular lines were short and interrupted, and the columns and pilasters, which formed the principal upright lines, did not extend to nearly the whole height of the buildings; but the horizontal lines of the architrave, frieze, and cornice were continued generally unbroken along the whole extent of the façades to which they were applied. The invention of the arch, however, led by degrees to an alteration of the horizontal system, and eventually to the introduction of a totally new principle of architectural composition: not necessarily, indeed, for the Italian, in which the semicircular arch is so freely used, and the Saracenic, in which the pointed and horse-shoe arches prevail, whilst the horizontal principle was somewhat obscured in them, yet seldom exhibited any thing of its opposite.

A great many theories had been proposed in relation to the origin of Gothic architecture, but most of them had been directed to the origin of the Gothic arch, as though that and Gothic architecture were one and the same thing. The Gothic arch existed before the development of the Gothic system of architecture—it existed in the Saracenic and in the Hindoo systems, which exhibited the struggle between wild fancy and arbitrary rules, and differed as widely in their principles of composition from the so-called Gothic of Christian nations, as they did from the architecture of Greece and Egypt. Two favourite notions as to the origin of Gothic architecture were—the first, that it arose from the accidental formation of Gothic arches by interlacing semicircular arches one with another; the other, that it was an imitation in masonry of an avenue of trees. The former would lead them about as far towards the development of Gothic architecture as the invention of letters would towards the formation of an epic poem. Nay, it was perhaps even a mistake to say that the pointed *arch* was so discovered, as at least in the earlier examples of interlacing arches the principle of the pointed arch was not exhibited. The mere form was shewn, but not the arrangement of the stones necessary to give that stability which belonged to the true arch. The second notion might be fanciful and poetical, but it was totally overthrown by what could be proved of the gradual development of Gothic art, which was not the mere invention of one man, but the product of the collective genius and necessities of a race of men. No system of architecture was ever the invention of the individual man, but was rather a work of nature, in which she used mankind as her instruments. The formation of a style of architecture was in almost all cases the work of ages. Grecian architecture, indeed, appeared, like other arts in Greece, to have risen almost suddenly to something like perfection in the age of Pericles; but it was not the less a result of the activity of many minds. One man might have invented the Doric, another the Corinthian capital; but those were deviations in the practice, and involved no change in the principle of the art. Doric, Ionic, Corinthian — the same principle was observable through all. They all evidently belonged to one age, one people. Abundant proof existed in the architectural works of the middle ages to shew that Gothic architecture grew out of classical architecture, by a very gradual process. The first step towards so great a change was the introduction of the arch, which was at first applied to window openings, then to roofings over narrow passages and small apartments, and eventually to covering in large spaces, as in the case of the Pantheon and the basilicas. At first the round-headed openings were the exception, afterwards they became the rule. At first they were used chiefly as ornamental features in the art, eventually they became the most important elements in its constructive system.

In the dark ages which immediately followed the downfall of the Roman empire, architecture, in common with other liberal arts, fell into almost total desuetude. A few Christian temples were reared amid the decaying cities of the empire out of the materials which they supplied, and old columns of various lengths and thicknesses, and of different architectural styles, were ranged together to support a roof within the walls of some Pagan temple. Whatever was known of the art lay then with the monks; and it was remarkable that even at a period when the ornamental arts had almost ceased to be, and civilisation seemed fast waning from the world, constructive skill, involving a large amount of mathematical science, appeared yet to make advances. The huge dome of St. Sophia, at Constantinople, then the seat of art, was erected in the sixth century, and many smaller domes, as well as large vaults, were constructed in various parts, particularly in Lombardy. The Byzantine architecture of this period could scarcely be said to constitute a style, so much was it made up of heterogeneous materials and conflicting principles.

It was natural that where innumerable decaying palaces and temples afforded abundance of material to the builder, ready wrought to smooth surfaces and ornamental forms, that such should be appropriated and put together without regard to any rules of combination to which they were originally subject. Probably the irregularities in the Byzantine and Lombard buildings formed the primary reason why, in the succeeding styles which grew out of them, and which were classed together under the general term Gothic, a perfect regularity of design seemed never to have been aimed at. With the eleventh century commenced a new era in architecture. Something of a more determinate style, one more subject to rule and system, began then to be developed. The Duomo of Pisa, founded in 1015, exhibited more of design and a higher feeling of art than any of the buildings in the Byzantine and Romanesque styles which had preceded it; and a religious fervour, combined with a widely-spreading sense of the beautiful in art, awakened an active spirit for the erection and embellishment of churches and other ecclesiastical buildings. The example set at Pisa was speedily followed in most of the cities of Tuscany, Lombardy, and Romagna; and cathedrals, baptistries, and campanili were erected in imitation of each other. Almost simultaneously, buildings in similar, though not in identically the same styles, arose in Germany, France, the Netherlands, and England. We call them usually Norman in the latter, Romanesque in the former. One principal point in which the latter differed from the Italian, was in their giving less importance to the horizontal lines of the design and more to the perpendicular; in the sharper rise of the roofs, and, consequently, in their gables or pedimental ends. They made, too, a further advance in the upward tendency, from the low temples of Greece to the lofty vaulting and spires of the Gothic cathedral.

After dwelling at some length upon the reasons why Gothic architecture in Italy did not grow up to a perfect system, he continued: They found that in the Romanesque of Italy the horizontal principle prevailed. Small arcades, very similar to those which prevailed in the Norman buildings of England, rose tier over tier on the façades and sides of their buildings, just as they did in some of the old Rhenish churches, and in parts of Norwich Cathedral and Tewkesbury Abbey; but the former were separated into tiers by horizontal cornices, the latter into upright compartments by perpendicular strings and buttresses. It was not until the upward principle was carried, by the introduction of the pointed arch, to its full development, that the incompatibility of the two systems was felt. The Gothic arch was probably introduced into Italy from Ger-

many; but it was scarcely at all practised in that country, though in other parts of Europe it continued almost in exclusive use for nearly another century. He now came to speak of the manner in which the pointed style, to which the term Gothic had been more exclusively applied, arose out of the Byzantine and Romanesque, in regard to which he adopted Hope's view, that pointed architecture arose out of a constructive necessity, and that the æsthetical (or that department of art which related to the beauty of design) was adapted to the mechanical—not the mechanical wrought out to suit the æsthetical. It was from the introduction of pointed arches, as a constructive convenience in the roofs, that they descended into the less important parts of the structure, and became, by degrees, the universal form. The transverse limb of the cross, in the plan of a cathedral, is usually narrower than the longitudinal one; but the roof being of one height over both, it became a problem in construction how to raise the arched roof over the narrower space to an equal height with that over the wider space, commencing, as they both must, from one horizontal base-line; and the pointed arch having been adopted as the better form for the narrow space, the next step was, for the greater harmony in the forms, to use it likewise for the wider opening. This, from an examination of the early churches on the Rhine, Whewell found to have been the course followed prior to the general adoption of the pointed arch in doors, windows, &c. After enlarging upon this branch of his subject, the lecturer referred to the interest now felt in the revival of Gothic architecture, and to the manner in which that which was regarded a century since as the result of wild and undirected fancy, had now been reduced to rule, and distinguished into styles and substyles.

He then proceeded to give a notice of English Gothic architecture. The term Gothic, as applied to the art, was introduced more than a century since as a term of contempt. It had since, in popular parlance, been limited to the style denoted by the pointed arch; but he should use it in a wider sense, and include under it the earlier forms of Saxon and Norman. The term Saxon had been commonly applied to all the earlier English buildings characterised by the use of the semicircular arch; but it was now limited by archæologists to such erections as were prior to the conquest, while those whose dates were between that era and the introduction of the pointed arch were called Norman. True Saxon remains were of very infrequent occurrence—so few, indeed, that they had not data sufficient to deduce from them any definite rules of style. As far as the scanty materials enable us to judge, Saxon buildings were characterised by great simplicity. Few ornamental mouldings were used, although rude sculpture was probably introduced — the windows were small, and in church towers two frequently occurred together divided by a sort of baluster. Triangular headed openings were sometimes used in lieu of arches. Alternate long and short quoins at the external angles of walls, and a particular distribution of stones or Roman bricks, called herring-bone work, were among the most readily distinguishable characteristics of the style, but must not be too much depended on. In the Norman style all the large arches and most of the small ones were simple segments of circles—generally semicircles, sometimes parts of a circle less than a semicircle, and occasionally, but rarely, parts greater than a semicircle. The last are called horse-shoe arches. Very commonly in large buildings, and not unfrequently even in small churches, the principal arches are very highly enriched. When such was the case, they consisted generally of several concentric portions placed one within another, the arch stones of each being ornamented in a manner easily distinguishable from later styles. In pointed architecture the mouldings take the direction of the members to which they are applied—in a pillar perpendicular, in a cornice or capital horizontal, in an arch following the curve,—and although they are susceptible of some sculptural enrichment, as the toothed in early English, the ball flower in the decorated, square flower in the perpendicular, and running foliage in all, those were not looked upon as parts of the mouldings, but merely as applied ornaments. In Norman works the embellishment was regarded as forming in itself the moulding, and it might but partially follow the members.

Mr. Sealy enlarged on the characteristic ornaments of the Norman style, which he illustrated by a reference to drawings. The Norman style was marked by a rude and massive character, the walls being of great thickness, the buttresses of small projection, the vaultings plain and heavy, the piers short and massive, the windows small and not numerous. Norman architecture prevailed in England for about a century and a quarter. The plainest and heaviest fabrics may usually be taken as belonging to its first period. Gradually the buildings became lighter, loftier, and more ornate. The pointed arch was introduced before the characteristic features of this style were lost, and they not unfrequently found pointed arches ornamented with chevron and other Norman mouldings, or mixed and alternating with rounded arches. * * * Towards the close of the twelfth century a great change came over the spirit of architecture. The gradations by which this change was accomplished were more obvious in continental buildings; but in this country a new style sprung up, and though its movement may be traced, it reached to a high degree of development with great rapidity. The pointed arch entirely superseded the segmental forms—the characteristic carvings of the Norman were again sparingly used, and then altogether abandoned. The mouldings became more complicated; enrichments were used in the hollow ones only, and consisted sometimes of foliage and figures, but more commonly of an ornament called the "toothed ornament." After pointing out the more minute characters of the change—as the enlarged use of foliaceous embellishments, which probably never attained to greater perfection than in the thirteenth century, he proceeded—In the first examples of the new style the most frequent form of window-arch was the lancet; afterwards they were more commonly equilateral, and sometimes obtuse or depressed. Flat segments were not unfrequent over doors. In the early English style, which prevailed throughout the thirteenth century, the windows were not of that complex structure which prevailed in the next century, and which was carried to an excess in the fifteenth. They consisted of single openings, like Norman windows, though they were frequently set together in groups of three, four, and five, and sometimes of even seven or nine. Foliations in the window heads were not used till the end of the style, and then but sparingly. The western doors of large churches were frequently double and divided by a shaft, while the tympanum above had a quatrefoil or other panel, which probably preceded the introduction of mullions in windows. The piers of this style retained little of the massive character of the Norman. Towers were carried to great height (though in the Norman style they were often of considerable elevation), and the spire was added. Groined roofs were frequent, and exhibited a more complete arrangement of the vaulting ribs than had been the case in the preceding age, though simple as compared with those constructed in the two following centuries, and of which such fine examples occur in St. Mary Redcliffe Church.

After referring to a magnificent specimen of the style of which he had been speaking, (Salisbury Cathedral), the lecturer proceeded. At the commencement of the fourteenth century, the art was showing symptoms of a fresh transition. The practice of including several windows under one drip became general, and the windows were made to stand recessed in the wall. The arched space was frequently pierced with quatrefoiled or trefoiled openings, and ultimately the portions of wall dividing the windows were reduced, and they became mullions; so that what had been separate windows became but compartments of one large window, the head of which was filled up with geometrical tracery. Foliations to the windows, frequently terminating in an ornament called "a cusp," became universal, and the decorated window was formed. The forms of the piers, mouldings, doors, porches, &c., underwent a change; the groinings also became more elaborate, the buttresses more ornate, the foliage was wrought into more definite forms, and assumed a sharpness of outline. The commencement of this new style was observable in some parts of Salisbury Cathedral. York presented some of the finest examples, particularly at its western end; and, indeed, most cathedrals had portions of this period, to which the greater part of Bristol Cathedral was to be referred. From the great profusion of its ornamental sculpture, the style of the fourteenth century had been called the decorated. Like other styles, it had its local varieties, and underwent some changes during its continuance. The most marked of these was the substitution of what was called "flowing tracery" for the geometrical tracery in the windows. The west window of York was a beautiful and elaborate example.

> "All that's bright must fade,
> The brightest still the fleetest;"

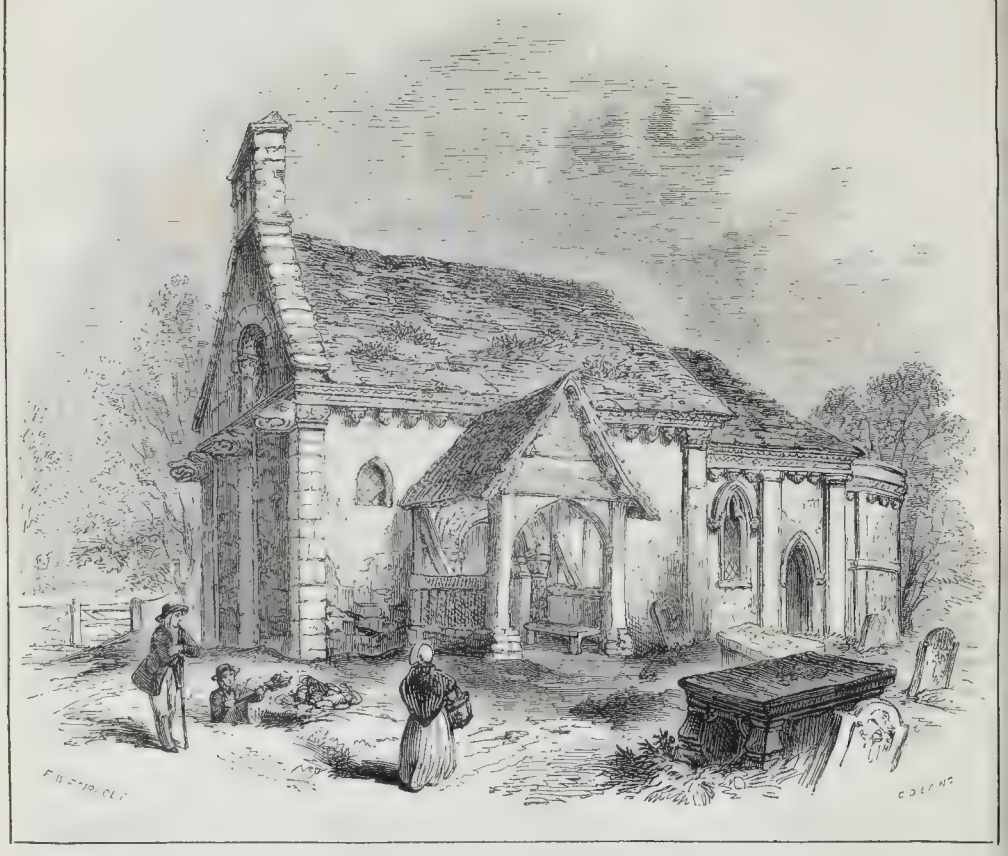
and the decorated, which was the most beautiful and perfect of all the styles of gothic architecture, had the shortest duration. It prevailed little more than 70 years, and then gave way, by rather rapid changes, to the perpendicular, which took its name from the direction of the window-tracery and panelling, which latter was lavishly used in canopies, screens, and even over the internal surface of walls. The groinings now became more complicated, and that wonderfully elaborate form of roof, called fan-tracery, was introduced. A greater sameness prevailed in the mouldings, in the form of the piers, and in the sculptural enrichments. Among the latter the eternal vine-foliage prevailed, as though it had been cast in moulds. Perpendicular or florid architecture, with all its faults, possessed many and great beauties, and it was not till late in the reign of Henry VIII. that the complete and general debasement of Gothic art began. The buildings erected during the succeeding century, where they displayed any of the Gothic character at all, exhibited it so reft of its original beauty, as to have earned the classification, "the debased English" style.

NOTE FROM LIVERPOOL.

Holy Trinity Church, say the *Liverpool Standard*, is now drawing towards completion; the spire already forming a prominent object in the landscape by which it is surrounded. It is in the decorated style of Edward III.; of red freestone; with windows chiefly of two lights, and somewhat contracted in dimensions, with heavy mullions and tracery of stone. In the pointed arches, the tracery is filled in with apostolic heads, and in the transept windows, with emblems of the evangelists. An oak-leaf and acorn border, executed in the primary colours, runs round all the windows. The benches are fitted up with Honduras mahogany, having sloping backs, and terminating with ornamental ends, and without distinction between the free and the appropriated portion of the 800 kneelings provided. The chancel vista is extensive, and the roof is lofty: the architect is Mr. John Hay, of Liverpool. Designs for the three chancel windows are said to have been received from various quarters, those selected being by Mr. James Ballantyne. The windows were glazed by Mr. James Forrest of the Old Haymarket. This church is expected to open next month.——In the council, lately, it was stated by the Courts of law and St. George's Hall Committee, that had not the intention of enriching the pediment arisen from accidental circumstances, it would at the first have been thrown open to public competition, and that as many other parts of the building would require similar enrichments, an opportunity would be afforded to the artists of Liverpool and other places, of competing for the supply of the requisite plans and designs.——The Gardens' Committee have prepared a code of rules, under which the Botanic Gardens for the future will be open to the public daily, Sunday included, and the Conservatory once a month.——The talk about the want of water to flush the sewers and drains, says the *Mail*, has again brought out the oft-repeated suggestion to raise a sufficient supply by steam-engine from the river, and force it into reservoirs for the purpose. These might also be used as swimming baths, thus restoring to the poor the right of salt-water bathing, taken away by the formation of the docks.

Improvements at Yeovil.—A new market-house, town-hall, and small-debts court, are shortly to be erected at here.

KILPECK CHURCH, HEREFORDSHIRE.



KILPECK CHURCH, HEREFORDSHIRE.

This exceedingly interesting building is distant from Hereford about eight miles, in a fertile and beautiful part of the county, on the borders of Wales, and which in earlier times was considered as a part of that country. Its history is brief, and Mr. Lewis, who has published an illustrated quarto volume on the subject, gives us the earliest piece of legitimate history connected with it, when he says "in 1134 the present church (dedicated to St. David), along with the chapel of St. Mary, in the castle,* and all right and possessions appertaining to them, were given to the Abbey of Gloucester, by Hugh, son of William Fitz Norman, lord of Kilpeck Castle. It is very probable that this baron had built the church. Either he or the Abbey of Gloucester established here a small cell or priory, dependent on the larger house. In the time of Thomas Spofford, Bishop of Hereford (1422 to 1428), the dependent cell is said to have been united to the abbey. On the dissolution of monasteries by Henry VIII., the site of the Priory of Kilpeck was sold to Baldwin Treville, from whom it descended, either by purchase or heirship, to the Booths, and then to the Clives, in which last family it still remains."

The interest of this church, as an early example of architecture was pointed out by King, in his *Munimenta Antigua*, 1805, vol. iv., p. 96, but he does not do more than direct attention to it, and it was neglected, owing probably to its secluded situation, in an unfrequented part of the country, until the publication of a view and account in the *Gentleman's Magazine* for 1833, by Mr. T. L. Parker, after which Mr. Lewis's volume, and the notice of its very curious sculptures, given in the *Archæologia*, again brought it into notice.

The church is small, measuring 66 feet by 26, and bears a very strong resemblance in design, to that at Barfreston, Kent. It consists of a nave and chancel, the apse lighted by three deeply splayed windows. The chancel arch is elaborately sculptured with figures and foliage. The north door is also richly ornamented in the same way, the pillar on the left side having the knights sculptured upon it, which formed the subject of a paper by Mr. Gage Rokewode in the *Archæologia*, vol. 30. This door, which is partially concealed in our view by the comparatively modern wooden porch, is of most remarkable and elaborate workmanship, and in a fine state of preservation. Indeed, the uninjured state of the external ornaments of this very remarkable church is surprising, and the singular projecting heads seen upon the western wall are quite perfect, and very strikingly peculiar in effect. The flat buttresses of the church, and the highly enriched corbel table, which runs entirely round it, abound in variety and boldness of execution. The original windows are round-headed. That in the western wall has the pillars and moulding elaborately sculptured with interlaced scroll-work, the capitals being lion's heads. This church, as it possesses its wall entire according to its original design, is more interesting than that at Barfreston, the western wall having there been destroyed, and that portion of the building rebuilt in a more modern taste. It is altogether a singularly perfect specimen of a highly decorated village church in the twelfth century. It is in contemplation to repair and restore it where necessary. It is however to be hoped, that as it presents so little of decay and ruin, that the restorations may be done with the slightest possible change in its venerable features. The modernization of Barfreston has destroyed much of its interest, and gives the idea of a new building on an old model. F. W. F.

* "The Castle of Kilpeck, by Herchenfeld, now longeth to the Earl of Ormond; sum ruines of the walls yet stand. The Priory stood from the Castle a quarter of a mile." — *Leland, Itinerary.*

CARVED OAK DOORS IN READING.

The annexed is a drawing of a carved oak door, situate in Gun-street, Reading. The building to which it belongs is called "The Oracle," a place formerly used by clothiers.

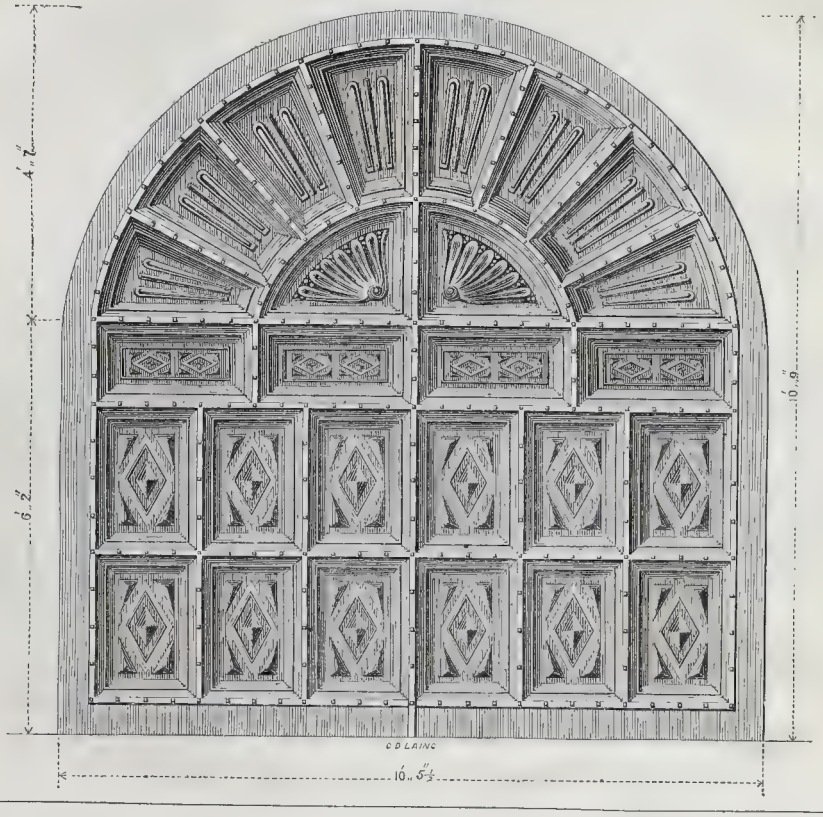
The entrance to the court-yard or offices is through a handsome stone gateway, supported by two elegant composite columns much worn by the hand of time and the neglect of the Reading folks, who, I regret to say, cannot fully appreciate the interest which this gateway possesses. I sincerely trust before long, some one will be found to persuade the townspeople to restore it.

On the cross panels of the doors are the initials "J. K." and the date 1628. The scale of the drawing is half an inch to a foot.

13, Hart-street, Bloomsbury. G. T. J.

*** *The Oracle, Reading.*— In 1624 Mr. John Kendrick, a successful woollen merchant, bequeathed the sum of 7,500*l.* to Reading, his birth-place, for the erection of a house in which the poor might be employed, and to provide materials for carrying on the clothing trade, working in wool, and preparing materials for dyeing. With this sum the corporation pur-

OAK DOOR, FROM THE ORACLE, AT READING.



chased land, and erected the structure, now known as "The Oracle," which has been referred to by our correspondent.

The origin of the name is doubtful. Coates, one of the historians of Reading, says it did not appertain to the buildings previously on the site, but was given to the edifice erected by the corporation under Kendrick's will, and might have had "its origin from the handsome entrance or portico, in Minster-street; such an entrance or portico being frequently termed an oriel, an appellation which might easily be corrupted to Oracle." Another writer, Mr. Man, doubts the truth of this derivation, and considers it had its name from the principal ingredient used in dyeing, "a drug originally brought from the Canary Islands, called Orchal, but imported into this country from Italy, where it was called *Oricello*, in Latin *Oricola*; from either of which I presume the Oracle might derive its present name." Large quantities were stored up in some part of the establishment, which might be called the Orchal House, and from the frequent use made of the term, be afterwards applied to the whole of the building.

We are inclined to agree with the latter. In the middle ages the term Oriel (Oryole and Oryall) was applied differently from what it is now. Mr. Hamper shews six applications of it (*Archæologia*, Vol. XXIII.) namely, 1, to a penthouse; 2, a porch attached to any edifice; 3, a gatehouse; 4, an upper story; 5, a loft; and 6, a minstrels' gallery. The first of these (a penthouse, or covered way) he thinks the original application of the term, and conjectures that it may have been derived from the Saxon,—*over-hele* (*o'er-hele*) being an established English word, signifying to cover over.*

At the date of the erection of the building in question, however, the word oriel appears to have been applied solely, as now, to a large bay, or projecting window, and would certainly not have been applied to such a gateway as that at the Oracle.

The condition of this gateway is disgraceful to the corporation; it is to be hoped the funds appertaining to the charity are better looked after than the buildings are.

Some remains of Tudor work may be observed in parts of the establishment, serving to shew either that the buildings on the ground, when the corporation bought it, were not wholly destroyed, or that portions were worked in. One apartment, at a short distance from the gateway, now used for the infant school, has a handsome stone chimney-piece of Tudor character, with carved pateras in the cornice, and a strawberry-leaf termination. The room is otherwise fitted up with handsome wood-work of about the same date as the gates here given.

Respecting these we may remark, that they closely resemble the pair of gates in the façade of Northumberland House, Strand.

Students who possess the whole of our journal, will find advantage in comparing the various examples of parts of buildings which appear from time to time in our pages, and tracing the alterations which were made at different dates. In addition to what we may consider the beauty or interest of particular examples, we are influenced in our selection by a desire to furnish those who preserve THE BUILDER, with a useful series, illustrative of architectural history and progress.

* HEIL, to cover a building with tiles, or other materials. Piers Plowman notices the cloister of a convent as "*yhyled* with lede."—*Britton's Architectural Dictionary*.

YORK CATHEDRAL.—We are told that Mr. Hudson, as Lord Mayor of York, has proposed a scheme for throwing open the west end of this noble cathedral, to be accomplished by public subscription, and heads the list himself with 500*l*.

RAFFAELLE'S APPOINTMENT AS ARCHITECT OF ST. PETER'S, AT ROME.

THE following is a translation of the (Latin) brief of Leo X., by which Raffaelle was appointed architect of the Roman cathedral.*

TO RAFFAELLE URBINATE.

As, besides the art of painting, in which you are known to excel all men—the architect *Bramante* has thought you of a similar qualification in the art of construction; so much so, that on his death-bed he has declared, that to you the building of the Roman temple of the Prince of the Apostles, by him begun, could be entirely intrusted; and as you have proved to us, by the model of the work, and all other explanation demanded of you, given in a learned and abundant manner;—We, to whom nothing is a more ancient care, than that this sanctuary should be as well most magnificently, as most quickly constructed; We make you the master of this work, with the stipend of three hundred gold coins, which shall be provided for you by the managers of those sums, which are yearly assessed, and reported to *us* for the construction of this sanctuary; and I command them to pay to you this salary in equal portions, in time due, if you request so, even without delay, by the single month. You, however, we exhort, that you may undertake the care of this office in the manner, that you will pay due attention in its execution, as well for your own consideration and name—of which, moreover, you have to lay a good foundation in your youthful years—as of our hopes and fatherly benevolence to you; as the dignity and celebrity of the sanctuary itself, which throughout the world has been always considered the largest and most holy—and of the piety which is due from us (all) to the very Prince of Apostles.

Given on the Cal. of Aug. Year Two. Rome.

* Pet. Bembo, Epistol. Leonis X., P. M. Lugdun, 1538, 8vo., p. 192.

SUGGESTIONS FOR AN IMPROVED SYSTEM IN THE ARRANGEMENT OF RESIDENCES FOR DIFFERENT CLASSES.

The proportion which house-rent bears to other items of expenditure, is probably much greater with most inhabitants of the metropolis than those of provincial towns. It is true that this arises, not entirely from causes which it is in our power to remove, but from those which are inseparable from all densely-populated places, from the continual influx of new residents, and from competition for the advantages of central situations. And it is also probable, that the constant desire, which many feel, of appearing better off in the world than they really are,—a desire which is often so contemptible, and to which every real comfort of life is sacrificed,—contributes to prevent alteration. A stranger from a country town, walking through the streets of London, and seeing houses of nothing less than four or five stories in height, naturally wonders where the poor, or the working population, live. He turns out of the great arteries into streets of second and third rate character, but still the houses are on a similar scale, such as he would hardly consider suitable for those, who possess only a moderate income from the source of a trade or profession. He has always seen streets of small houses, inhabited by the industrious classes, within a moderate distance of the localities where their employments lay; but for any thing of that description he may long look in vain in the metropolis, and will not readily find a solution of the mystery.

The evils which result from houses having been built exclusively for the rich, affect painfully the condition of the poor, and are the occasion of constant embarassment in every class of society. The industrious working-man, instead of possessing a comfortable home, suited to his income, but so situated and constructed as to be innoxious to the health of his children, or having those advantages which, in any well-regulated community, should be common to both rich and poor, is compelled to live over a stable, or to crowd his family into a cellar, or a single back room. In all classes, whether the tenement be a house or a lodging, the rent-day exacts a much larger proportion of the income than it might under a proper system; and the residue is felt by an immense number of persons, as quite insufficient for those necessities, which would otherwise, and ought to claim a less stinted expenditure. Now, we believe it is perfectly feasible to effect a very important saving in the matter of rent, and also materially to add to the comfort of all classes, and that, too, without diminishing the profits of landlords and others, who might be supposed to be interested in keeping things as they at present are.

In London, houses are often ill-adapted even for residents whose income is sufficient; but provision for the different kinds of accommodation required by other persons, has clearly not been attempted. The lofty houses and the appearance of wealth every where, may impose upon the stranger, but the published reports of societies and commissions, and far more that deeper misery, which never meets the public eye, would at once urge the necessity for a different plan. That change then, simply is, to build residences adapted to the different wants of every class.

Though the notions of some people might, for the present, suffer a shock, all would soon become reconciled to a system having less pretension, perhaps, but bringing to most persons conveniences which they could hardly fail to estimate. As would observe a witty writer, who has done something to moderate the excessive passion for "an appearance" in "the world" he satirizes, the present system imposes upon no one who can look at all within: if I take a four-storied house, and live in the back parlour or the kitchen, who is deceived by it, except a countryman: if in a second-floor,—

> "Content with little, I can piddle here
> On broccoli and mutton round the year:"

why should I fear all the world knowing it?

If the value of land in the metropolis would prevent a sufficient return of rent from houses of less than four or five stories, the continental system of living in flats could be resorted to. With this arrangement there are no inconveniences which can be compared with those already in existence; and the convenience and comfort which is experienced in rooms *en suite* would amply compensate for the trouble of ascent, even to a residence at as high a level, as many of those in the houses of Paris. There would be a general staircase, and a porter's box at the entrance; and it would be quite possible to contrive the means of access, so that as much privacy would be ensured as could be desired. Every advantage of the single residence, as regards drainage, and even supply of water, could be given in each suite of the building proposed; whilst a little consideration will show, that a great saving might be effected in construction. For example, in *three* houses, the same number of staircases is required, but in a large building for an equal number of persons, probably not more than half the space would be so appropriated by the single staircase.

It is true that actually this is the manner in which most houses in London are occupied; but as they have been built each for a single family, the inconveniences are great, and can only be understood by those who are compelled to suffer them. In the arrangement proposed, the staircase would be of large size, and expressly contrived for its purpose of a public thoroughfare, whilst the *suites* of rooms opening out from it would be complete residences in themselves. In some of the houses at present let in sets of chambers, part of the advantages proposed are already to be had, but they are none of them adapted for families, whilst not having been devised for the purpose which they serve, they cannot be expected to have all the conveniences here contemplated. The small number of such places adapted for business purposes is also a great impediment to professional men, not only as regards rent, but from the *difficulty of procuring* suitable accommodation; and if a number of buildings were erected, especially adapted for the object, these alone would bring in a good interest on the investment.—But it is probable that many would prefer the plan of building outside galleries of access to each floor, with external stairs, mentioned in the report of the Health of Towns Commission, and again suggested recently. The advantages here would be, that each residence would have a separate door, opening out from the gallery, so that each tenant would be able to ensure himself strict privacy, and would have great convenience for carrying on his occupation. In some cases, shops would be opened, similar to those in the ground story, as the galleries would be, in many cases, of considerable extent, and would be frequented by a sufficient number of residents and strangers, to ensure profit in certain kinds of business. Still, though all persons would have the opportunity of passing along them, they would not be crowded, and might perhaps afford a play-ground for children,—a want much felt by many poor families.* We believe that such residences might be built with little sacrifice of light in the rooms, and whole streets might be so designed that architectural effect would be improved.

It is to be regretted that, in all public improvements, and the opening of new lines of streets, the comfort of the poor and industrious classes is not considered, as well as the architectural improvement of the town. It is found that these great streets have not been formed without an increase of misery amongst the poor, who were previously the occupiers of the ground, and it seems never to have occurred to any one, that there was a most favourable opportunity for building dwellings on some principle such as we have before recommended. It is to be hoped that no future occasion will be allowed to pass, of doing a simple act of justice to those who are at present suffering from the results of late "improvements." Like certain attempts at ventilation, which perhaps attain their object, but at the expense of health, these streets have purified bad neighbourhoods, shortened distances, and added to the appearance of the town, to inflict upon those who were already sufficiently wretched, evils immeasurably greater than any which the promoters have removed from themselves.

The principle we wish to enforce, then, is that of providing, under various modifications, for the wants of *each* class—so that any individual may domicile himself in a convenient neighbourhood, at a greatly reduced expense—instead of building only for one description of want, and one class of tenants. To effect some of these objects—in the manner which may best meet individual tastes, it may be desirable to erect many different kinds of buildings, as well as to consider carefully the system to be adopted in the management of those which are to receive an associated community, and it may be our object, in a future number, to consider some practical suggestions, having immediate reference to the development of this feature in the proposal.

* We take this opportunity of remarking upon the increasing want of public play-grounds. Accidents are continually occurring in the public streets, and many children are enticed away from home by the companions they meet. On the other hand, the evil of the want of exercise is great. A large increase in the number of infant schools is much to be desired.

NOTES IN THE PROVINCES.

Thirty infant schools are to be established by an association of the clergy and others at Birmingham, at an average expense of 300*l.* from the local fund, besides grants from the National Society and the Privy Council, for each room that is to be built. Thirty sites have been selected, and a moiety of the necessary funds (4,000*l.*) has been already subscribed.——Holy Cross Church, Pershore, has been enlarged and beautified, or at least divested of the old beautification, whitewash, &c. Some of the massive dark granite pillars, which ran up the aisles, have been thus restored to their primitive contrast and relief, compared with the rest of the interior, and give the whole edifice a different aspect from what it previously presented. —— On Friday week, during the heavy gale, the spire of Tregaron Church was completely blown off. ——On the same day, and by the same cause, the tall chimney at the Lifford Chemical Works, near King's Norton, was blown down. ——St. James's Church, Bath, is about to be restored, at an expense of 2,000*l.*, by the Rector, aided by private contributions. It will have an *Italian* tower, 150 feet in height.—— On Wednesday week, a fifth church out of the ten to be erected at Manchester was founded in Butler-street, Bradford-road. It is to be of large size, and named St. Philips.——The new chapel of St. James, erected by subscription at Fairburn, parish of Ledsham, and consecrated on the 17th ult., is a plain edifice, consisting of a nave, chancel, and south aisle, and built of stone from the neighbouring quarry of Peckfield. It has two stained-glass windows, by Ward, of London; and a third, by Wailes, of Newcastle, is shortly to be added.——The fund for the restoration of the parish church of Scarborough has reached 2,400*l.*, and steadily increases. The committee propose to limit the expenditure to 3,500*l.* Upwards of forty applications for instructions have been received from architects in all parts of the country. The works are to be confined to the area of the existing walls. All the galleries are to be removed, though none of the usual amount of accommodation will be sacrificed. The windows are to be restored after the best architectural remains of the church. The plans are to be sent in not later than 1st Feb. next.——The ancient grievance of exorbitant expectation, if not equally exhorbitant demand, of payment to domestics for the exhibition of Holyrood Palace at Edinburgh, which has prevented many a respectable citizen of Edinburgh itself, as well as many of its occasional visiters, from witnessing the remains of its ancient royalty there and elsewhere preserved, is still persisted in, although complaints have frequently been made to the Duke of Hamilton, the hereditary keeper, of the existence and the hardship of such a grievance. It is even "confidently asserted, in this city," says the *Edinburgh Register*, "that an offer was made to the housekeeper—not the duke but his domestic—to farm the exhibition of the palace at an annual rent." The municipal authorities have found it advisable to pass a resolution expressive of their opinion that the payment of 1*s.* by each party, not exceeding six, to each exhibitor, is adequate remuneration.——It is said that the corners of mouldings and pieces of corbel heads in several of the galleries of the Scott Monument at Edinburgh have been chipped off; while letters have been rudely carved into the stone in various parts of the building!——It has been resolved, by the Northern Light-house Board, to erect five new lighthouses; one upon the Island of Sanna, off the Mull of Kintyre, to

lead through the dangerous navigation of that passage to the Frith of Clyde; one upon the Island of Devaar, to open up Campbeltown Loch as a harbour of refuge; one in Lochindaal, Islay, to open it up as a harbour of refuge; one in Kyle-Akin, Skye, as a guide through that inner sound; and one on the Island of Græmsay, in Hoy Sound, to open up the important harbour of refuge at Stromness.—— The expenditure of the Irish Board of Works for October and November has been 442,150*l.* 2*s.* 1*d.* The number of men employed on 28th November was 273,023.——A castellated tower, designed by Mr. Clarke of Bristol, is to be erected at Guernsey, to commemorate the rare occurrence of the landing of the sovereign, and to serve as a telegraph station for Alderney, and as a look-out, says a contemporary, for royal and other flags.

DUTY OF EMPLOYER AND EMPLOYED.

Sir,—I should much like to see your instructive paper the medium of inculcating a closer connection between the two classes, employers and employed, of our metropolis; and surely your Christian readers, who are looking at this world merely as the wilderness of their pilgrimage, would not willingly, though many do inadvertently, lay such a stress on the minor differences of station in this life, as to treat their poorer brethren like members of another species. Every principal ought to take all possible pains to become acquainted with the condition of all under him; and then, both by precept, kindly tendered, and example, modestly exhibited, inculcate a moral and religious life. This knowledge of the circumstances of his workmen would often enable a master, at a very small sacrifice to himself, to render them, on any trying occasions, such assistance as would very much alleviate the troubles incidental to poverty, even when combined with industry. However he may conceal the fact from himself, every master who does not strictly perform his duty towards all his dependents, will find hereafter that he is responsible for his neglect. I would not be misunderstood as encouraging a feeling of universal equality; on the contrary, I would have every one strive cheerfully to fulfil the duties of the station in which it has pleased God to place him; but I know from experience that a mild and humane system of treatment is more likely to ensure obedience than harsh, overbearing conduct.

One good effect of attention to the foregoing suggestions, would be to check the awful amount of swearing now commonly practised by the lower classes, and, I am sorry to say, not entirely confined to them. The excuse of no meaning in their profane expressions may be pleaded, but will it be accepted as an excuse for the continued violation of the third commandment?

I have not put my name to this rough sketch, lest any persons of my acquaintance might fancy the remarks personal, which I can assure you would not be correct. It is the system I wish to see advocated, and not individuals attacked; and though, to any one taking offence, I might say, with the fabulist,

> "If I lash vice in general fiction,
> Is't I apply, or self conviction?"

I think the maxim of the poet,

> "Men should be taught as tho' you taught them not,
> And things unknown proposed as things forgot,"

is the better plan. Veritas.

30th Nov. 1846.

TENDERS FOR SEWER.

Tenders delivered on the 4th inst., for 447 feet of second size sewer (4 feet by 2 feet 6 in.), in Hann's-terrace, Chelsea:—

Starkie	£304
E. O. Symons	288
Dethick	285
Gardiner	285
Todd	280
Battenbury	274
Aslett	267
Yeoman	266
Humphreys and Thirst	260

The lowest was accepted.

RAILWAY JOTTINGS.

A new first-class carriage in four compartments, 27 feet long, running on eight wheels and, notwithstanding, said to be superior to the usual carriages, in facility and safety of rounding curves, in lightness of draught, and in absence of oscillation, has been lately constructed by Mr. Booth, the carriage builder to the London and North Western Amalgamated Company. It is adapted for the accommodation of twenty-four passengers, with guards and luggage, costs about 600*l.* and has been already put to use in several journeys to London.——The wires of the electric telegraph are rapidly establishing a wonderful system of communication between points hitherto distant in all senses, and difficult of connection. The Canadas are thus about to be peacably annexed to the United States; and the *time* distance between the metropolis of our own country and its provinces will soon be annihilated. The electrical running to and fro of *knowledge* or intelligence between London, Liverpool, and Manchester, along the London and North-Western line of railway, is to be forthwith accomplished. The wire-nerves are in course of deposition; and, when fully organized, the prolongations from the Euston-square "medulla oblongata," into the encephalic centre at the Royal Exchange, will next be established.——A patent has been taken out by a Mr. Jones, of Chester, for an improvement in the mode of preparing carbon or charcoal as a permanent and brilliant paint for water-proofing and other railway or general purposes. The difficulty of pulverizing the charcoal of wood to a sufficient fineness in the ordinary grinding mills, has been overcome by the removal, under this patent, of the finer particles, in the form of dust, by aid of a stream of air, more or less gentle, according to the fineness requisite.——On Thursday week the roof of a station on the Eastern Counties Line, at Flitton, near Peterborough, fell, in consequence, it is said, of the insufficiency of the foundation, erected near the banks of the river, and in all probability wanting what we have so much recommended, and what in such circumstances is so essential to stability of structure, namely a sufficient cementation with hydraulic lime or Roman cement.—— "Much interest," says the *Essex Standard*, "was evinced [during the opening of the Ipswich and Bury line, on in the approach to Stowmarket, the locality of the fearful bogs, of which so much has been written. Nothing is to be seen except a low embankment, not more than four to five feet high, across a swampy marsh; but that something unusual has been overcome is apparent from the great width of the embankment, which, in some places, is more than 100 yards; all laid upon immense layers of faggots, brushwood, and hurdles, crossed and recrossed; strengthened by rows of timber; so that, in fact, the whole forms a huge matwork of earth, bushes, and timber. Upon this, longitudinal timbers, extending the whole length of the bogs, are laid; firmly scarfed and plated together with iron; and, upon these again, the cross sleepers are laid which carry the rails; but which appear stronger, and placed closer together, than usual. So firm indeed, does the road appear, that the rapid passage of the engine and train produced no yielding effect that was visible; and we were assured (and so far as our own judgment went, we felt assured of its correctness), that it is as sound and secure as any part of the line." The method which we pointed out as the one most likely to be successful, namely, that by which the like difficulty was overcome at Chat Moss, on the Liverpool and Manchester line, appears to have been at length successfully carried through in crossing this equally formidable morass.—— An embankment across a bog near Allanbridge, on the Scottish Central Railway, has disappeared; in all probability from neglect of the same valuable experience already gained, at so much cost, both at Chat Moss and at Stowmarket.

Wood Pavement.—In order to form a roughened surface for the horses, every alternate course of the wood pavement by the side of the Royal Exchange has been cut down about an inch; the result of which is a jar to the carriages passing over it that much injures them.

KENSINGTON WORKHOUSE COMPETITION.

The cost of carrying out the design ultimately chosen by the guardians, appears like that of the first, greatly to exceed the sum stipulated, 9,000*l.* We have hitherto refrained from alluding to it, because we understood that the architect was of opinion that the quantities had not been taken out correctly, and had obtained permission to examine them, before a decision was come to upon the matter. Being applied to, however, from several quarters for the result of the estimates, we give the highest and lowest with some of the intermediate amounts:—

Nicholson	£17,354
Woods and Wheeler	16,116
Sissons	14,488
Curtis	14,410
Benton	13,836
Cooper and Davis	13,770
Trego	13,722

THREATENED REMOVAL OF WESTMINSTER BRIDGE.

The consternation amongst owners and occupiers in the line of the present unlucky bridge, caused by its threatened removal, as already alluded to, increases every day. *The Civil Engineers' Journal* has the following remarks on the subject:—

"We fear the construction of this new bridge will be most detrimental to existing interests, and cause the greatest inconvenience to the inhabitants of Westminster. It will not only destroy the direct line of thoroughfare from Pimlico, through the Park and Great George-street, over Westminster-bridge, to the Elephant and Castle and the Surrey-roads, but it will be the cause of increasing the traffic through the already over-crowded thoroughfares from Charing-cross to the City, as it is now far nearer and quicker, to go from the Law Courts and Parliament-street over Westminster-bridge to the City, the Brighton and Dover Railways, and ultimately to the new station of the South-Western Railway; and consequently this traffic, if this new bridge be constructed, will be directed along the Strand; and besides, there will be a distance of a mile through Westminster from Vauxhall-bridge to the site of the proposed new bridge, that will be entirely cut off from the Surrey side, excepting by the circuitous route over those two bridges. By a reference to the map of London, it will be seen that if this new bridge be carried over the river at right angles to the shore at Whitehall-place, the end on the Surrey side will almost come in contact with the foot of Hungerford-bridge! Surely the direct communication from Charing-cross over this last bridge is ample accommodation for the public, without intruding another within a stone's throw.

Why the new bridge should be removed from the present site of Westminster-bridge we cannot devise. A new bridge might be constructed on the eastern side of the present bridge, and the latter pulled down when the new one is erected, as was done with Old London Bridge. By removing Westminster-bridge, the only land-view from which a perspective view can be obtained of the new Houses of Parliament, will be lost, and, as we before stated, all the elaborate and minute sculpture and decorations will not be seen. To get a view of the grand façade, we shall be obliged to go in one of the river steamers, and catch a transient glimpse as the vessel passes along.

Can it be supposed that Parliament will sanction such a scheme, to the destruction and despoliation of all the valuable interests connected with the trade and property in Westminster and Lambeth? and ultimately cause another bridge to be constructed, at the expense of the public, somewhere above the new Parliament Houses, which must follow if Westminster-bridge be removed from the present site."

A Statue to Shakspeare from Womankind.—An appeal to women to raise a statue to Shakspeare, their "own especial poet—the laureate of their best qualities—the champion of their dearest rights—and the chief means of indicting and establishing their true social position," is in circulation. It is signed "Mary Cowden Clarke, Craven Hill Cottage, Bayswater."

A POET'S OPINION OF MUNICH.*

The ancient portion of the city of Munich appears to me like an ancient rose-tree, from which new branches shoot out every year; but every branch is a street, every leaf is a palace, a church, or a monument; and every thing appears so new, so fresh, for it has but this moment unfolded itself. * * * Every city, from Rome the eternal, to our own silent Sorõe, has its peculiar character, with which one can be intimate—even attach oneself to; but Munich has something of all places: we know not if we are in the south or the north. I at least felt a disquiet here, a desire to leave it again. Should any one fancy that my description of Munich contains crude and contradictory images, then I have given the most just picture according to the impression that the town has made on me. Every thing here appeared to me to be a contradiction. Here were Catholicism and Protestantism, Grecian art and Bavarian ale. Unity I have not found here: every handsome detail appears to have been taken from its original home and placed in and about old Munich, which is a town like a hundred others in Germany. The Post Office, with its red painted walls and hovering figures, is taken from Pompeii; the New Palace is a copy of the Duke of Tuscany's palace in Florence,—each stone is like that of the other. The Au church, with its stained-glass windows, its colossal, lace-like tower, in which every thread is a huge block of stone, reminds us of St. Stephen's Church in Vienna; whilst the Court Chapel, with its mosaic pictures on a gilt ground, wafts us to Italy. I found but one part in Munich that can be called great and characteristic, and that is Ludvig-street. The buildings here in different styles of architecture blend together in a unity, as the most different flowers form a beautiful garland. The gothic-built University, the Italian palaces, even the garden close by, with its painted piazzas, supply a perfect whole. * * Even the streets and buildings in this new city will not, as yet, attach themselves to each other; the Pinakothek, with its elevated windows in the roof, has, from the spot on which I am standing, the appearance of a large hothouse, or conservatory, and such it is; there, as in the Glyptothek, we wander amongst the most beautiful productions of art, brought together from the four corners of the world. In the Pinakothek are all the varieties of growing plants, and the saloons are equally as gorgeous as the flowers. In the Glyptothek stand the immortal figures by Scopas, Thorwaldsen, and Canova, and the walls are resplendent with colours that will tell posterity of Cornelius, Zimmerman, and Schlotthauer.

* From "A Poet's Bazaar," by Christian Andersen. (Bentley.)

Correspondence.

CONSTRUCTION OF DRAINS.

Sir,—At the time the New Buildings Act was under consideration, I ventured to submit to Lord Lincoln the propriety of a provision, that in all new buildings the drains should be mapped on every lease, or that some indication should be made in that part of the walls under which the drains might pass, as a means of saving future trouble and annoyance to the inmates in searching for the drains, when requiring reparation. It may be considered by short-sighted tradesmen, that a difficulty of this kind, or slovenly construction in the first instance, is good for trade, by creating work; on the contrary, however, it frequently deters employers from indulging in improvements, from a fear of being ill-used by bad work and enormous charges.

I have frequently experienced the necessity of the indications alluded to, in the course of business, but never more so than in two instances, where I have lately been engaged in relieving the premises from the dreadful effluvia arising from badly-constructed drains and the ingress of rats. It would appear improbable to any but the initiated, that houses of the first class, in such neighbourhoods as Hyde-park-square and Brunswick-square, had drains from their water-closets through the basement, and into the sewer, without any "traps," and were laid without cement or mortar,—every joint being open, and so deficient of a proper fall, that the drain just outside the front wall of the house has a subsidence, causing a perfect pond or dip of stagnant soil and water. While such a course of proceeding as this is allowed in buildings for the wealthier class, it is hardly to be expected that the middle and poorer classes can escape from the evils arising from badly-constructed drains. The basements being saturated with putrid moisture, and the foundation-walls carried up with place bricks (half a brick on each side, with the middle filled in with rubbish, as is well known to be the case in much task-work), there can be no wonder that houses fall before their chimneys are carried up to their proper height, more especially when the mortar is composed of one part lime and five, six, and even seven parts of screened mould, found on the premises. It is farcical to ascribe the fall of newly-built houses to the vibratory effect of a few men going up and down the ladder.

I am, Sir, &c., Vincent Yardley.

PATENT ORNAMENTAL TILES.

Sir,—My attention has been called to a letter signed "J. Reed," in your valuable journal, upon the subject of ornamental tiles, and I feel assured that your high sense of justice will induce you to give place to these few lines in your next publication, that a proper interpretation may be put upon it.

Mr. Reed undoubtedly was the patentee of the ornamental tiles to which he refers, but in that patent right he has no longer (as you may infer from the tone of his letter) any interest whatever, having disposed of that interest to the present proprietors, which will account for the uncalled for condemnation of the invention in which he now takes upon himself to indulge; but for what real purpose you may, after this explanation, the more readily imagine.

The design given in your journal is undoubtedly highly ornamental, but is, in fact, in truth, and in principle, the identical tile comprized in his former patent, with some additional embellishment, which additional embellishment the Architectural Tile Company would readily adopt did they consider it would be acceptable to the public: at present they do not.

I avail myself of this opportunity to caution Mr. Reed, that should he venture to make the tiles in question without the license of the parties whom I represent, it will be a direct infringement of their patent right, and will be immediately followed up by legal proceedings.

I am, Sir, &c.,
J. G. Hughes,
Secretary to the Architectural Tile Company.

Miscellanea.

Sawyers' Strike at Sunderland.—The sawyers of this town have been "on strike" during the last five weeks for an advance of wages. The masters state that the men have no reasonable ground of complaint, as their wages have averaged from 33s. to 35s. per week. This statement is denied by the men in the local papers, who say,—"A sawyer's time is calculated at 62 hours per week, or 10½ working hours for five days, and 9½ hours for Saturday; and the cutting of 200 feet of hard wood is considered a good day's work for those hours; the wages for which have been 7s. for a pair of sawyers, or 3s. 6d. per man per day; which is only 21s. per week, instead of 33s. to 35s." They require that the wages for cutting 200 feet of hard wood should be 8s., which is 4s. per day per man.

Iron Shingles.—We learn that William Beach, of Troy, New York, has invented and patented a mode of using cast-iron plates for covering roofs. They are about 1 foot square, and are made to fit one into another, so as to render the roof water-tight by applying white lead to the joints. It can be afforded at 16 cents the square foot, and comes about half the cost of copper. They weigh three-and-half pounds a square foot. Slate costs 8 cents per square foot.—*Montreal Herald.*

Projected Works.—Contracts have been called for, by advertisement, for the various works necessary in the formation of portions of the North Kent, Lynn and Dereham, Blackburn Junction, and two Shrewsbury lines of railway; for rails, sleepers, and chairs, for a line at Ambergate; for the various works of a meeting-house and alterations at Ackworth; and for a large quantity of cast-iron water-pipes at Liverpool, &c.

Locomotion.—Facilities for travelling, on a novel and extensive plan, are said to be contemplated by the rudimental members of a combination or association of rather an original, go-ahead character, consisting exclusively of proprietors, tenants, and servants, of hotels, in England, France, &c.; whose sphere of operation is to extend, by railway trains, river and ocean steamers, or other requisite conveyance, over great part of Europe; over all or any part of which, by means of the "open sesame" of "a circular note," to the exclusion either of bank notes or mint-money, a passenger may range at will, without the least trouble about the details of his journey;—places by railway and by steamers being secured; fares paid; passports taken out, and inspection superintended; luggage taken care of, passed, and readjusted; all by the sharehold-servants of the various hotels, through which, of course, it is expected he will pass; and where his bills will be settled for him; and more than that, his pocket-money furnished to him;—and all this by "only stating his object," at the point and period of his departure; and lastly, though not leastly, by only "making the necessary deposit of the sum he may require or mean to expend." "Such, as reported," says the *Daily News*, "are the outlines of an undertaking by which a system of paper-values promises to be vastly extended (not introduced) over great part of Europe; where, upon the lesser scale of bank circular notes, it indeed already circulates; without offering, however, anything like the accommodation, or being available for the uses and objects here held out." This ingenious system of serving the public, or, as it may be, of plucking them as they go, or rather as they are sent, like ticketed parcels, along the line of their respective destinations, only requires, to render it perfect and complete, the adoption of Douglas Jerrold's suggestion, that "in case of bullion becoming scarce, the great railway companies should be allowed to issue paper money, or 'conveyance notes,' in which they would pay all their servants, and in which the public would pay them, instead of in cash, for the conveyance of passengers and goods." The universal adoption of a floating-rag-capital-system of steam conveyance, such as this, in "running to and fro" throughout the world, would form rather a curious *medium* between the Iron Age and the Age of Gold.

Street Cellar-flates.—A correspondent of the *Morning Herald* draws attention to a perpetually recurring source of complaint; in the imperfect state of the iron-plates over coal cellars beneath the pavement, and the neglect of fastening them down inside, even when the hooks are not worn off, or the outside rivets destroyed by friction, as many of them are. The blacksmiths might reap a little harvest in repairing jobs of this description, while ensuring the public safety both against broken limbs and thievish children.

Scarcity of Workmen at Newfoundland.—The Newfoundland papers complain of the inadequate supply of mechanical skill in the island, and the consequent high rate of wages. Many of the artisans employed were obtaining 8s. 6d. to 10s. per diem, and they very often, it is stated, make a day and a half out of 24 hours. Carpenters and masons were most in requisition. The price of building materials has considerably advanced, pine lumber selling for 5*l.* to 6*l.* per thousand, and bricks at 50s. to 60s.

Sale of Mahogany.—At a late sale of mahogany and other fancy woods (2,203 logs, principally Honduras and St. Domingo, with 438 planks of rosewood), the biddings were rather brisk. Of the Honduras, 432 logs were sold by private contract at 5½d., 282 (by auction), averaged 5 13—32d., 204 averaged 5 1-32d., 142 6 5-12d., and 17 logs 6¼d. per foot; of St. Domingo, 100 logs sold at 6 13—16d., and 440 logs at 6¾d. per foot; of Cuba, 154 logs brought 6¾d. per foot.

Coroner's Inquests on the Causes of Fires.—The revival, in the metropolis, of the good old custom of instituting judicial inquests on the causes of fires, has led to the adoption of measures, at Liverpool, for the re-establishment of the same practice. A resolution to this effect was unanimously carried in the Council last week; when it was stated by Mr. Horsfall, who moved the resolution, that during the last five years, a million of money has been consumed in fires at Liverpool alone.

DATE OF FOREIGN CATHEDRALS. — Mr. Lecointre-Dupont, in a letter read at a committee meeting of the British Archæological Association, says :—"You know the difference of opinion that exists among the Norman antiquaries on the date of certain religious edifices of the middle ages, particularly of the cathedrals of Coutances and Séez, of the church of Mortain, and, out of Normandy, of the cathedral of Angers. Some, founding their opinion on historical documents, carry back the construction of these buildings, in which the ogive prevails, to the 11th century; others, with your countryman Gally Knight, assert that the dates furnished by these documents apply to churches which preceded the present buildings, the architecture of which denotes, in the most certain manner, works of the 13th century. A recent discovery has furnished an entire confirmation of the latter opinion, with regard to the cathedral of Séez. A manuscript of the bishopric of Séez gives the epitaph of Bishop Jean de Bernières, who died on Holy Thursday, 1294, and was buried in the choir of the cathedral: among the titles given him in this epitaph, is that of *hujus loci edificator*."

MEETINGS OF SCIENTIFIC BODIES

During the ensuing Week.

MONDAY, Dec. 14.—British Architects, 16, Grosvenor-street, 8 P.M.

WEDNESDAY, 16.—Society of Arts, Adelphi, 8 P.M.

THURSDAY, 17.—Royal Society, Somerset House 8½ P.M.; Antiquaries, Somerset House, 8 P.M.

TO CORRESPONDENTS.

"*Good* v. *Parry*."—The information forwarded shall be considered.

"*A Traveller*."—Pamphlet shall be left at the office on Monday.

"*Zinc*."—A method of cleaning the files used in zinc-work (from the filings of zinc and solder), is asked for.

"*Observer*."—We cannot assign an invention on anonymous information.

"*Subscriber*."—We are seeking an opportunity to look at the window in question.

"*J. D. P.*"—We cannot afford space.

"*L. F. M.*"—Letter was sent.

"*G. W.*"—Thanks. They shall be looked to.

"*Quip*."—Out of print.

"*G. L. T.*"—Shall appear.

"*Reader of the Builder*." — Suggestion shall be considered.

"X. Y. Z."—Finden's closets may be obtained at 190½, High Holborn.

"X. X. X."—If M. has never paid for that portion of the wall he has now used, he is, apparently, liable for it.

Received.—"W. V. P.," "T. P.," "W. C.," "T. P. W.," "A Goth," "G. P.," "A Builder and Subscriber," "H. G.," "Thos. Cozens," "Health of London Association."

TO PROVINCIAL READERS.—In reply to complaints of the irregular delivery of THE BUILDER in provincial towns, we beg leave to state that it is invariably published by seven o'clock on Friday morning; and that the irregularity complained of rests entirely with the parties through whom it is obtained.

ADVERTISEMENTS.

JOSEPH FENN, 105, Newgate Street, London, Manufacturer of Turning Lathes, Flatting Mills, Stocks and Dies, Circular and other Saws, Files, Tools, and Materials for Engineers, Millwrights, Die Sinkers, Coach Makers, Locksmiths, Lamp Makers, Pianoforte Makers, Plumbers, Wood and Metal Turners, Gun Makers, Engravers, Print Cutters, Watch and Clock Makers, Lapidaries, Jewellers, Gold and Silversmiths, Saddlers, Curriers, Dentists, Philosophical and Mathematical Instrument Makers, Carpenters, &c.

Amateur mechanics and others can be supplied with every description of Mechanical Apparatus, viz.:—Wheels and Pinions, Racks, &c. &c. Sets of Mining Tools, Sets of Tools and prepared Wood for Wood Engraving. TOOL-CHESTS FITTED UP COMPLETE. Cutlery of the finest quality. Horticultural Tools, Ironmongery of every description. Brass, copper, steel, zinc, &c., in sheet, bar, and wire; Wholesale, Retail, and for Exportation. Railways supplied on the best terms.

LIGHTNING CONDUCTORS FOR BUILDINGS.

A. SMITH'S PATENT COPPER WIRE ROPE is being daily employed for the protection of CHURCHES and other buildings from the effects of thunder storms; it possesses important advantages over other forms of conductors. References can be given where it has been applied for some time past to CHURCHES, PUBLIC and PRIVATE BUILDINGS, &c., &c. Its general adoption in the Naval and Mercantile Marine of this and other countries is the strongest possible EVIDENCE of its EFFICIENCY, &c.

A. SMITH begs the attention of those engaged in building to his IMPROVED PATENT PANELLED AND REVOLVING IRON SHUTTERS,—Also, the Patent Weather-tight Fastening and Cill Bar, for French Casements, which are so much admired for their security, simplicity, cheapness, and efficiency. Of the merits of his Patent Double and Single Action Door Springs, Improved Flooring Cramps, Patent Wire Sash Lines, &c. &c.,

Little need be said, as they are pretty generally known and appreciated.

Manufactory for Iron Suspension, Sliding, and other Doors, Strong Rooms, Plain and Ornamental Palisading, Gates, and Columns. — Also, Metal Sashes, Shop-fronts, Stall-board Plates, Brass butt, and other Hinges. Buildings heated upon a new, safe, and superior plan.

Estimates given for every description of Metal-work.

A. SMITH, 69, Princes-street, Leicester-square, London.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery.

Best Patent Cut Clasp.

3d.	4d.	6d.	8d.	10d.	20d.
6d.	7d.	8d.	1s.	1s. 6d.	2s. per 1000.

Best Sheet Floor Brads 15s. 6d. per cwt.

Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6½d., 7d., 8d. per inch.

Self-acting Kitchen Ranges with Oven and Back Boiler.

Wrought Bars and Bright Fittings.

3 ft., 3l. 3s.	3 ft. 6 in., 3l. 12s. 6d.	4 ft., 4l.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in	3 ft. 9 in.	4 ft.
3l. 5s.	3l. 13s.	3l. 16s.	4l.	4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

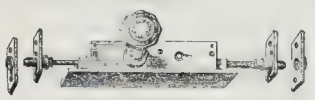
3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5l.	5l. 15s.	6l. 5s.	6l. 10s.	7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.

Do. Elliptic do., at 3½d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.



IMPORTANT TO ARCHITECTS, BUILDERS, AND CABINET MAKERS.

LEA'S PATENT DOUBLE-ACTION BOLT, combining Cheapness, Facility of Action, and Security; adapted for the Strongest Folding-doors as well as the most Elegant Cheffonier.

Agent, E. PARKS, 140, Fleet-street.

Best Patent Cut Clasp.

6d.	7d.	8d.	1s.	1s. 6d.	2s. 3d.
3d.	4d.	6d.	8d.	10d.	20d.

Best Patent Sash Line.

4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s.
1	2	3	4	5	6

Every description of Ironmongery equally low.

SIFTED GRAVEL.—A large quantity of Sifted Gravel FOR SALE at London-street, Paddington, close by the Great Western Terminus.—Apply to Mr. G. BIRD, builder, 38, Edgware-road.

ARCHITECTURAL SUBJECTS (Outlines) coloured for competition or exhibition, and embellished with landscape, &c. Buildings, Portraits, and Views of every description, lithographed in a superior manner, by GEORGE CHILDS, 12, Amwell-street, Pentonville.



THE CHRONOMETRIC GOVERNOR invented by Messrs. SIEMENS, of Berlin, patented and supplied by JOSEPH WOODS and Co., Barge-yard-chambers, Bucklersbury, London, has now been in constant use, for regulating the supply of power for grinding corn, and moving machinery of other kinds, for a considerable time, and it is found to succeed perfectly in producing an instantaneous and automatic adjustment of the supply of power, without allowing any variation of speed; the result of which enables all manufacturers, dependent on regularity of the velocity for a maximum result, to attain a greater uniformity in, and increased quantity of, the manufactured article produced in a given time, without increasing the expenditure of power. This effect in grinding corn amounts to an increase of 10 per cent.

These instruments may be applied to existing steam-engines, water-wheels, &c., without interruption to their constant work, and at an expense very much below the value of the advantages obtained.

Testimonials may be seen, and every information obtained, at the office of the Patentees, and cards for admission to the numerous flour-mills, saw-mills, and other works in different parts of the country, where the Chronometric Governor is employed, on application to them.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS.

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee having fixed a great number of his shutters in London, and given universal satisfaction, can confidently recommend them both for security and durability, the edges being sheathed with iron. Their construction is so simple that the largest establishment can be opened or closed with the greatest possible ease without the use of machinery. Their superiority over other revolving shutters consists in their great strength and stiffness, being without metal hinges, consequently cannot rust, buckle, be strained, or get out of order, and are safer. Persons dissatisfied with the patent rising gear now used for iron shutters can have it removed, and the shutters made to draw up in any part of the premises with the slightest exertion, without machinery, thereby avoiding the unpleasant use of oil.

INJUNCTION.

BUNNETT and CORPE'S Patent REVOLVING IRON SHUTTERS.—Since the verdict found in favour of the Patentees, in the Court of Exchequer, in the action tried by order of the Court of Chancery, that Court has granted a perpetual injunction for restraining all infringements of this Patent, and therefore all parties are hereby cautioned against infringing the same.

THE PRICES ARE GREATLY REDUCED, and BUNNETT AND CORPE'S PATENT IRON SHUTTERS ARE THE CHEAPEST AS WELL AS THE BEST. They are made with convex laths, if required. The worm and wheel motion for raising and lowering revolving iron shutters (as secured by this Patent) is the only safe and durable mode of effecting that object. In large shutters it is indispensable.

Some thousands of Bunnett and Corpe's Shutters have now been put up, without a single complaint of their want of strength or security; and nine years' practical experience (during which they have adopted every real improvement) enables the Patentees to challenge comparison with any others. They will guarantee all Shutters put up by them to keep in order, and last twice as long as any with thin convex laths.

B. and C. also manufacture REVOLVING WOOD SHUTTERS (the Patent for which has expired), at the same prices as other makers, but greatly superior, being fitted with their patent raising gear, and proper metallic hinges, without which no shutter can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop-fronts fitted with Iron Shutters, Patent Brass or Zinc Sashes, Plain or ornamental, handsomely Engraved, Moulded, Stall-board Plates, best Plate Glass, and Internal Brass fittings of all kinds, superior in quality and workmanship, and lower in price than any other house.

Contracts taken in Town or Country.

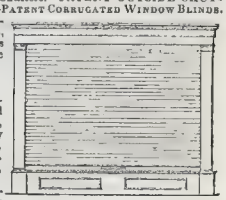
Metal Drawing and Stamping for the Trade.

Office at No. 26, Lombard-street, London; Works, at Deptford, Kent.

Steam-engines, Sawing, Planing, and Moulding, Cutting-machines on Improved Plans, especially adapted for Builders' purposes, may be seen in operation at the Works.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.—Patent Panelled Iron Safety Shutters. PATENT OUTSIDE SHUTTER BLINDS.—PATENT CORRUGATED WINDOW BLINDS.

The attention of Architects, Builders, and Blind Makers is requested to the IMPORTANT PATENTED IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD & Co. 115, Old Street, London.



The great importance of strength and stiffness in the Laths of REVOLVING IRON SHUTTERS, when required for security, is so obvious, that it is only necessary to point out the fact, that the Patent Convex Laths are twelve times stronger than the ordinary flat Laths (as shewn by the engravings and description), to insure their general adoption.

The Patentees invite attention to their greatly improved Gearing for Raising and Lowering their patent Shutters, which, possessing all the advantages of the endless screw (worm and wheel), cannot, even by wear, be liable to run down, and entirely avoids the necessity of using the ratchet wheel; it is at once simple and THOROUGHLY EFFECTIVE, and is SAFER and MORE DURABLE than any plan yet adopted for that purpose, thus rendering their patent Revolving Shutters the SAFEST and MOST EFFICIENT in use. These Shutters are fixed horizontally (either above or below the window or door), or vertically, for which position the great additional strength of the Convex Laths renders them peculiarly suitable.

REVOLVING IRON SHUTTERS, MADE OF THE COMMON FLAT LATHS, at a considerable reduction of price.

CAUTION. — The Patentees beg to caution all persons against Making or Using RENT or CONVEX LATHS for REVOLVING IRON SAFETY SHUTTERS (whether winding horizontally or vertically), so as to obtain increased strength and stiffness, as they thereby render themselves liable to legal proceedings for infringing this patent.

Engravings and Prospectuses will be forwarded on application.

DRAWN METALLIC SASH BARS, ASTRIGALS, MOULDINGS, STALL BOARD PLATES, &c.

Patentees and Manufacturers, R. HOWARD and Co., London.

To Engineers and Architects, and as an Elegant Present to a Lady, as well as a most Convenient Pocket Appendage.

TO all those who find a Difficulty in the Use of STEEL PENS, and who wish to avoid the loss of time occasioned by the frequent mending of Quills, STEPHENS'S PERPETUAL PEN, made of Gold, with points which never wear or alter, offers a most convenient substitute, as ink which oxydises and lingers in the steel pen, flows from this with precisely the same facility as from a Quill, and the Pen never requires mending. Price 15s. It may be used with a common holder. With an ever-pointed Silver Pencil Case, with Leads, 27s.

Sold by the proprietor, HENRY STEPHENS, 54, Stamford-street, Blackfriars-road, London. On application, by letter, this Pen will be sent, per post, to any part of the kingdom.

TO ARCHITECTS, BUILDERS, &c.

GAS LAMPS, GAS BRACKETS, GAS PILLARS, BURNERS, &c. &c. In calling the attention of architects, builders, &c., to their assortment of Gas Furniture in general, C. DEBAUFER and SON respectfully announce they continue to fit up premises of every description on the most approved and newest system of gas fitting. An experience of forty years justifies us in making the above assertion.—P.S. Country orders attended to with dispatch.—10 and 11, Creed-lane, St. Paul's.

FIRE GOODS.

W. ALLDER, FALCON CEMENT WHARF, 80, Bankside, has always on hand for Sale a Large Assortment of Fire Goods, Welch, Stourbridge, and Newcastle, at Lowest Prices. Also Roman Cement; Pots, both Red and Cement; Bricks, Tiles, Hair, and Laths.

TO PLASTERERS.

LIME FOR PLASTERING, that may be used immediately without risk of blistering, manufactured expressly for Plastering, and sold at the usual price, at FORREST'S WHARF, Earl-street, Blackfriars. Sheds for the slacking and mixing of lime. Accommodation for loading and landing bricks, sand, ballast, &c.

RAWLINGS'S LIME WHARF.—TO BUILDERS, &c.

BANGOR WHARF, KING'S ROAD BRIDGE, CAMDEN NEW TOWN. Builders, &c. are respectfully informed, that they can have Blue Lias, Grey Stone, and Chalk Lime, Roman Cement, Thames Ballast, Sand, Tiles, Cement Pots, and all kinds of Welch goods, of the best quality at lowest terms, being the nearest Lime Wharf to the North of London.

FIRE BRICKS, Stourbridge, Welsh, and Newcastle; also Lumps, Tiles, and Clays, a large Stock of the best made Goods are selling at very reduced prices (a great reduction having taken place in freights) at WARD'S Redcliffe Wharf, Bankside. Windsor Nonsuch, and Town-made Oven Tiles, PP.N. and Circular Red Fire Bricks, Country Pan, Plain and Ridge Tiles, Paving Bricks, Corn Drying and Patent Malting Tiles.—Country Builders promptly supplied. Rough River Ballast for Concrete and Thames Sand, above and below bridge, by freights or loads. Prepared Sand for Plastering.

CHEAP ROMAN CEMENT is sold in Casks that will not contain five bushels, even by some manufacturers of a very respectable name. Consumers should see that the standard size cask is 29 inches long by 17½ across the head, outside measure. Any workman with a rule in his pocket can ascertain this.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.

Manufactured by J. B. WHITE and SONS, of Millbank-street, Westminster; and sold at their warehouses—Earl-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and undestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Milbank-street, Westminster, and Seel-street, Liverpool.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.

2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.

3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without pecling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

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A LARGE QUANTITY of PLATE GLASS of various sizes, from four inches wide to thirty inches, to be sold in job lots, at very reduced prices, in consequence of the agency being resigned.—Apply at 26, Soho-square.

SASHES primed, glazed, and sent to any part of London at 5d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.

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WINDOW GLASS, Crown Squares, in 100 feet Boxes, per foot:—

4 by 3	and under	5 by 3	.....	1d.
5 .. 3	,,	6 .. 4	.....	1½
6 .. 4	,,	7 .. 5	.....	1¾
7 .. 5	,,	9 .. 7	.....	2
9 .. 7	,,	10 .. 8	.....	2¼
10 .. 8	,,	14 .. 10	.....	2½
14 .. 10	and under 2 feet		.....	3

Crates averaging 50 inches:—

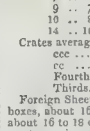
ccc	16 table	each 40s.
cc	18	47
Fourths	18 table	65
Thirds.....	18 table	78

Foreign Sheet Glass, 3rds, superior to English, in 200 feet boxes, about 16 oz. 3d. per foot; best quality, Sheet Glass, about 16 to 18 oz., in 100 feet cases, 8d. per foot: this is a most superior article, nearly approaching to plate glass.

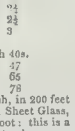
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HERRING'S PATENT SAFETY WINDOWS.—No invention ever offered the advantages to builders and the public; it will positively add 5 to 10 per cent. to all houses having it, reap the cost every two years, abolish all danger to life and limb, cleaning and repairing. It is in full operation (four different ways), forms a complete ventilator and sun-blind, all simple, cheap, and effective.—Apply for licenses and to inspect its real merits, to Herring's Patent Steam Bed-feather Factory, 11, Kingsgate-street, London.

CHAS. WM. WATERLOW,



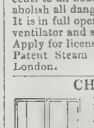
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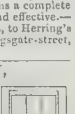
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ALWAYS ON SALE, a Large Assortment of DRY PREPARED FLOORING BOARDS, and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ½ inch to 1¼ inch thick.

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Apply at W. CLEAVE'S Timber Yard, Wilton-road, Pimlico (late C. Moore and Son), and Great Smith-street, Westminster.

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A. R., in calling the attention of builders and consumers, confidently presumes on being able to supply them on such terms as will ensure and merit their favours, &c.

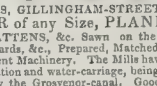
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DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weigbridge and draw-dock.—N.B.—Depot for Glass Pantiles.

T. ADAMS (from Byron and Co.), late S. Dare, Mahogany, Timber, and Deal Yard, New-road, Bermondsey, near Bricklayers' Arms, has always in stock mahogany, cedar, wainscot, elm, beech, oak, &c. Pantile oak and fir laths, scaffold poles, putlogs, &c. Wheelwright's goods, veneers, cut deals and scantling of every dimension. Also a large assortment of SEASONED FLOORING, MATCH BOARDING FIT FOR immediate use, and MOULDINGS prepared by machinery, all at reduced prices.

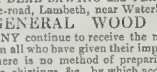
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TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

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THE GENERAL WOOD CUTTING COMPANY continue to receive the most satisfactory assurances from all who have given their improved machinery a trial, that there is no method of preparing floor-boards, matched linings, skirtings, &c., by which accuracy, dispatch, and economy of material are so certainly obtained. In shooting, or groving and tongueing a board (although curved), the machine follows the edge, removing no more than the skin of the wood, and by the use of a peculiar saw for deep cutting, the board comes off with a perfect surface, thus obviating the necessity of reducing its thickness in order to plane out the hollows. The Company being neither builders nor timber merchants, unconnected with any trade but that of sawing and planing, and depending solely on the public for a moderate interest on their capital, are determined, by an assiduous attention to the interests of their customers, both as regards workmanship and general business arrangements, to merit a continuance of their support.

G. ELL'S ADJUSTABLE SCAFFOLD, OBSERVATORY, or FIRE ESCAPE, Models of which are at the repositories of the Royal Society of Arts, Royal Polytechnic Institution, and at the manufactory, Nos. 3 and 6, Tottenham-court New-road, and St. George's-circus, Waterloo-bridge-road.

This Machine consists of a series of hollow rectangular frames, sliding one within another, after the manner of the tubes of a telescope, is applicable to a variety of purposes, but is especially adapted to that of Land Surveying, ornamenting the walls and ceilings of lofty buildings, hanging chandeliers, fire escape, or for elevating persons for any purpose whatever, as it may be adjusted to any height within its range, and supports itself with safety, independently of any attachment to the walls, and will be found the easiest and best method yet used for cleaning and decorating the interiors of lofty buildings, well staircases, &c.

Also Ell's Adjustable Ladder, which supports itself independently of any attachment to the walls. Machines to be seen at G. ELL'S, Adjustable Scaffold, Ladder, and Barrow Manufactory, New-road, St. Pancras.

FILTERED WATER.—As the rainy season produces its dirty water, JOHN DAY, proprietor of Defouville's system of filtration, the only one known by which large quantities of liquids are easily filtered, begs to announce that he continues to supply these apparatus, which are easily applied to cisterns and water-butts, and when fixed require no care or attention from servants, and never get out of order. The prices are from Two to Four Guineas, producing from 100 to 300 gallons daily; for brewers, distillers, paper makers, hospitals, and large establishments, to an unlimited quantity, the prices varying accordingly.

40, Love-lane Platform, Rotherhithe; Office, 33, Conduit-street, Bond-street.

The Builder.

No. CCXI.

SATURDAY, DECEMBER 19, 1846.

MR. HAY'S reputation as a writer on decoration, and certain preliminary flourishes as to his doings at the Society of Arts in the Adelphi, led us, perhaps, to enter the hall there with too great expectations. Certain it is we were much disappointed. If the society, after a certain vacation, and the employment of an ordinary decorator, had opened the room at the commencement of their session without comment, we should probably have thought it very satisfactorily fitted up, and agreeably painted. But as an example of superior art,—a specimen of the best we can do,—we are unable to pronounce it successful.

Intrusted with the embellishment of the hall of a society which has for its object the advancement of the ornamental and useful arts, Mr. Hay says, he naturally felt much anxiety as to the result of his labours; and this anxiety was increased by the reflection, that his work must necessarily be of a nature calculated to accompany one of the greatest efforts in high art of which this country can boast. His first object, therefore, was to adopt such a style of decoration as should not only embellish the hall, but at the same time give additional effect to those great works of art which it contains, connecting the whole in one general harmony of form and colour.

Accordingly, to bring out the true and natural effect of the pictures, he has surrounded them with cloth of a deep purple hue; in the belief, that the nature of its surface is rather to absorb than reflect the rays of light that fall upon it, and consequently to give greater effect to the pigments employed by the artist.

The wall is terminated by a slightly enriched cornice, surmounted by a plain cove 8 feet 4 inches wide; and with this the decorator's work begins. The cove is followed by a narrow border of stucco work, then a flat space also quite plain, then the aperture for the cupola-light. The sides of the aperture are formed into panels by a narrow moulding.

The cornice he has sought to unite with the walls, by painting it of a *terra cotta* hue. On the plain surface of the cove which surmounts the cornice, the decorator has confined himself to what he calls "a simple combination of geometric with chromatic harmony," representing mosaic work of *giallo antico*, *rosso antico*, *lapis lazuli*, and inlaid gold.

"The band of stucco work which divides this cove from the flat part of the ceiling is painted pure white, to represent the statuary marble, as are also the mouldings round and upon the aperture that leads to the cupola light. This was adopted in preference to the *terra cotta* colour of the cornice, as being equally appropriate and more light in effect." (We should think so, too.) "The flat part of the ceiling is also enriched by a mosaic work of a similar chromatic harmony of the same marbles, but of a different harmony of form from that of the cove, and without gold. The panels in the space leading to the cupola, are similarly enriched by a mosaic work, composed of *lapis lazuli* and *siena* combined with inlaid gold."

The figures forming the design in the cove, still following Mr. Hay's own explanation, are produced by the combination of elliptic bands round central points; and the reason for adopting this curve in the space nearest the pictures was, that the curves which form the outline of the human figure, are more allied to the ellipse than any other regular curvilinear figure. In contrast to this arrangement, the flat part of the ceiling which divides the cove from the cupola, is filled with a rectilinear design, formed by a combination of equilateral triangles, producing hexagonal and rhomboid figures, in which are introduced the rose, thistle, and shamrock.

The panels in the sides of the opening for light, are filled with a pattern formed by the combination of a triangle and circle, and in the centre of each panel is an emblazoned shield.*

Now this description, which we have endeavoured to make correct, probably sounds very well; but the fact is, the intention is marred in the execution. Instead of "a *combination* of geometric with chromatic harmony," there is neither one nor the other. As regards the first, or geometric harmony, the "elliptic bands round central points" being developed *on a coved surface*, are distorted, and at each angle of the ceiling, where the sides of the cove meet, and are separated by an upright band, the pattern is so mutilated, so imperfect, as to produce a disagreeable effect on the careful examiner, who would seek in such positions evidence of the art of the designer. Then as to the chromatic harmony, it is too much like monotony (in the daylight at least, we have not yet seen it at night), and the tone is "foxy." In the upper part of the ceiling, where blue predominates, the chromatic effect is more agreeable. The rectilinear pattern in the flat surface above the cone, however, is mutilated at its junction with the band, which surrounds the opening for light, or has a mutilated effect, which is the same thing in decoration. We must confess our surprise, that one who appears to understand so well what ought to be done, has not been more successful in the present case. The cost of the ceiling alone, it is said, would have been, under ordinary circumstances, 500*l.*†

Barry's noble pictures have been freed from the dirt which obscured them, and are seen to great advantage. Two of them (the Orpheus especially) shew considerable injuries, which have been attributed to the mode adopted in cleansing them. Those who conducted the operation, however, state that the damage was done ten or twelve years ago by injudicious varnishing, rendered necessary by the partial failure of the vehicle with which Barry at first painted.

It is to be hoped that they will be examined by competent persons, and all proper steps be taken to ensure their preservation. We have few such to show in England.

In the entrance-hall and passage to stairs, a mosaic pavement has been laid by Mr. Blashfield. It consists of thousands of small tesseræ on a concrete bottom, and is admirably done; in fact, perhaps it is the best specimen we have yet seen. The centre of the main hall is the copy of a pavement in Rome, of which drawings were recently sent over by Mr. Wyatt. The pattern adopted in the passage is too much like that of ordinary floorcloth.

We are glad to find this ancient and useful society reviving: the decorations of which we have spoken, notwithstanding what we felt compelled to say of them in a critical point of view, will tend materially to advance its progress, and they entitle the individuals to whose liberality the society is indebted for them, to great praise. Should it appear hereafter, that Mr. Hay is himself the most important contributor, as is not unlikely, we may be inclined to regret the free expression of our opinion.

* The Royal arms, the arms of Prince Albert, the badge of the Society, and the arms of Barry, the painter! When we are boxed and ticketed, says Landor, we are prized and shewn.

† At the opening meeting, on Wednesday night last, a paper by Mr. Hay, on the first principles of symmetrical beauty, and on the principles employed in the decoration of the hall in question, was read. We shall refer to it.

THE ART-UNION OF LONDON.

CHARTER OF INCORPORATION.

THE charter for the Art-Union of London, the first granted under the new Act of Parliament, having been drawn up with much care, to serve as a precedent in other cases, we are induced to give it in full.

VICTORIA, by the grace of God, of the United Kingdom of Great Britain and Ireland, Queen, Defender of the Faith, to all to whom these Presents shall come, Greeting: Whereas Our right dearly-beloved Uncle, Adolphus Frederick, Duke of Cambridge, hath, by his Petition, humbly represented unto Us, that he and divers others of our loving subjects have associated together, and have formed a society under the name of "The Art-Union of London," for the general advancement of the fine arts, and for promoting and facilitating a greater knowledge and love of the arts of design on the part of the public generally, and, for the purposes aforesaid, have raised sums of money amounting to one hundred thousand pounds, or thereabouts, by subscription, or contribution, to be allotted and distributed by chance as prizes amongst them, on the condition, nevertheless, that such sums of money so allotted and distributed be expended solely and entirely in the purchase of paintings, drawings, sculpture, or other works of art; and have also purchased paintings and other works of art, to be afterwards allotted and distributed by chance among them; and have entered into, and will have to enter into, important and lasting pecuniary engagements for carrying out the objects of the said society; and that by an Act of Parliament passed in this tenth year of our reign, intituled, "An Act for legalizing Art-Unions," reciting to the effect that certain voluntary associations had been and might thereafter be formed in various parts of the United Kingdom, under the name of Art-Unions, for the purposes in the said Act mentioned (being similar to the purposes of the said association so entered into by the said petitioner and the said other parties), and that the allotment and distribution of paintings, drawings, or other works of art, or of sums of money for their purchase, and the proceedings taken to carry the same into effect, might be deemed and taken to come within the provisions of the several Acts of Parliament passed for the prevention of lotteries, littlegoes, and unlawful games, whereby the members, subscribers, or contributors of such associations as aforesaid, or persons acting under their authority, or on their behalf, might be liable or subjected to certain pains and penalties imposed by law on persons concerned in lotteries, littlegoes, and unlawful games, and reciting that it was expedient that all members of and subscribers and contributors to such voluntary associations as aforesaid, and all persons acting under their authority, or on their behalf, so long only as their proceedings are carried on in good faith for the encouragement of the fine arts, should be discharged from any pains and penalties to which they might have rendered themselves liable, or might thereafter render themselves liable, by reason of any such their proceedings: after enacting as therein is enacted, it is enacted, that all such voluntary associations as aforesaid then constituted, or which might thereafter be constituted according to the provisions thereinafter mentioned, should be deemed to be lawful associations, and the members of and subscribers and contributors to all such lawful associations, and all persons acting under their authority, or on their behalf, for the purposes aforesaid, should be freed and discharged from all pains and penalties, suits, prosecutions, and liabilities, to which by law they would be liable but for the passing of that Act as therein mentioned: provided always, that a royal charter or charters should have been first obtained for the incorporation of any such association, or provided other acts were done as in the said Act mentioned; and hath represented unto Us that the establishment and maintenance of such their association would greatly tend to the extension and improvement of the fine arts in this kingdom, and that they have been advised that the object of their undertaking would be more effectually obtained were the same to receive our royal sanction and confirmation, and he hath besought us to grant to them and to those who shall hereafter become members of the same society our royal charter of incorporation for the purposes aforesaid: now know ye, that we, being desirous of encouraging and promoting a design so laudable and beneficial, of our especial grace, certain knowledge, and mere motion, have willed, granted, and declared, and do by these presents, for us, our heirs and successors, will, grant, and declare, that the said Adolphus Frederick, Duke of Cambridge, and such others of our loving subjects as have formed themselves into and

are now members of the said society, or who shall at any time hereafter become members thereof, according to such regulations or bye laws as shall be hereafter framed or enacted, shall, by virtue of these presents, be the members of and form one body politic and corporate, for the purposes aforesaid, by the name of "The Art Union of London," by which name they shall have perpetual succession and a common seal, with full power and authority to alter, vary, break, and renew the same at their discretion, and by the same name to sue and be sued, implead and be impleaded, answer and be answered unto, in every court of us, our heirs and successors, and be for ever able and capable in the law to purchase, receive, possess, and enjoy to them and their successors any goods and chattels whatsoever; and also be able and capable in the law (notwithstanding the statutes of Mortmain), to take, purchase, possess, hold, and enjoy to them and their successors, a gallery or galleries, and any messuages, lands, tenements, and hereditaments whatsoever, the yearly value of which, including the site of the said gallery or galleries, shall not exceed in the whole the sum of two thousand pounds, computing the same respectively at the rack-rent which might have been had or gotten for the same respectively at the time of the purchase or acquisition thereof, and to act in all the concerns of the said body politic and corporate for the purposes aforesaid, as fully and effectually, to all intents, effects, constructions, and purposes whatsoever, as any other of our liege subjects, or any other body politic or corporate in our United Kingdom of Great Britain and Ireland, not being under any disability, might do in their respective concerns.

And we do hereby grant our special license and authority unto all and every person and persons, bodies politic and corporate, otherwise competent, to grant, sell, alien, and convey in mortmain unto, and to the use of the said society and their successors, any messuages, lands, tenements, or hereditaments, not exceeding such annual value as aforesaid.

And our will and pleasure is, and we further grant and declare, that there shall be general meetings of the members of the said body politic and corporate, to be held from time to time as hereinafter mentioned; and that there shall always be a council to direct and manage the affairs of the said body politic and corporate, and that the council shall have the entire direction and management of the same, in the manner and subject to the regulations hereinafter mentioned; but our will and pleasure is, that at all general meetings and meetings of the council, the majority of the members present, and having a right to vote thereat respectively, shall decide upon the matters propounded at such meetings, the person presiding therein having, in case of an equality of numbers, a second or casting vote.

And we do hereby also will, grant, and declare, that the council shall consist of a president, vice-presidents, two secretaries, and not less than thirty, and not more than forty, other members, to be elected out of the members of the said society.

And that our said dearly beloved uncle and councillor, Adolphus Frederick, Duke of Cambridge, shall be the first president, and the other persons now being the vice-presidents, secretaries and members of the committee of management of the said society shall be the first members of the council of the said body politic and corporate, and shall continue such until the election of officers shall be made in pursuance of these presents.

And we do hereby further will, grant, and declare, that it shall be lawful for the members of the said body politic and corporate hereby established, to hold general meetings once in every year, or oftener, for the purposes hereinafter mentioned, viz., for the distribution of prizes, for receiving the report of the council, and for ratifying the election of members of the council.

That the council shall make and establish such bye-laws as they shall deem to be useful and necessary for the regulation of the said body politic and corporate, for the admission of members, for the management of the estates, goods, and business of the said body politic and corporate, and for fixing and determining the manner of electing the president, vice-presidents, and other members of the council, and other officers, and the period of their continuance in office, as shall be deemed necessary or useful for the said body politic and corporate, and such bye-laws from time to time shall or may alter, vary, or revoke, and shall or may make such new and other bye-laws as they shall think most useful and expedient, so that the same be not repugnant to these presents, or to the laws and statutes of this our realm; and shall and may also enter into any resolution, and make any regulation respecting any of the affairs and concerns of the said body politic and corporate that shall be thought necessary and proper. And we do will and declare, that the first of such general meetings as aforesaid shall be held within twelve calendar months from the date of these presents, and that the council shall make such bye-laws as aforesaid within six calendar months from the date of these presents, and shall lay the same bye-laws, or copies thereof, before the committee of our most honourable Privy Council, who shall have full power and authority, from time to time, to disallow, alter, and amend the same, as to the said committee of our Privy Council shall seem meet. And we do declare, that until the same bye-laws shall be so made, the said society shall be regulated according to the present rules and regulations relating thereto.

And we do further will and declare, that it shall be lawful to and for the said committee of our said Privy Council, from time to time, and at all times during the subsistence of this our charter, to make and ordain any bye-law and bye-laws for giving full effect to the said in part recited Act, as to the said committee shall seem fit and desirable; and with such intent and purpose from time to time revoke, alter, or amend any such bye-law and bye-laws, and the same shall be binding and conclusive upon the said body politic and corporate.

And we further will, grant, and declare, that the council of the said Society shall have the sole management of the income and funds of the said body politic and corporate, and also the entire management and superintendence of all the other affairs and concerns thereof, and the exclusive right of nominating an assistant secretary, and such other officers, attendants, and servants as they deem necessary or useful to the society, and of removing them, if they shall think fit, and shall prescribe their respective duties and salaries. And it shall be lawful for the council, or any five or more of them, to assemble and meet together when and as often as they shall think fit, and do such acts as to them, or the majority of them then present, shall appear necessary or fitting, for the objects and views of the said body politic or corporate.

Provided always, and we do declare, that the council shall render to the annual general meeting a full and particular account of all such their proceedings as aforesaid; and that it shall be lawful for every member of the said society to see and examine the accounts of the receipts and payments of the said society.

And we further will, grant, and declare, that the whole property of the said body politic and corporate shall, at all times, be vested, and we do hereby vest the same solely and absolutely in the members of the council for the time being of the said society; and that they shall have full power and authority to sell, alienate, charge, or otherwise dispose of the same as they shall think proper, but that no sale, mortgage, incumbrance, or other disposition of any messuages, lands, tenements, or hereditaments belonging to the said body politic and corporate should be made, except with the approbation and concurrence of a general meeting.

And we do further declare it to be our royal will and pleasure, that no resolution or bye-law shall, on any account or pretence whatever, be made by the said body politic and corporate, in opposition to the general scope, true intent, and meaning of this our charter, or the laws or statutes of our realm; and that if any such resolution or bye-law shall be made, the same shall be absolutely null and void to all intents, effects, constructions, and purposes whatsoever.

And we do further declare, that the services of the members of the council shall be honorary, and that it shall not be lawful for them, or any of them, to receive any pecuniary payment for their attendances or other services in or about the affairs of the said society.

And we do further declare, that all the works of art selected or given as prizes in each year, shall be exhibited in some convenient place in the metropolis in every such year, as soon as conveniently can be after the annual distribution of prizes, and that all the members of the said body politic and corporate shall have free access to the same, under such regulations as shall be from time to time made respecting the same.

Provided always, and we lastly expressly declare it to be our royal will and pleasure, that the council shall, once in every year, or oftener if thereunto required, render and deliver to the said committee of our most honourable privy council, to whom the consideration of Art-Unions shall be referred by us, a report of all the proceedings of the said society, more especially setting forth the mode adopted for selecting and distributing works of art, and a list of the works of art purchased and distributed, and the prices thereof respectively; also a detailed account of the receipts and disbursements of the said society for the year, together with a true copy of the bye-laws, rules, and regulations by which the affairs and concerns of the said body politic and corporate are, for the time being, regulated. And we do expressly declare, that whenever it shall appear to any such committee of our privy council that the said society is perverted from the purposes of the said in part recited Act of Parliament, to certify the fact to us, and thereupon it shall be lawful for us to revoke or annul this our charter: provided always, that the claim or claims, at law or in equity, of any party or parties against the said body politic or corporate, or the members thereof, shall not be prejudiced, abridged, or affected by such revoking or annulling of this our charter. In witness whereof we have caused these our letters to be made patent.

Witness ourself, at our palace at Westminster, the first day of December, in the tenth year of our reign. By writ of privy seal,

EDMUNDS.

We shall next week give some particulars of the works the council have now in progress.

PROJECTED WORKS.—Contracts have been called for by advertisement, for the various works necessary in the erection of fire-proof warehouses and laboratories at Liverpool; a corn exchange, a chapel, catacombs, &c., at Birmingham; a tunnel and other works at Macclesfield; sewers and roads at Wavertree, &c.; also for a large quantity of cast-iron street-grates and other works in iron and wood, &c.

IMPORTANT WORKS ON THE BIRMINGHAM RAILWAY.

CAMDEN TOWN STATION.

THE additions now making at the Camden Town station, and which have excited much attention, include a passenger and luggage engine houses, with coke-sheds, tank-houses, and a construction shop for the repair of waggons, &c.

The new passenger engine-house is situated on the west side of the station,—the line at this spot being on the curve. The building is so placed that the engines can run off the main line, and through the house, and again join the line nearly in a straight line: a large piece of ground on this side of the station has been added, at a cost of 6,000*l.*, on which the building partly stands, to admit of this accommodation. The engine-house is 397 feet by 90 feet in the clear of walls; there are five doorways at each end, and five lines of rails running through the entire length of the building. The principal front is on the east side, and has three doorways at equal distances from the ends, with transverse rails running across the building. On the centre transverse line are five turn-tables. The walls are two bricks thick, faced with white Suffolk bricks; on the front are a series of buttresses (3 feet wide) and pilasters—the pilasters projecting from the wall 9 inches, the buttresses 3 feet; about 13 feet apart. The ends have a buttress between each doorway. This part of the station being made ground, holes were sunk under every buttress to a depth of 17 feet 6 inches, and filled up with concrete to within 6 feet of the surface, when cores were formed in the ground, and segmental arches turned from the top of footings, rising about 2 feet. Directly over the arches are worked four courses in cement, with three tiers of hoop iron; in each tier the hoop iron is laid over every half brick in the thickness of walls; this is continued about every 7 feet, making four courses of iron and cement bond round the whole building in the height, which is 25 feet from the line of rails to the bottom of the tie bars of roof. On account of the very great span, much care was required in designing the roof, which is composed of iron and wood. The tie bars are of wrought-iron, 4 inches by 1 inch, in three lengths, connected at the junctions directly by the queen bolts. The shoe to the queen bolts is formed of two pieces of flat iron, the same dimensions as the tie bars, and runs past the ends of the tie bars which form the lap, and is secured with keys and wedges; and also at the shoes. The queen bolts are of round wrought-iron, $1\frac{7}{8}$ inches in diameter, the king bolts $1\frac{1}{2}$ inches. From the shoe of principal to queen are two bolts, at equal distances; the one nearest the queen is the same in diameter as the king bolt, and the other is 1 inch in diameter. From the queen to the king bolt are four diagonal cast-iron braces, abutting into cast-iron shoes, which the bolts pass through, and are secured with nuts and screws; and a cast-iron bar from each of the other bolts, as before described: the shoes to the principal rafters and queen heads are of cast-iron. The principal rafters and collar beams are of fir, 14 inches by 10 inches; directly on the collar beam is a cast-iron girder, well secured to the beam by the king bolt passing through, and secured from the top. A cast-iron plate is connected to the collar beam, and is turned up, which forms the abutment for the lantern light, which is the width of one-third of the building, and is raised above the roof about 2 feet, with louvres on each side: this runs to within 34 feet of the whole length of the building, or to within 17 feet of each end. The bars to lantern light are of cast-iron, $5\frac{1}{2}$ lbs. per lineal foot, with grooves to receive rough sheets of plate glass. There is also a rod from the top of lantern light, of seven-eighths of an inch round iron bar, with three-quarter king bolt secured to ridge. There is also a continuous skylight in the centre of the bays, on each side of the roof, which runs the whole length of the building, with cast-iron bars and sheets of plate glass, as before described. The purlins are about 4 feet apart, 9 inches by 3 inches, except by the skylights, where they are 10 inches by 5 inches. The slate boarding is laid on the purlins in a line with the principals, and covered with queens slates. The gutters are formed with wood, lined with $7\frac{1}{2}$ pounds milled lead—resting on wooden

blocks, 10 inches by 8 inches, projecting 1 foot 6 inches from the face of the wall.

The buildings in connection with this, stand directly at the back of it, and run past an equal distance at each end; these are for the different departments connected with the engines, and stand 152 feet beyond the engine-house at each end; the one at the southern end is a coke shed, where the tenders will be loaded, 149 feet by 41 feet 7 inches, in the clear of walls. Next to this shed is an open yard, 116 feet by 41 feet 7 inches. The next building is a tank house, 38 feet 6 inches, by 41 feet, two stories in height, intended for the carpenters and copper smiths' shops; from the line of rails to the top of first floor is 20 feet 8 inches. The floor is formed of four inch York paving, laid on iron girders, 1 foot 6 inches deep, which are laid on three cross girders, 1 foot 9 inches deep, resting on two iron columns; from the top of floor to the under side of cross girders (which form the ceiling to this room and the floor for carring the tank) it is 14 feet 7 inches. The cross girders are 2 feet deep, and are carried on two cast-iron standards, which take their bearing on the top of the cross girders, directly over the columns. On the top of the cross girders is another floor of girders, 1 foot 9 inches deep, on which stands the tank, which occupies the whole area of building, and is 4 feet deep. The tank is formed with cast-iron plates, five-eighths of an inch thick, with flanges and diagonal braces, and is to be bolted together with five-eighths of an inch bolts, and the joints well caulked with iron cement. It is capable of holding 38,673 gallons of water. The next building, and between the two tank houses, is the fitters' and smiths' shops, 79 feet by 41 feet 3 inches, and will have eight forges. Next follows the other tank house, which is every way the same as described before, but in this building is to be fixed the stationary engine for turning the lathes, blowing the fires, and pumping the water from the artesian well, which is being sunk at the south-west corner of this building. The engines will stand directly over the well, which will be worked by four pumps, capable of throwing 500 gallons of water per minute, or 20,000 per hour. Next to this building is a large waiting room for the engine drivers and stokers; then follow the offices and store-rooms, which occupy a space of 117 feet in length. These come in a line with the north end of the P. E. H. Next is the coke store, which is 152 feet by 41 feet 7 inches, and is intended to hold 2,000 tons of coke. The whole of these buildings form one continuous front, 703 feet long.

At the north-east corner of the station, by the Hampstead-road, stands the circular engine-house, which is on the luggage side of the line, and intended for the engines and tenders used in that department. This is a circular building 160 feet in diameter in the clear of walls; the walls and elevations are precisely as described for the passenger engine-house. The roof is supported on twenty-four columns at equal distances, and forms a circle 40 feet in diameter from the centre of the building. The columns are 21 feet 9 inches high. On the top of these columns are twenty-four cast-iron girders, running in a right line between each column, and connected at each column with bolts. These girders are formed into an arch, being 2 feet 9 inches deep; the top flange is moulded, and the spandrils perforated, directly over the columns, and connected with them, are an equal number of standards, 30 feet 3 inches in height, from the top of girders; at the top they are flanged each way, to receive the purlins and principal rafters, twenty-four of which will run up to the lantern-light, and twelve will finish on the purlins, at the top of standards. The lantern-light will stand 4 feet 3 inches from the roof, and is formed at the same inclination with the roof, with wood louvres at the sides, and cast-iron sash-bars at the top, and covered with rough plate glass; at the top is a piece of cast-iron, 2 feet 6 inches in diameter, into which the tops of the sash-bars are fastened; at the apex is a large wooden ball, covered with 10 lbs. lead. The height from the line of rails to the tension-rod is 25 feet. The principal rafters drop on a cast-iron shoe, resting on stone templates. The tension-rods pass through the shoes and standards, and are secured with nuts and screws. The top part of the principals and lantern-light will be supported by cast-iron brackets, springing from the bottom of standards, and secured to the principals within 9 feet of the curb of lantern. From the line of rails to the top of ball is 69 feet 6 inches. From the line of rails to the top of concrete is 21 feet 6 inches, with a bed of concrete 2 feet 6 inches deep, making a total height from the bottom of concrete to the top of ball of 93 feet 6 inches. The foundation of this building is immensely strong, having 24 transverse walls, 2½ bricks thick. These walls run in pairs, at parallel widths, from the outside wall to within 25 feet 9 inches of the centre, which form the bed for the rails to lay on to receive the engines. These walls are connected by an invert at the bottom, and a semi-arch at the top, which forms the bottom of ash-pits. This building has only one entrance for the engines, which is at a point on the west side. In the centre is a large turn-table, 36 feet in diameter, where all the engines will run to be turned into their respective berths, which are 23, leaving the entrance clear. On each side, and within 20 feet of the entrance, are two smaller buildings, 100 feet 6 inches by 39 feet 2 inches; the one on the south side is intended for a coke shed, that on the north for waiting-rooms, offices, &c. At the south-east corner of the station is the construction shop, which is intended for the repairs of waggons, &c. This building stands on arches, which are carried on brick piers 3 feet by 2 feet 9 inches, with an invert at the bottom, on the top of footings, and a semi-arch at the top, directly under the springing. The vaults stand on an area of 43,340 square feet; they are intended to be used for stabling and stores. The construction shop commences above the arches at the north end, and is in a line with the east front. The first is for the repairs of waggons, 276 feet by 70, in the clear of walls. In the centre is a range of cast-iron columns, which support the roof, which is of the M description. The roof is formed of wrought iron and wood. The tie-rods are of 1¼ inch round iron, and the queen bolts of 1 inch, with cast-iron queen heads and shoes. The principal rafters and collar-beams are of fir, 10 in. by 5, with two purlins in each bay, 9 in. by 4; rafters, 4½ in. by 3, and close boarded; in the two centre bays are skylights between each pair of principals. At the south-east corner are the offices and stores. Adjoining, and under the same roof, which is continued, is the smith's shop, 70 feet by 69, with accommodation for ten fires, with a small stationary engine at the south-east corner for working the lathes, fires, &c.

The old Chalk Farm-lane bridge has been recently removed, and is being widened to admit of five lines of rails, with a siding on each side. The roadway will be supported by hollow girders, which will be formed of boiler plate, one-fourth of an inch thick, rivetted together, and will support the transverse cast-iron girders, and corrugated iron plates running longitudinally, and resting on the transverse girders. The buildings were commenced about the third week in June of the present year, and are nearly all ready for the roofs. Those of the passenger engine-house and construction shop are now being put on.

The whole of these buildings were designed, under Mr. Robert Stephenson, by Mr. R. B. Dockray, the company's resident engineer, and his assistant, Mr. Normanville. The contractors are Messrs. Branson and Gwyther, of Birmingham.

The tenders for the execution of the works were as follows:—

Piper	£73,619
Lee	71,000
Grissell	69,900
Baker	69,775
Haward and Nixon	69,598
Nicholson	67,894
W. Cubitt	66,970
Grimsdell	65,490
Branson and Gwyther	61,715

Shewing a difference between the highest and lowest of 11,904*l.* Mr. Robert Netherway is the clerk of the works.

Zinc Trade.—The smelting and manufacture of zinc is becoming an important trade in Belgium. During the last ten years the progress made in this branch of manufacture has been extraordinary. The borders of the river Meuse produce large quantities of the ore.

ROYAL INSTITUTE OF ARCHITECTS.

On Monday evening last, Mr. S. Angell, vice-president, in the chair, several interesting donations were received, including a volume of sketches by Pugin and others, chiefly made for the "Public Buildings of London;" and a reduced bust in ivory, after Chantrey, of the late Thomas Saunders. In allusion to the latter, Professor Donaldson referred to Mr. Saunders's remarks on sound in connection with the construction of theatres, and other of his works. Saunders was the architect of the Townley Gallery, in the British Museum, which, curiously enough, he said, had been put up for sale that day, and was to be removed to make room for a fresh building; whether this would be better than the former might admit of argument.

Mr. Donaldson then presented some parts of the work, "Ancient and Modern Architecture, by various Authors" (*Monumens Anciens et Modernes* &c.), and said he could not avoid taking that opportunity to speak of a recent article on architecture in the *Westminster Review*, the object of which was to cast a reproach upon the profession most unjustly. The writer of it had shewn his ignorance or his want of candour when complaining of the want of proper books, by not quoting the work he, Mr. Donaldson, had then presented, or Batissier's "*Histoire de l'Art Monumental*," which gave a perfect history of architecture. The reviewer did not know the literature of architecture, or he would not have been so bold as to make the assertions he did. He thought it due to the profession to exonerate it from charges prompted by questionable intentions. In that same article it was asserted, that the Institute had refused a most liberal offer made by Mr. Weale, to engrave and publish the works of the members if they would furnish the drawings. In the first place this sounded more liberal than it really was;—the preparation of drawings fit for engraving was an expensive thing, and in the next place, the offer never was made. The writer of the article was understood to be the writer of the notices in the "Companion to the Almanac," of which the article in the *Westminster* professed to be a review. He also wrote under different signatures in the *Engineers' Journal*, and other papers, quoting himself, and spreading the same statements in different quarters, so as to make the public believe there were many persons of the same opinion, while in reality there was but one. It was high time such a system was exposed.

Mr. Bellamy said: As a member of the council at the time when, as was said, this offer was made, he wished to confirm Mr. Donaldson's remark, that the statement was untrue.

Mr. Fowler observed: Without desiring to weaken Mr. Donaldson's justification of the profession, it was much to be regretted that so few works appeared. The books mentioned, it must be remembered, were not English.

Mr. Donaldson said: He considered the profession as of all countries. As regarded the publication of their buildings, some English architects were too modest to do so, and others were too busy.

The discussion excited considerable interest.

Mr. Burn then laid on the table specimens of an important work on "The Baronial and Ecclesiastical Antiquities of Scotland," which he had undertaken in conjunction with Mr. R. W. Billings, and of which the first number would appear in April.

The Chairman bore testimony to the merits of Mr. Billings as a draughtsman; and we have great pleasure in adding our evidence to his.

The Hon. Secretary read a description of the mode adopted by Mr. J. Bull Gardiner to warm the Spanish and Portuguese Jews' Synagogue, in Bevis Marks, London, in 1815. And Mr. I'Anson followed, with an account of the Polmaise system of heating, adopted successfully in greenhouses, at small cost. To heat one, 28 feet long and 17 feet 6 in. wide, to which he referred, cost 24*l.*; and the quantity of fuel consumed was very small. By this arrangement the air is sucked down (so to speak) from the floor above, to the heating-chamber; and then, when warmed, allowed to ascend into the house again. The committee of a church, in the restoration of which he was engaged, wished to apply it there; but he was not prepared himself to adopt it.

Mr. David Mocatta then read a paper descriptive of a distillery, and its appurtenances, erected from his designs.

Mr. Mocatta said, that having felt how important it was to acquire knowledge on every point connected with professional practice, and the difficulties which frequently attended the acquisition, he was led to believe he was fulfilling one of the duties which devolved on him, as a member of this Institute, in contributing his mite to the general stock of information. He then described the various points requiring attention,—the furnace flues for stills, position of the worm-tub, ventilation, and general arrangement; and urged that architects should become acquainted with the working and details of the several manufactures of the country, and establish the opinion that they are the proper persons to be employed in the erection of fitting buildings for their purposes. This, it might be inferred, would tend to improve the character of what are now common-place brick and mortar edifices.

Mr. Horne made some general remarks on the consumption of smoke, in connection with Mr. Mocatta's paper. Relative to the system described by Mr. I'Anson, he thought it would be most dangerous for a church, as they would be made to breathe over again the worst part of vitiated air—the carbonic acid gas, which would be found on the floor. Heat without ventilation was bad.

Mr. Fowler, in urging the importance of consuming smoke, alluded to some chimneys at Holloway, which were formed larger at the top than the bottom,—like an inverted cone.

Mr. Donaldson complimented Mr. Mocatta on his paper, and said he was much pleased to see so practical a view of the subject taken by one who had already proved himself an artist. An architect who was rightly educated need never fear grappling with special or new subjects; he would find his knowledge of principles, and his general information, would carry him successfully through.

After a conversation on Moffat's drain-tile, the meeting was adjourned.

WHY REMOVE WESTMINSTER BRIDGE?

Sir,—The state of Westminster-bridge being such as to require another structure in its stead, the position of the new bridge becomes a subject of the utmost importance, not only to the public in general as passengers on the highway, but to others in particular, whose interests are of a fixed and local nature. The remarks quoted by you last week, and those which have appeared in The Builder, and other periodicals, as to the injury which must arise to existing interests, by the removal of the bridge far from its present site, seem just, and full of a proper feeling for the situation of the inhabitants on the Surrey side of the present bridge, who will most probably receive no equivalent for the very great injury which they must suffer, by the withdrawal of an immense traffic from the line of their shops and houses; and to the owners and tenants of the properties, many of whom may have paid large considerations in their purchases or leases, the loss will be all but ruinous in most cases.

The dilapidated state of the present bridge, how occasioned it is not my intention to inquire into (although one need not travel far for a cause), is doubtless a strong case why another should be built, rather than an attempt be made to repair it. But its too close neighbourhood to the new Houses of Parliament, has had much to do with the wish to remove the site so much to the northward; and without doubt the bridge and the Houses are too near each other, and one must give way; and upon the old maxim of the weakest going to the wall, it is clear that the poor old bridge must yield to its formidable, though younger neighbour.

It appears to me that, by a very slight removal to the north of the present bridge, a new site may be obtained which would reconcile many difficulties, which would not inflict injury and injustice on innocent parties, and which would still afford to the public that accommodation to which they have been accustomed. There is a very short street leading out of Parliament-street, called Derby-street, having on one side only two houses, and on the other side three houses; consequently, much money cannot be required to be expended in forming the approach. Cannon-street crosses Derby-street at right angles, but opposite the latter street is only a wharf, extending to the river.

I venture to suggest that a new bridge could be formed at this point, and to terminate on the Surrey side, very nearly, if not quite, where the present bridge ends, although, in fact, a clearance of ground a little to the northward would form a better line than the present. My object in selecting a line which would require but a small outlay for the approaches (always a most expensive item in such matters) is, besides the reasons already stated, that a large sum may be devoted to a purpose which is highly desirable, namely, to purchase and remove the entire block of houses in Bridge-street, forming the north side of New Palace Yard: thus a fine area would be obtained for the entrance to the new Houses of Parliament, which would also be seen to more advantage from the new bridge than can be expected to be the case from other positions. But to make a new bridge from the top of Whitehall, although it may save a trifling distance to passengers from Pall Mall, will be a serious inconvenience to persons proceeding from Pimlico into Surrey, and must of necessity require an enormous outlay for approaches, not only on the Westminster, but on the Surrey side of the river. Other and grave objections might be urged against the removal of the bridge far from its present site, and although it is one thing to make a new bridge where the increasing populousness of a locality on either side of a river seems to demand such a boon, it is quite another thing to deprive an established neighbourhood of the means of transit enjoyed by them for centuries, and which privilege they have done nothing to forfeit.

It has been long since proposed to carry a bridge across the river at Lambeth, where the horse ferry exists. This position nearly divides the distance equally between the bridges at Vauxhall and Westminster: and another bridge is talked of from Essex-street, in the Strand, crossing the Thames exactly half way between Waterloo and Blackfriars bridges; nor will all these viaducts, new and old, be too many for the vast and increasing traffic in our streets. But it has been well observed, either in The Builder or in some other periodical, that the greatest relief to the pressure of the traffic would be by the abolition of the tolls on the bridges (of course by compensation); for actually at this moment there are only two free bridges open from Westminster to Whitechapel, the entire length of London. It must cease to be a wonder, therefore, that our streets are so crowded, and the communication so interrupted, especially when we take into account the state of blockade into which the leading thoroughfares are converted when under repair.—George Russell French.

18, Sussex-gardens, 12th December, 1846.

*** A public meeting to oppose the removal of the bridge has been held (Mr. Hawes, M.P., in the chair), when a series of resolutions to that effect were carried unanimously. Mr. Grissell stated, that he believed Mr. Barry was in favour of the present site.

NO ROYAL ROAD FOR PAINTERS.

A Captain Berkley, of Exeter, advertised that he had made a valuable discovery in the art of painting, and offered to teach it for 300*l.*, and so enable any one in half a year to earn a fortune! A gentleman named Esmondson, sent his son to him, paid 150*l.*, and gave a bill for 150*l.* more. The son soon found that the thing was useless, and left his instructor. The bill was not taken up, and an action was brought by Captain Berkley in consequence, which was decided last week in the Court of Queen's Bench. Artists shewed that what the pupil had learnt was valueless, and must be unlearnt; and that by the means professed, though a showy painting to please the vulgar might be produced, a good picture could not. The jury immediately gave a verdict for the defendant.

Bricks.—A parcel of 30,000 has arrived by a vessel from Hamburgh, and another of 40,000 by the Catalina, from Antwerp, both cargoes being destined for re-exportation.—*Liverpool Advertiser.*

FREEMASONS OF THE CHURCH.

Dec. 8.—Mr. French in the chair. Miss Mackenzie presented the following architectural flowers: Rose of Jericho, *manus Mariæ*, Anastatica *Hiero chuntina*, which was first heard of in England in 1597. A single flower, which Miss Mackenzie has had for five years (grown in Palestine), has never failed, on being held in water for half a minute, to expand itself into a star. The Latin monks call it *manus Mariæ*, in which they are supported by the Arabs. It was said to blossom at Christmas eve, to salute the birth of the Redeemer, and pay homage to his resurrection by remaining fully expanded till Easter, and that its revival from death was a type thereof!

Mr. Gauntlett, Mus. Doc., was elected professor of church music; Mr. Dobson and Mr. L. Blackburne were elected fellows; and Mr. Chambers and Mr. Thos. Clarke, associates.

Mr. Rogers exhibited one of the richly carved canopies from the great chimney-piece at Nonesuch Palace, said to have been executed from the designs of Hans Holbein.

Mr. E. B. Price read a paper on grotesque ecclesiastical sculptures; the example exhibited was by the kindness of Mr. Walter Hawkins, F.S.A. Mr. Price observed, that similar grotesque and satirical designs still exist in Westminster Abbey, such as the devil bearing away a monk upon his shoulders, and another in which a woman is seen beating a monk with her distaff. Had such burlesques upon the priesthood, of which so many examples might be adduced, originated with laymen, they would in themselves present nothing very remarkable, but that they should have existed in our cathedrals and churches has often been matter of surprise. The most rational conjecture, he thought, was, that they arose out of that spirit of hostility which prevailed so extensively between the regular clergy and the monks. They were mostly of a period when that hostility was at its height, and which shortly preceded the Reformation, a measure which happily put an end to such a state of warfare.

A paper was then read by Mr. A. J. Stothard, accompanied by drawings, shewing in what manner the plinth of the statue of the Duke of Wellington, at Hyde-park-corner, might be modified so as to accord with the arch upon which it stands with more propriety. A discussion took place upon the subject, but the majority of the members present were opposed to any modification, and desired its removal to a more eligible pedestal.

It being the anniversary of the Institution, the chairman delivered an address, reviewing the progress made in the several sciences upon which architecture depended, during the past year. The best thanks were voted by the society to the vice-presidents; the treasurer; Mr. Griffith, the honorary secretary, and the other officers, for their zealous exertions, and they were re-elected for the year ensuing.

THE PUBLIC HEALTH.

The "Health of *London* Association"—whose main object is, first, "to instruct the people as to the evils which result from the present defective sewerage, drainage, ventilation, street-cleansing, and supply of water;—from interment in towns, and from other sources of injury to public health: and to show the beneficial influences which the removal of these evils would certainly exert on their physical and moral condition;" and

Secondly.—"To diffuse information as to the most efficient and economic means of carrying out the necessary remedial measures;"—have issued a series of queries with the view of obtaining a large amount of information, to be afterwards digested and issued in the shape of a report. They say truly in the circular accompanying the queries,—"An untimely death is the lot of nearly a hundred thousand of our population annually,—disease and sickness prostrate the strength and energies, and destroy the means of hundreds of thousands more,—pauperism is produced on an alarming scale,—vice and crime (entailing the expense of their suppression) are generated and fostered by,—and hereditary disease, and an impaired physical condition have become common afflictions of our people, from causes which are

easily remediable." It is within the power of the people themselves, by a little energy, to relieve themselves from these prolific sources of misery. Every effort to make them aware of this, and rouse them to the effort, shall have our cordial support and co-operation. We reiterate the axiom:—"We can be useful no longer than we are well."

REMARKS ON NORMAN SARACENIC ARCHITECTURE IN THE ISLAND OF SICILY.*

HAVING cursorily reviewed the history of the island of Sicily during its occupation by the several powers who successively held sway in that country, and more particularly with reference to the Saracens and Normans, we proceed to consider the architecture, and the features peculiar to it, or from records of edifices once existing, of which accounts are extant, as collected from edifices still remaining. The styles which preceded that adopted by the Normans are only to be noticed as introductory to our examination of this more interesting and important variety of the art, although a more detailed account of the architecture of their predecessors than is compatible with the nature and design of this paper, would fully repay the attention either of the student or antiquarian.

For the sake of perspicuity, we divide that portion of the architectural history of the Island of Sicily, which at present we propose to consider,—namely, from the commencement of the middle ages to the time of the Normans, —into three periods:

1. The Imperial.
2. The Saracenic.
3. The Norman.

1. With reference to the art during the rule of the emperors, no research can be made with any certainty prior to the middle of the sixth century. A manuscript, written by Inveges, who lived A.D. 1648, preserved in the works of Mongitore, an Italian writer of eminence, renders an account, both curious and interesting, of a certain ancient church, which afforded an example of the state of ecclesiastical architecture during the period in question. A complete plan and description of this edifice may be found in a publication on modern Sicilian architecture, issued by two very able authors, Messrs. Hittorf and Zanth. This unique monument of antiquity was destroyed in the seventeenth century.

The church, to which we refer, was erected by Belisarius, about A.D. 535, and dedicated to Santa Maria della Pinta. It was formed of a number of stone columns, connected by semicircular arches, in the debased Roman style, and arranged in the form of the letter T. This form, according to tradition, was the original model of the cross. A roof covered the whole, but the building was uninclosed by external walls, and had the appearance of a finished construction of frame-work, open to the weather on all sides. The church consisted of a nave, with aisles and transepts. In rear of the transepts was attached a small building, divided into three compartments, which were devoted to the use of the chaplain and sacristans, and subsequently the centre compartment was converted into an apsis, as we now understand it. Chancel originally it had none. A small garden or cemetery surrounded the building, and the whole was inclosed by a low wall, forming a right-angled parallelogram.

This is the earliest example of mediæval art in Sicily, and it is evident that the designer took for his model an ancient basilica. It is also more than probable that some of the materials of existing buildings, classic in their origin, were employed in the erection of this new edifice, a conclusion which seems justified by the style adopted, resembling, as we have noticed, the debased Roman art.

We find at this day, in Sicily, no examples of architecture peculiar to the three succeeding centuries. But a reference to specimens in the Italian domains enables us to form a probable estimate of the condition of the art in the island. We have no reason to suppose that the style in the island differed from that employed on the continent, both territories having been uninterruptedly occupied for a long season by the same people, until in Sicily they gave way to the superior force of the Saracens. Records, unfortunately, do not exist, from which we might gain any certain insight into the character of the buildings of this period.

2. The Saracens having established themselves firmly for some time in Sicily, erected for their own use mosques, palaces and houses, according to their own fashion, similar in most respects to edifices still seen in Spain, in Africa, in Persia, Syria, and India. In these buildings the pointed and horseshoe arch was very generally adopted. The dome and minaret, the honeycomb, mosaic, and other elaborate features and ornaments abound. The monuments which they found in the debased Roman style, erected by their predecessors, opened a temptation to the turbaned infidels, which even believers have not been able to resist. With materials ready at hand,—formed, it is true, after a fashion somewhat different from their own,—with no respect for antiquity, or community of feeling induced by a similarity in faith, or more ordinary associations,—with a religion, indeed, sternly opposed to that professed by the people whose extermination they came resolutely bent to accomplish,—the new settlers hesitated not to employ what they found, in erecting many of their buildings. The manifest discrepancies between the Roman workmanship and their own, served to exercise their judgment and skill. We consider their efforts to have been most successful, though we reflect with deep sorrow on their demolition of monuments, by the side of which we would rather have viewed their own rising. But, by this amalgamation of parts, they gave an entirely new architectural character to their buildings; so that in the edifices of this period, we find a style differing altogether from any other which had elsewhere appeared.

Although few examples of importance are now to be found in Sicily of the Saracenic period, traces of the handicraft of this people are still to be seen in every direction. Here a window or a door, and there some other fragment of a building, exhibits the features and principles peculiar to the Musselmans. The palaces of la Ziza, la Cuba, and la Favara, at Palermo, with portions of the Royal Palace and mosque of la Ziza, may be considered the most interesting specimens which remain. The scale on which these edifices were erected affords us a just notion of the power possessed by the Saracens, and the influence which these people exercised over the Græco-Sicilians. In design, they appear to have followed an oriental palace; in ornament, to have employed details peculiar to Arabian houses.

3. As the Saracens had varied their own style by the appropriation of Roman materials, so in just retribution for such sacrilege, the Normans, during their occupation of Sicily, modified their architecture with the remains of Saracenic art.

"In Sicily," says the late Mr. Gally Knight, "and only in Sicily, the Greeks, the Saracens, and the Normans were united; and by their fortuitous conjunction the Northern, the Classic, and the Oriental styles were blended together; the Romanesque, the Greek, and the Saracenic: nothing of the sort is to be seen any where else."

The completion of the conquest of Sicily by the Normans cannot be considered to have been effected previously to A.D. 1071. From this time they began to enjoy undisturbed possession of their newly acquired territory. But the rapid changes which had occurred in the island, the quick succession of one power on another, having each their peculiar language, laws, and customs, reduced the Sicilian population to a condition the most singular and remarkable. During the period we are now to examine, four languages were common in Sicily. The inhabitants were composed of the settlers under the Hellenic rule, of Orientals, and Northmen. Greek and Latin were the distinguishing tongues of the older occupants; Arabic and Norman-French having been successively introduced by the subsequent possessors. Laws were published and deeds executed in three different languages; and the state prospered, notwithstanding this singular confusion!

> "Tum demum crassâ magnum farragine corpus
> Crescere jam domitis sinito."

Christian churches arose, courts of justice and palaces were built, the mural inscriptions of which, whether sentences from the Scriptures or not, being in the Cuphic character. On the coinage the inscriptions were chiefly Arabic; while on tablets, paintings, and ordinary writing, the most fantastic license seems to have been used. Of this Babel-like confusion of language, many strange specimens are extant. Among these we shall merely mention one, in which the far-famed Norman King, Roger, is thus immortalized:—

Ρογεριος Ρηξ·

the Latin and Greek words and characters being used indiscriminately.

The larger part of the population consisted of the Sicilian Greeks; and of this class seems to have been chiefly the architects, sculptors, and artificers in general, whom the Arabians first, and afterwards the Normans, employed. This opinion is strongly confirmed by the appearance of Greek design in the works of importance; and it is generally admitted, that during the tenth and eleventh centuries, as was likely to be the case, the meagre remains of classical art belong exclusively to the Greeks. From this circumstance, in the earlier buildings of the Normans in Sicily, we may look for less purity of style than in those erected at a later period. The native artists, whom, with the greatest reason, we suppose to have been employed, imbibed, under the rule of the Saracens, strong predilections, which first corrupted, and eventually effaced, their decided attachment to the antique. They continued to use the ornaments to which they had been last accustomed, introducing them into such parts of the buildings as would admit of decoration.

Time, experience, and chiefly association with a people of a higher genius and more noble character than the Saracens, produced in the Sicilian architects a more refined and elevated taste. The main features in their buildings, especially in ecclesiastical structures, gradually became developed, the ornaments, modified and chastened. One improvement rapidly induced another; and every success gave encouragement to fresh efforts. In propriety of design, in a just application of ornament, and above all, in a true apprehension of the principles of decoration, they soon obtained great excellence: and at length their edifices began to assume that lofty elevation and sublimity of character peculiar to mediæval architecture.

In Nos. 190 and 198 of this journal, we placed before our readers two engravings of Norman doorways; in each of which, though they are late examples, are exhibited marks of the peculiar style, which characterizes the Norman architecture of Sicily. For earlier specimens of the pointed arch, as employed in the island, we may refer our readers to the illustrations given in the work of the late Mr. Gally Knight, to which we have already alluded. We would especially draw attention to the engravings of the church of San Giovanni dei Leprosi, erected about A.D. 1072; as well as those of San Giovanni degli Eremiti, of the Capella Palatina, and the cathedral of Chefalu, built by Roger the Second about 1132. These are all built in the pointed style, and are undoubtedly of an earlier date than any building of that character to be found in this country or in France.

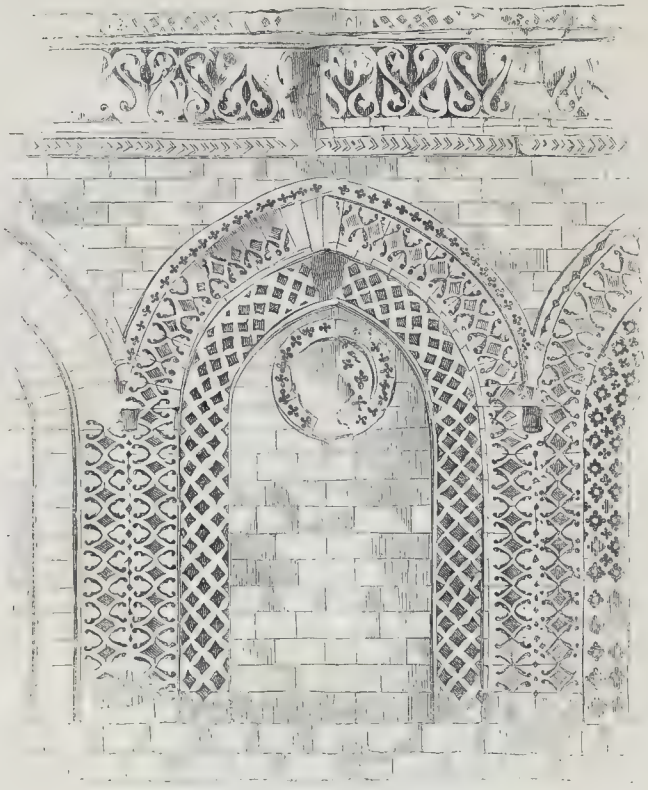
In the first example we have given, we may notice the same peculiarities of feature, which the reader will observe in the specimens given in Mr. Gally Knight's work. The doorway, which we are surprised has never before been introduced to public notice,—like the rest of the examples we have given in THE BUILDER —is taken from the interior court of the Palazzo Monteleone, a princely fortress, erected about A.D. 1150, in the village of Favara, about seven miles from Girgenti. The principal features in the head differ materially from those found in buildings erected either in France or England about the same time. A thorough knowledge of the construction of the pointed arch is indicated by its frequent and even curious repetition. There is no appearance of the lanceolate arch, which was the first employed by our neighbours in France, and, subsequently, by ourselves.

The lintel and jambs are built of white marble, and are, evidently, remnants of some classical edifice. A chariot race is sculptured on the former; on the latter have been subsequently introduced various Christian symbols, some of which are difficult of interpretation. The hood moulding, of which a portion

* See p. 558, *ante*.

FROM PALERMO CATHEDRAL.

CLERESTORY WINDOW.



WINDOW AT GIRGENTI.



only is given in the plate, is Saracenic in design, but executed by a Greek workman.

In the portal of the church of L'Abbadia at Girgenti (miscalled, as was afterwards pointed out), we observe a similar curve in the arch, but a much more simple design. It was built previous to A.D. 1170, and is an exceedingly pure and elegant specimen, exhibiting great breadth and firmness. The arch is composed of three sinkings, each of which has the torus, hollow, and the astragal moulding. The hood resembles that in the preceding example, with the exception of being somewhat flatter, and terminating in a scroll. We may observe generally, that there are key-stones in all the arches of the Normans in Sicily. It will be noticed that an improved construction was adopted in this doorway, the lintel and tympanum being abolished. The mouldings of the impost are debased Roman. The capitals are foliated, similar to those which are ordinarily designated early English. On the angle of the pier next the exterior columns, a quatrefoil ornament is sculptured.

In the present number, the first engraving exhibits one of the clerestory windows, taken from the south side of the Cathedral of Palermo, which, with the crypt and a portion of the east end, is all that remains of the original structure. The rest of this magnificent edifice was erected during the fourteenth and three subsequent centuries. The oldest part was built in A.D. 1169, by Walter Offamilco, an Englishman, who was made Archbishop of Palermo, and the cathedral was consecrated in 1185. We desire particularly to notice the great richness of effect exhibited in this example. It is produced by an arrangement of numerous mosaic patterns, inserted on the face of the arch, the hood moulding and the

IRONWORK, ABBEY DORE, HEREFORDSHIRE.



upper string courses. The patterns are formed of black or grey lava, set in the stone with white mortar, the joints adding considerably to the appearance, and serving to delineate with distinctness the outline of each design. The greatest variety has been adopted, and no two windows are alike.

When the elegant arts were driven from Italy, mosaic work, painting, and sculpture, were preserved by the Byzantine Greeks. It is difficult to determine at the present time whether the Arabians, when they entered Sicily, found the mosaic art still in use among the inhabitants of the island, or whether they themselves, having learned the art in their invasion of Constantinople, introduced it to the Sicilians. But it is certain, that the natives of Sicily, and the Moors, during their occupation of the island, used, as in Spain, this kind of work a long time previous to the Norman invasion; and the Normans, who have employed mosaics so profusely in Sicily, are manifestly indebted to the artists of the island for this kind of intricate, but beautiful decoration.

The frequent use of the lava as an ornament in different parts of the buildings, illustrates the taste and readiness of the architects of the country, who have employed, with the greatest effect, the common materials which the volcanic countries supplied.

The next example given is the drawing of a window in the house of Cavaliere Panatieri, near the town of Girgenti, on the road to the wonderful ruins of ancient Agrigentum, of the citizens of which, Empedocles said, that "they lived as if they were to die to-morrow, but built as if they were to live for ever." The date of our example is not precisely known, but judging from similar buildings, the age of which is positively ascertained, we may place it about A.D. 1180. The design is simple and bold, and executed with great care. We should presume from the sculptured effigy of the lamb bearing the Templar's banner, that the edifice belonged to a Crusader.

We cannot fail to notice the decidedly Greek profile given to the mouldings. This is particularly the case in the beak-headed moulding, which presents no modification. There are several other features of Greek design. It should seem to be incontestable that the architect of this structure was influenced by the venerable buildings which surrounded him; but in carrying out his design, and using with freedom various characteristics of other styles, he has most ingeniously avoided all incongruity.

In the concluding paper, we shall give one of the windows at the Palazzo Corvaio, at Taormina, a specimen of the same age as the last. WALTER L. B. GRANVILLE.

IRONWORK AT ABBEY DORE, HEREFORDSHIRE.

THIS beautiful example of ancient workmanship is upon the south door of the chancel at Abbey Dore, and may be dated to the period of its completion in the 13th century. The abbey takes its name from its situation on the river Dore in a luxuriant valley, "the golden valley," as it was termed in olden time; the name being derived from the French *d'or*. The abbey was founded for Cistercian monks, by Robert de Ewyas, the youngest son of Harold, lord of Ewyas, in the reign of King Stephen, to the honour of the Virgin Mary. Its possessions were increased by many valuable donations, and King John gave to it all the land between the river of Dore and the rivulet of Trivelbrook. The monks thus acquired extensive possessions, and became very affluent; they began the erection of a magnificent church, which was completed in a most elegant manner in the pointed style. It continued to flourish until the time of the dissolution of monasteries, when its site and lands were granted (31 Hen. 8) to John Scudamore, Esq., of Holm-Lacey. The chapter-house, cloisters, and other buildings belonging to the abbey, were pulled down, and the materials sold, soon after its suppression, together with part of the church; but enough of the latter is remaining to show its original construction. John Viscount Scudamore obtained a license from Charles the First to rebuild the church, and endow it with all the appropriated tithes of Dore parish. But the intentions of this nobleman were not entirely carried out; it only underwent considerable repairs, and was re-consecrated in March, 1634, by Theophilus Field, Bishop of St. David. It now consists of the chancel and transept of the original building, with its massive tower; the nave may be traced, and near to the present church some of the pillars and arches are still standing. The chancel is spacious and magnificent, the variety and beauty of its capitals a striking feature; it is 84 feet in length, 32 in breadth, and 46 in height. The communion-table is a remarkable slab of stone, 12 feet long and 4 feet broad, resting upon three elegant pillars. The church also contains some antique altar-tombs and monumental effigies, similar to those in the Temple Church, London. F. W. F.

AWARDS OF OFFICIAL REFEREES.

RUINOUS BUILDINGS.

With regard to certain two houses, Nos. 25 and 26, Rathbone-place, St Pancras, the district surveyor having, in pursuance of an authority in that behalf, surveyed the said houses, certified with respect thereto, to the said official referees,

"That both the buildings or houses referred to are in such a ruinous state as to be dangerous to passengers;"

That for the safety of passengers it is necessary immediately to shore up both of the said buildings, and to board in the fronts of the same;

That the works required consist of the total pulling down and rebuilding of the party-wall between the houses aforesaid, from the level of the second story (or ground floor) to the top, together with all the stacks of chimneys attached to the same;

That the fronts should be repaired, made good in cement, and otherwise secured to the new work, and

That unless these works respectively are forthwith executed in the most careful and workmanlike manner, I do hereby certify that the said buildings ought to be wholly pulled down."

Messrs. Paine and Hoskins, acting on behalf of the owner of the first-mentioned house, appealed against the said certificate on the following grounds, that is to say,

"That the said house, No. 25, is not in a ruinous state, and is not in any way affected by the condition of the said party wall, and would not require to be pulled down in case the said party-wall be not pulled down and rebuilt;

That the said party wall requires to be wholly pulled down and rebuilt from the foundation thereof; and

That although the front of the said house, No. 25, should be secured to the new work, yet the front thereof does not require to be repaired.

And we do hereby request the said official referees forthwith to survey the said houses, and to inquire into the matters of this our appeal, and to make such award and directions in the matter as to them may seem fitting; and we do hereby further request the said official referees, should it be competent to them to include the matter in their award, to inquire into and determine whether the said wall has not been rendered ruinous by the cutting away of parts thereof by the owner or occupier of the said house, No. 26."

When the referees made their survey, the owner of the house adjoining, northwards, concurred in referring to the official referees the matter mentioned in the last paragraph of the requisition, and generally the proportion of the expenses to be borne by the said parties; and afterwards the official referees proceeded to survey the premises, as to the matter of appeal; the further consideration of the other matters being adjourned to Wednesday, the 2nd day of December, 1846, when the parties were to be heard thereon.

The award, reserving all other matters, was:—"as to the said matters of appeal against the said certificate, that the house in question, that is to say, the Wheatsheaf Public house, No. 25, Rathbone-place, is in a ruinous condition, and that it is affected by the condition of the party-wall between the house No. 25, and the house next adjoining thereto, on the north side thereof. And, further, that all that portion of the building in question which stands over the passage, or gateway, between the said two buildings, ought to be pulled down. But we are of opinion, that if the remaining portion of the building in question, south of the said passage, or gateway, be properly shored up throughout the full height of the building, from the floor of the basement story, southwards, and clear of the wall and partition between the shop and bar and the said passage, or gateway; and if the then remaining portions of the front and back wall be securely tied together with sufficient irons, that it will not be necessary to pull down such remaining portion of the said house, No. 25, Rathbone-place."

In consequence of the district-surveyor's certificate, Mr. Wagstaff, builder, on the part of the owner of No. 24, sent a requisition to the referees, calling on them to confirm or modify the said certificate, and authorise him to proceed with the works, as though the said certificate had been made under the 24th section of the Act; and to give such directions as might enable him to claim, and be repaid, such expenses as might have been incurred by him for the adjoining owner.

The award of the referees was,—"That it is not competent for the official referees to make such an award as by the 24th section of the Metropolitan Buildings Act they are authorized to make, unless the previous proceedings, prescribed by the said section, have been taken; that is to say, the notice to the adjoining owner, the official referees, and the district-surveyor; the survey by the district-surveyor, the certificate by the district-surveyor, and other the proceedings thereon; that the certificate made by the district-surveyor, under the 40th section, does not include various matters which are, or may be, comprised in a certificate made by him under the said 24th section." Expenses to be paid by Mr. Wagstaff.

After another hearing, to determine matters left open in the first award, also to settle by whom, and in what proportion, the works in question were to be paid for, the referees awarded, that the party-wall had not been damaged by the acts of the said Thomas Moore in such manner as to cause its ruinous state; but that the proximate cause was the decay of the story-post at the north side of the gateway, between the two houses, and the general decay of the wall at or about the level of the roadway through from Rathbone-place to a mews behind, occasioned by the action of urine upon the brickwork, to which the wall in that part appeared to have been long and constantly exposed; and further, that the injury received by the wall from such source was not attributable to the said Thomas William Bye, inasmuch as provision appeared to have been made by him for the convenience of his customers, by urinals on the south side of the gateway. They further awarded, that the expenses of shoring up, hoarding, and pulling down, should be borne in equal moieties by such owners; and that the expenses of building the wall should be borne by the respective owners, according to the rates of the houses parted thereby. The chimney-breast, or breasts, to be paid for by those by whom the same shall be required or used, "subject, nevertheless, as to all such expenses, to the right of either party to appeal, as provided in the 47th section of the first-mentioned Act."

"And as to the requisite arch or floor over the gateway, between the two houses in question, we do hereby determine and award, that the said arch or floor, with its abutments or supports, on the south side of the said gateway, be formed and built conformably with the rule headed, "Buildings over the public way," in schedule D, part 5, of the first-mentioned Metropolitan Buildings Act: and as to the expenses of pulling down the existing floor, and building the arch or floor above-mentioned, we do hereby further award, that the same be wholly borne and paid by the owner of the said house, No. 25; that is to say, by the said Thomas William Bye." And they then order, that the works be proceeded with immediately; and in the event of Moore not proceeding with all due diligence, they authorise and direct Bye to do so.

Expenses to be paid by the applicants on the part of Mr. Bye.

NORWICH CATHEDRAL.

At a meeting of the Society of Antiquaries, on the 10th inst., when a series of drawings illustrative of Norwich Cathedral, made by Mr. J. A. Repton, and bought by the society several years ago, were exhibited, a letter was read from that gentleman relative to the present state of the cathedral. From this it appears that the old timber roof has been restored, also the carved stalls, and an oak door to the rood loft. The Pelican reading desk, long since thrown by, has been brought back. Externally, stone spires have been added to the turrets at the west end. A new stone cross, put up over the west window, Mr. Repton objected to as being, like much of the modern Gothic, too *pretty*. It is desirable to draw attention to the fact that earth has accumulated on the north side of the nave, to a height of five feet above the pavement of the church, and that the Norman arcade against the walls is much injured in consequence.

FRANCE.

Improvements and Embellishments of Paris.—Great excavations and demolitions are going on in the vicinity of the Place St. Sulpice, at the angle of Rue Mezière and du Pot-de-Fer. The houses which are to be erected in this part of the square, will be of a uniform plan with those large structures, darkened by time, which form the angle of the square towards Canette street. The monumental fountain is so far progressed, that its main features become apparent. Large pilasters arise on the angles of the monument, and the sculpture of the capitals promises to be finely executed.

"*Turning out*" *of* "*bothersome*" *Market-places from Paris.*—A decision of the Common Council of Paris, approved by the great council of the metropolis, has *suppressed* the two markets d'Aval and Du Roule, hitherto used for the sale of charcoal. This encumbering (albeit not *absolutely objectionable*) traffic is now expelled to the market-place des Recollets, situated in a distant quarter of the Faubourg St. Martin. The general council have also voted the sum of 100,000 francs for the *salubrification* of the district of Montmartre, as well as those of Batignolles, Monceaux, and Sablonville.

Revision of the Legislation! on Fire Insurances in France.—The Secretary of State for Commerce, &c. has formed a commission for the revision of this important branch of civic legislation. This commission is formed of the most competent persons of both branches of the legislature, sprinkled with some of those numerous *employés* in the departments of commerce, industry, &c. It will be presided by the Secretary of Commerce himself, and counts amongst its members Messrs. Teste, peer of France; Rénouard, ditto; Felix Réal, deputy, &c. &c.

Complement to Railway Communication.—The French government, warned by the late inundations of the Loire and other rivers, as well as many other accidents which may befall the (delicate) organism of railways, and thus delay the ordinary course of intelligence transmission, have voted a sum of 200,000 francs for keeping up the regular post-horse establishments, especially on such transversal roads, by which main points of railway communication can be gained, if others have become inaccessible.

GAS.

We have often remarked upon the inferiority of the gas furnished by the metropolitan companies, and errors in their management, and are glad to find that a company ("The Western") is establishing, for the supply, on a large scale, of gas produced from Cannel coal. The nature of this gas is well known in the north, and used throughout the houses of the best people there, many of whom, living in London in the winter months, are anxious to have it introduced into their houses here.

The principal works of the company will be at Kensal-green. We perceive by a case recently before the Court of Chancery, that a violent opposition has been raised, which, from the judgment of the court on that occasion, will, we are inclined to believe, altogether fail, as, by the evidence produced on the part of the company by numerous scientific men of the first character, to which, before we would speak on the subject, we have given attention, it appears clearly, that the introduction of a pure and brilliant gas can be accomplished without any of the nuisances created by the methods now used.

If the new company, by their improved processes, and the spur their establishment will prove to the existing companies, enable the public to obtain *pure* gas, at a *cheap* rate (as they may do), and so facilitate its more general use, it will be a subject for great congratulation, and will entitle them to general support.

Flixton Hall, Suffolk, Destroyed.—This interesting Elizabethan structure, illustrated in our pages a short time ago,* was totally destroyed by fire on Saturday night last, together with its valuable gallery of paintings. It is attributed to the overheating of a flue in the centre of the hall.

* See page 330, *ante*.

NOTES IN THE PROVINCES.

In excavating a new sewer in Winkle-street, Southampton, a few days since, a lofty and extensive subterranean passage was accidentally opened by the workmen. It appears to have been cut in the old wall of the town for defensive purposes, or means of escape if the enemy should scale the walls.——The plan for the Portland breakwater, as sanctioned by the Woods and Forests, is deposited with Mr. C. Hinde, Reforne, Portland, where it may be inspected by any one interested in the formation of this national work.——By the way a breakwater for the protection of war-vessels is to be constructed at the Isle of Alderney. ——The demand for cement stone at Harwich is now so very extensive, chiefly from the large quantities of the prepared article used in railway works, that the stock, usually consisting of several thousand tons at this season, is now quite exhausted. Prices have, in consequence, risen 30 per cent., while the dredgers are reaping a proportionate benefit. It is calculated that 25,000*l.* per annum are paid away in wages alone to the workmen employed in this trade.——A district national school for 200 boys and 200 girls is to be erected at Ipswich, in place of the St. Nicholas school-room, required for railway approaches. —— Old Weston church, Huntingdonshire, has been lately undergoing considerable repair. The whole has been repewed, with new reading desk, pulpit, font, and screens to chancel and belfry tower, under the direction of Mr. George Allen, architect, Saint Ives.——The Lord Bishop of Lichfield has given 1,000*l.* to the Lichfield Diocesan Church Building Society. ——12,023*l.* have now been subscribed for the Liverpool Church Building Society. Among the last subscribers are the Earl of Derby, 300*l.*; Mr. R. B. B. H. Blundell, 200*l.*; Mr. C. Leyland, 200*l.*; and Mr. James Lawrence, 100*l.*——A portion of the extensive dock-buildings at Birkenhead, are so far advanced towards completion, that the contractors, Messrs. Milton and Morris, have commenced putting on the roofs. Mr. Brassey, we understand, has undertaken the completion of the docks, at a sum exceeding a quarter of a million sterling, as soon as the large backwater tunnel from the upper part of Wallasey Pool to the Woodside slip is completed.——A new borough gaol is to be built at Leeds at a cost of 40,000*l.*——As the enlargement and restoration of Pittington church, Durham, has progressed, says the *Durham Advertiser*, "discoveries have been made which will furnish matter of curious study to antiquaries, and somewhat puzzle the confident race of modern architects." We cannot, however, learn what these are from the account.——Three of the Eglinton iron furnaces, according to the *Kilmarnock Journal*, will be in blast before the year expires, and a fourth is being built. They are said to be higher and of wider diameter than any hitherto erected, and to be designed on the most approved models for efficient working.

Literary Re-union.—In connection with the Britton testimonial, a number of dinners were given last season by the friends of that gentleman. On Saturday last, Mr. W. Tooke, F.R.S., recommenced them, by entertaining at a round table, in the Freemason's Tavern, Messrs. Bernard, Peter Cunningham, N. Gould, T. Grissell, W. Herbert, Humfreys, Q.C., Godwin, W. Jerdan, J. Bowyer, Nichols, A. W. Tooke, and S. Warren, the author of "Ten Thousand a Year." The Rev. Mr. Mitford, Messrs. Thomas Cubitt, W. Tite, and Charles Knight, were also to have been there, but were prevented. Mr. Britton was unluckily kept away himself by illness. At the last preceding meeting artists preponderated, including Mr. Uwins, Mr. Roberts, and Sir W. Ross, of the Academy, Mr. Harvey, Mr. Wagstaffe, &c.

Antiquities near Melrose. — Several discoveries have recently been made in and about Newstead, including a subterranean chamber or recess, which was come upon by a labouring man while draining in the fields. The place was of a vaulted shape, and extended inwards about sixty feet, its breadth varying from four to seven feet. It was built of free-stone, and two of the stones which were taken out of it were ornamented with a kind of rope-carving of beautiful workmanship.

RAILWAY CARRIAGES.

We recommend the following remarks on this subject, from Mr. Ritchie's late interesting work,* to the consideration of all railway directors.

"There can be no doubt that when Government had to introduce a bill into Parliament to protect the rights of the working classes in railway transit, by restricting the rate of charge for third class passengers to a penny per mile, and requiring railway companies to run at least one train having covered third class carriages daily, that much indifference, to say the least of it, must have been shewn before any interference took place. But why restrict the penny a mile trains to once a day? why should not carriages of this kind go with every train? Little doubt, however, can be entertained that the construction of railway carriages in this country must be soon entirely remodelled, or at least material changes made on those now in use, before either much comfort or safety will be attained in the cheaper class carriages. It is bad enough to be exposed to the annoyance of dust and risk of losing ones eyes in open carriages, without showers of red-hot cinders, which could be greatly mitigated or entirely prevented by proper mechanical contrivances. Many persons would prefer the open carriages in fine weather, irrespective of the charge, were it not for these annoyances; and in Belgium the waggons or open cars are filled with respectable people, who smoke away at their ease.

In this country the government third class carriages are so hideous and dismal, air and light being nearly both excluded, that they are more adapted for carriage of prisoners than passengers. In some of the third class government carriages there is a wax cloth curtain to draw over the opening, in others a small open window, or rather hole, is left on both sides of the carriage, excluding all view of the country. Till the government regulation the third class were open stalls. The standing carriages are now on some lines called fourth class carriages, and open carriages with seats are called third class carriages. One cannot wonder a third class passenger will rather prefer the external atmosphere to the internal of the close penny a mile carriages. For example, in the third class government carriages on some railways, when all the blinds are drawn up, which often happens in cold weather, the carriage, in daylight, is involved in total darkness. Well may it be asked, is such a carriage a proper conveyance for any one, far less females. Why should not glazed windows be in every carriage? It cannot be the expense of glass; and a penny per mile is surely sufficient to cover such expenses and pay the railway company properly; and when night trains are used they should be properly lighted. Indeed, it may be questioned if the second and third class passengers are not the most paying, as they are the most numerous class on every railway, and low fares tend clearly to increase numbers, and why should their comfort not be more attended to? In the Belgium railways, which are placed under the management of a government director, who acts under the control of the Minister of Public Works and other functionaries, the rate of charge was formerly higher. When lowered an increase in the number of passengers took place. The charge, I believe, now is:—

1·14 pence per mile first-class carriage,
·93 ,, ditto second-class ditto,
·56 ,, ditto third-class ditto,

or about sixpence for ten miles for the third class; while in this country the lowest rate fixed by Act of Parliament is a penny per mile, being nearly one-half more. The first class is nearly 1s., and second class 10d., for the same distance. This, for forty-six miles, would respectively be, about 4s. 8d., 4s., and 2s. 4d.; while the prices in this country are, 8s., 6s., and 4s. for the same distance.

The railway companies in this country might do well to take a lesson from their continental neighbours. The carriages in Belgium consist of three classes, as here; but they possess more comfort and convenience, besides being cheaper. The diligences, or first class, have a sort of vestibule, from which there is ingress to a separate spacious apartment, handsomely fitted up, or the carriage is divided by a narrow passage into two compartments; they are stuffed throughout, and exceedingly comfortable conveyances. The second class, chars-à-banc à glacis, consist principally of one large apartment, entirely closed in at the sides, as the name implies, with glazed windows and well-arranged cushioned seats. The third class, opened and covered waggons, do not differ much from the second, having covered seats; but the roofs are sometimes supported at the angles of the carriages by iron rods. The carriages are generally seated to hold thirty-two passengers, and the doors are usually placed at the ends. Carriages made entirely of iron have recently been introduced on the Belgian railways. Nor need we look to Belgium alone: in France the carriages generally approach to the style of the first class in this country. The second and third class, or *wagon*, far surpass the corresponding classes on our lines. The second, and commonly the third classes in France are perfectly closed carriages, stuffed, cushioned, and glazed, each class being only a little inferior to the other in decoration. The fares, too, are generally low.

The adoption of such a plan of carriages as those on the Belgian railways, would prevent the risk from the numerous doors in all classes of carriages used in this country. These doors are generally fastened by a common spring latch, which a sudden jerk may break or derange. Few can travel in any of the present carriages without the apprehension of serious accidents even from the people falling out. We are always hearing of hair-breadth escapes; and in a late newspaper the case is mentioned of a child falling out of a carriage unperceived, and how can it be otherwise when there is hardly room to move without coming in contact with a door? I have seen several instances of persons nearly losing their lives from the door on which they leaned suddenly bursting open. Very little ingenuity could remedy this defect; a simple drop bolt inside the carriage in combination with the latch might suffice.

Another very dangerous and improper practice which exists on several lines, and which creates well-grounded alarm to passengers, is, making the guard step from carriage to carriage by the side steps, holding on by the door handles, in order to collect tickets, and often when the train is going at great speed. The least sudden jerk, or his slipping his hold, would occasion loss of life. Surely such a practice ought to be condemned, for it is as repugnant to common sense as to humanity."

* "Railways, their Rise, Progress, and Construction." By R. Ritchie, Civil Engineer. Longman and Co., 1846.

RAILWAY JOTTINGS.

The report of the committee on the condition of the railway labourers, lately published, contains a sad account of the condition of these poor men, and of the oppression and injustice to which, we are sorry to say, they are too often subject, in recovering the fair amount of their hardly-earned wages.——The creditors of the bankrupt railway company (the Tring, Reading, and Basingstoke) have been promised a dividend of 20s. in the pound on their respective claims. The shareholders too in most cases are said to have agreed to the return of 3*l.* 3s. per share offered by the directors.——It is said that although the South-Western line will ultimately extend to London-bridge, the principal terminus, which is to surpass in magnificence every thing of the sort hitherto exhibited! will be at Hungerford-bridge; on the site of which the company are to build another bridge, whereby passengers will be conveyed at once into the heart of the metropolis.——At Windsor, on Monday week, a very stormy assemblage met to consider a proposition from the Great Western Company to carry a branch through Eton, where, as articulated, in the midst of the storm, by one "loud Boreas," youths run about at large, "unruly as wild blood-horses,"—ripe for every mischief, we suppose he meant, and ready, as exemplary sprigs of nobility, to run any given "branch," with the sprigs themselves to boot, into one eternal pickle. In short, the Eton College authorities denounced the risk of opening a railway line through the dangerous wilds and fastnesses of Eton; and a miscellaneous assemblage, full of division and of resolution, could arrive at neither resolution nor division on a subject wherein it appeared they could agree to nothing but to differ.——

Mr. Herepath, in his journal, asks the Great Western chairman why the books of his company were not kept in ink but in pencil!——Luggage vans, constructed on a principle in which safety to the train and accommodation to the luggage are combined, are henceforth to be used on the London and North-Western and the Eastern Union lines. They are firmly bound and breasted with iron-work, and supplied with buffers so strong and screws so powerful and elastic that it must be a dreadful collision, it is thought, if any at all, that will snap them. The interior is divided into compartments for different stations, and the guard is provided with a room next the train, a power-break, and a good look-out ahead.——The lives of passengers in general and of about a dozen of poor masons or other workmen in particular, were lately put in jeopardy by the insufficiency and the consequent dilapidation and fall of a bridge over the Norfolk line, opened on Monday week. A sinking having previously taken place, Mr. Merrit, the subcontractor, was ordered to take it down, and the men were engaged in dilapidating the bridge, after dark, by the light of large fires on the crown of the arch, when the whole mass fell into ruins, and the men were much injured and scorched while falling, and mingling with the rubbish and burning fuel.——A "disastrous slip" on the Whitehaven Railway was reported at Carlisle last week, but contradicted by the *Cumberland Paquet* of 8th instant. The same authority informs us that Messrs. Townsend, the contractors for forming that portion of the Whitehaven and Furness Junction extending from Corkicle, adjoining Whitehaven, to beyond St. Bees, have commenced operations, and calculate on a great accession of strength to their force. Mr. Sealby, of Hensigham, the contractor for erecting the temporary wooden buildings at the Whitehaven station, is pushing forward that work; but the masons at the new railway hotel, contiguous to the station, have been much retarded by the frost. Messrs. Ritson, the railway contractors, have had two sections allotted to them on the Carlisle and Glasgow line, *viâ* Dumfries, situate, we understand, between Annan and Dumfries.——A vein of copper ore has been revealed by the tunneling operations at Mossgiel, in Ayrshire.——There are now employed on the works of the Waterford and Limerick Railway, in and about Limerick, 120 carpenters, at wages varying from 3s. 4d. to 4s. per day; 52 smiths, earning from 3s. 10d. to 4s. per day; 250 masons, at 4s. 4d.; and 50 labourers, at 1s. 6d.

ST. MARY'S CHURCH, MILFORD.

The new district church of St. Mary, erected at South Milford, near Ferrybridge, at the expense of the Misses Gascoigne, aided by grant from the incorporated society, and lately consecrated, is a fabric built in the early English style of the 13th century, on a site presented by Lincoln College, Oxford, and Mr. B. Crossland, of Milford. The entire length of the church is about 90 feet. It comprises a nave and chancel, with a north porch, and an octagonal vestry on the north side of the chancel. At the west end of the nave is a gable-turret. The building is of Ashler dressed Huddleston-stone; the roofs being covered with Westmoreland slate and an ornamental ridge tile. The nave is 52 feet long by 27 feet wide; and the interior height is 37 feet. The roof is high pitched, and shews the ribs and framing, which are stained. The floor is paved with flags; and the seats, which afford accommodation for about 300 persons, are open. The pulpit is of carved oak, without any staircase in the church. The font is of Huddleston-stone, of a circular form, with a carved trefoil ornament. It stands near the north porch. The nave is lighted by seven lancet windows in the side walls, and two at the west end, surmounted by a rose-window: also a vesica-window over the chancel arch. These, as also the windows in the chancel, are glazed with cathedral glass. The doors are of oak, with wrought-iron work. The chancel is in length about 29 feet, in width 18 feet, and in height 17 feet. The roof is high-pitched, and open, the timbers being all shewn. The floor is paved with encaustic tiles. In the east wall is an arcade worked in stone, and surmounted by three lancet windows, and a Trinity window at the extreme point of the gable. There are also three windows in the side walls of the chancel. Under the vestry is a chamber, in which hot water has been fixed, for warming the church. The designs were by Mr. Fowler Jones, architect. The builder was Mr. Benj. Bulmer, of Thorparch. The cost, it is said, will not exceed 1,500*l.*

Correspondence.

FACILITY OF COMMUNICATION.

Sir,—Permit me to direct your attention to the connection which exists between the objects of your publication, and certain social improvments which have been recently introduced amongst us, or what are now in progress towards practical development. These are,—

1st. The penny post and hourly deliveries in London.

2nd. The Parcel Delivery Company, Parcel Mail Company, and Post Parcel Company.

3rd. The halfpenny, penny, and twopenny, steamers.

4th. The twopenny, and threepenny, and penny a mile omnibuses.

5th. The Economic brougham and cabriolet Company, limited to 6d. per mile, and guaranteed against impositions.

It must be obvious, that all these communications for transit bring in a new state of things, as regards the facilities for a comfortable residence at a distance from the localities of ordinary occupation. A merchant, a tradesman, a clerk, or even a journeyman mechanic may, with such facilities at his command, have his dwelling in a healthy and open neighbourhood, two or three miles from the crowded centres of the metropolis, where it may be necessary to attend in the pursuit of his trade or profession. The value of property at a distance from these centres, will consequently be enhanced; and even the poorest classes enabled to enjoy healthful and commodious dwellings.

I am sure the subject only requires to be suggested to you, to lead you to concur in the opinions above expressed, and to induce you to direct the attention of the owners of property, and of the public generally, to the great interest they have in promoting the success of these signal improvements. X. Y. Z.

CART NAVES—OVENS.

Sir,—Can your readers inform me what is the best mode of obtaining good cart naves in the rough, without cracks? I have cut elm, oak, and chesnut, at different times of year, in foot lengths; steeped them in water, covered them with cowdung! Some with and some without an auger hole, and still they crack.

They do not seem to make any the worse wheels for all that, but still, if there is a way of preventing the rending, I should like to know it.

Is an oven-builder correct in saying that it is madness to build an oven with *fire brick!* it would burn the bread! but that soft, half-burnt brick is the only thing to make a job!

N. M.

RESPONSIBILITIES OF SURVEYORS.

Sir,—Are the parties furnishing quantities for an estimate, and *paid for the same*, liable for the differences, should they be found to any extent deficient? G. P.

Bristol.

*** We have no doubt they are.

Remission of Duty on Woods.—Several persons have addressed us, with much reason, on the bit-by-bit remissions of duty on woods which have been made, and the want of that comprehensive view of the subject, which ought to have been taken. Locust treenails, and greenheart and Mora wood, are now admitted free of duty, in accordance with a recommendation of the Board of Trade.

Hot and Cold Blast Iron.—We are informed that a series of experiments recently made under the direction of Mr. Stephenson, fully bear out a statement which appeared in our pages, that hot blast iron is superior to cold blast, when properly made, although the reverse has been always considered to be the case.

Miscellanea.

Paper-hangings.—In an able lecture on industrial art, recently delivered in Worcester, and which we are glad to hear is likely to lead to the establishment of a school of design there, Mr. Wallis said:—"Some years ago, an eminent French artist came to this country, bringing two others with him, the one a practical designer and the other a mixer of colours, for the purpose of setting up a French paper-hanging establishment. These paper-hangings were at that time very expensive; and the artist thought that if he could establish a manufactory in London, he should be enabled to furnish a superior article at a cheaper rate; he was encouraged by several men of rank and wealth, and amongst others Mr. Rothschild engaged to support him to any amount. He took a building, got up designs, engaged good workmen with superior wages; he set to work, but in nine days after the establishment had got into fair play, the men struck—not on account of low wages, or any other unpleasantry, but as they said "because these Frenchmen have as many colours as there are days in the year, and we wont have any thing to do with them." The fact was, the men had been accustomed only to a certain number of colours, and any extension or improvement in that respect was looked upon as gross heresy. The consequence was, the manufactory was given up in disgust, and the principal of it was now one of the leading manufacturers in France, whose designs in house hangings were everywhere copied.

Abuse of English Monuments.—At the last meeting of the Archæological Institute, Mr. Hudson Turner, in the course of a paper on the ancient decorative arts, called especial attention to a beautiful cast, exhibited by Mr. Willement, of the wrought-iron screen which formerly inclosed the monument of Eleanor, consort of Edward the First, in Westminster Abbey. This beautiful specimen of the iron-work of the 14th century was removed but a few years since, and is now rusting in the vaults or crypts of the Abbey. In Mr. Willement's opinion, he said, it is scarcely inferior in beauty to the celebrated work at Notre Dame. And Mr. Turner observed, it should possess great interest in the eyes of English archæologists, as he had discovered that it was the undoubted work of an English Smith, one Adam de Leighton, of Leighton Buzzard, in Bedfordshire, who received 12*l.* for the entire fabric—equal to about 180*l.* of the present currency. It is to be hoped that under the auspices of the present dean this remarkable specimen of the excellent craft of a provincial smith in the old time may be either restored to its original position, or preserved from further possible mutilation or decay.

Competition: East Greenwich.—The designs for the intended new church at East Greenwich were sent in on the 3rd, and that by Mr. Brown, of Norwich, was selected out of a list of eight competitors. The cost is not to exceed 5,000*l.* Accommodation, 1,300, with a tower at the south-west angle. The seats are to be open. The exterior is to be faced with Kentish rag-stone.

Bridgewater House.—The proposed application to Parliament for leave to use a certain portion of Cleveland Court, St. James's, leads to the inference that the new house is at last to be commenced. The design, by Mr. Barry, as exhibited a few years ago at the Royal Academy (including, it will be remembered, a massive and lofty campanile), has been considerably altered and reduced.

Operative Builders's Association.—It is proposed to form a society for the relief of decayed master tradesmen, and also for the purpose of relieving any of the mechanics connected with the several branches of building, in case of accident, loss of life, or protracted illness. We shall be glad to hear more from the promoters of it, when put into shape.

Surveyors Made in a Month.—A number of respectable persons in Bury and its neighbourhood, have been taken in by a person who undertook to make them competent surveyors for six guineas, in something less than no time. Having obtained the money, he decamped. The victims ought to have known better.

The Bishop of Gibraltar is taking measures for the erection of a Protestant Church at Corfu.

LONDON SEWAGE CHEMICAL MANURE COMPANY.—We observed last week, that the Sewage Manure Company intended to go to Parliament for an Act to construct drains, &c. We have since found that the chemical manure company have also given parliamentary notices, and propose to erect works in Westminster, Lambeth, and Bermondsey, preparatory to a more extended application of their plan in a future session. It is stated, that by the plan proposed no offensive exhalation can possibly occur; whilst the manure will be a concentrated and portable substance, and quite smellless, possessing fertilising properties of the richest description, and yet two-thirds the price of guano.

TO CORRESPONDENTS.

"*J. S.*" (Hammersmith).—Apply at once to the owner of the rag-merchant's house.

"*A Builder and Subscriber.*"—The inquiry proposed does not seem to have any public interest.

"*Old Subscriber.*" (Lyme Regis).—The diminution of flues towards the top is not advantageous.

"*Constant Reader.*"—We cannot give an opinion of the metallic sand. Brick, finely pounded, might be used as a substitute for Smith's ashes, if the latter cannot be obtained.

"*Nicholson's Works.*"—Our correspondent "X." had no desire to lessen the real fame of Mr. Nicholson. "G." does not shew that "X." was inaccurate.

"*Plan of London Sewers.*"—A correspondent suggests that such a plan for the use of the public is a *desideratum*.

"*A. W. M.*"—Notice of all competitions which come under our eyes will be given,

"*J. S.*" reached us too late for consideration this week.

"*W. C.*"—We shall be glad to see any subjects he may think will suit us.

Received—"G. Holding." "G. R. L." "T. I. M." "J. P. W." "F. N." (Gloucester), "Decorative Art Society."

NOTICE.—Christmas-day falling on Friday, the next number of THE BUILDER will be published early on Thursday morning.

A limited number of volumes of 1846, in cloth, price 17s. 6d., containing an immense mass of information, and 220 Engravings, may be had by early application.

ADVERTISEMENTS.

ROYAL POLYTECHNIC INSTITUTION.

BY PERMISSION.—PROFESSOR SCHŒNBEIN'S GUN COTTON, differing from all other specimens recently before the Public, is lectured on with other Explosive Compounds, by Dr. Ryan, daily at half-past Three, and on the Evenings of Mondays, Wednesdays, and Fridays. The principle of the Electric Telegraph demonstrated daily by Prof. Bachhoffner, especially with reference to the new Patent of Messrs. Nott and Gamble, called the Royal Electro-Magnetic Telegraph. By the Oxy-Hydrogen Microscope are exhibited Specimens of the Diseased Potatoe, shewing the Leaves, Cuttings of the Tubers, &c., together with the Destructive Insect, supposed by A. Smee, Esq., F.R.S., to be the cause of the disease. The Physuscope, Diving Experiments, Dissolving Views by Smith, &c. &c.—Admission, 1s.; Schools, Half-price.

An entire New and Beautiful Series of Dissolving Views will be introduced at Christmas, and the Institution will be open on the Evening of Saturday, the 26th.

IRON-WORK FOR BAKERS' OVENS.

F. A. TIDDEMAN, Purfleet Wharf, Earl-Street, Blackfriars, keeps an assortment of Stocks, or mouth-pieces; Plates, Furnace-bars, Top and Fall Pieces, Stoppers, Chimney-bars, Inside, Outside, and Ash-pit, Doors and Frames, Boilers and Frames, Lamps, &c. &c.: all of the best description, at very moderate prices.—CAST-IRON UPSETS.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 168, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

MORTGAGE AND ANNUITY OFFICE, No. 123, CHANCERY-LANE.

PERSONS requiring LOANS by way of MORTGAGE, or otherwise, upon any available security, may at all times procure an advance to the extent of from 100*l.* to 150,000*l.*, or so much as the property will bear, by applying to Mr. BRAY, surveyor, at the offices as above.

N.B. To expedite the procuration, personal application at the office would in all cases be better, the party bringing with them the abstract of title, plans, &c.

TO ARCHITECTS.

THE attention of Architects is directed towards the new Patent for CARVING IN WOOD, STONE, and MARBLE, by MACHINERY. This interesting invention will enable them to see their plans carried out, which in many cases they are prevented doing, owing to the enormous expense attending hand-carving. The work, when executed by this machine, whether in stone or wood, has the appearance of hand-carving done in a masterly style. Monuments beautifully executed to any design, at an immense saving in price. The works are in full operation, and Architects are invited to inspect their merit at Eccleston-place, Eccleston-street, Pimlico, late Chauntrey's foundry.

ARCHITECTURAL ENRICHMENTS.—BIELEFELD'S IMPROVED PAPIER MACHÉ, which has been almost universally adopted for architectural decorations, has been patronised by her Majesty, by the Hon. Commissioners of the Board of Works, by the highest of the Nobility and Gentry, and by the most eminent architects of the day. It has been used at the royal palaces, at the present House of Lords, at Dublin Castle, at Drayton Manor, the new Conservative Club-house, at Grocers' Hall, &c., also at the British Museum, and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier mâché ornaments, with a tariff, price 1*l.*—Works, 15, Wellington-street, North, Strand.

LIGHTNING CONDUCTORS FOR BUILDINGS.

A. SMITH'S PATENT COPPER WIRE ROPE is being daily employed for the protection of CHURCHES and other buildings from the effects of thunder storms; it possesses important advantages over other forms of conductors. References can be given where it has been applied for some time past to CHURCHES, PUBLIC and PRIVATE BUILDINGS, &c., &c. Its general adoption in the Naval and Mercantile Marine of this and other countries is the strongest possible EVIDENCE of its EFFICIENCY, &c.

A. SMITH begs the attention of those engaged in building to his IMPROVED PATENT PANELLED AND REVOLVING IRON SHUTTERS,—Also, the Patent Weather-tight Fastening and Oil Bar, for French Casements, which are so much admired for their security, simplicity, cheapness, and efficiency. Of the merits of his

Patent Double and Single Action Door Springs,
Improved Flooring Cramps,
Patent Wire Sash Lines, &c. &c.,

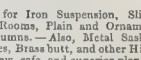
Little need be said, as they are pretty generally known and appreciated.

Manufactory for Iron Suspension, Sliding, and other Doors, Strong Rooms, Plain and Ornamental Palisading, Gates, and Columns.—Also, Metal Sashes, Shop-fronts, Stall-board Plates, Brass butt, and other Hinges. Buildings heated upon a new, safe, and superior plan.

Estimates given for every description of Metal-work.

A. SMITH, 69, Princes-street, Leicester-square, London.

PAVING, 2s. 9d. PER SQUARE YARD. Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen for covering bridges and arches.



COMMISSIONERS OF FINE ARTS' REPORT ON THE MEANS OF PREVENTING DAMP IN WALLS.

THE DIRECTORS of the SEYSSEL ASPHALTE COMPANY have much pleasure in recommending to the notice of Architects, Builders, and others, the application of the ASPHALTE of SEYSSEL as the only effectual means of preventing DAMP rising in WALLS.

J. FARRELL, Secretary.

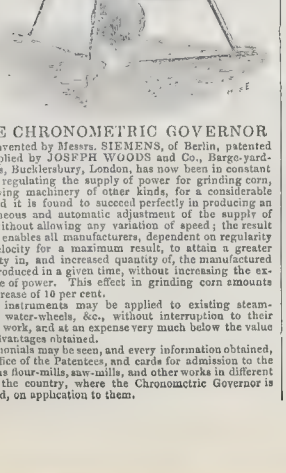
Seyssel Asphalte Company's Works,
"Claridge's Patent."
Stangate Depôt, London.

The following account of its application is extracted from "The Appendix to the Commissioners of Fine Arts' Report," page 18:—

"In 1839 I superintended the construction of a house of three stories on the Lac d'Enghien. The foundation of the house is constantly in water, about 19½ inches below the level of the ground floor. The entire horizontal surface of the external and internal walls was covered, at the level of the internal ground-floor, with a layer of SEYSSEL ASPHALTE, less than half an inch thick, over which coarse sand was spread.

"Since the above date no trace of damp has shewn itself round the walls of the lower story, which are for the most part painted in oil of a gray stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so painted, yet the pavement of the floor, resting on the soil itself, is only about 2½ inches above the external surface of the soil, and only 19½ at the utmost, above that of the sheet of water.

"The layer of Asphalte having been broken and removed, or the purpose of inserting the sills of two doors, spots indicating the presence of damp have been since remarked at the base of the door-posts."



THE CHRONOMETRIC GOVERNOR invented by Messrs. SIEMENS, of Berlin, patented and supplied by JOSEPH WOODS and Co., Bargo-yard-chambers, Bucklersbury, London, has now been in constant use, for regulating the supply of power for grinding corn, and moving machinery of other kinds, for a considerable time, and it is found to succeed perfectly in producing an instantaneous and automatic adjustment of the supply of power, without allowing any variation of speed; the result of which enables all manufacturers, dependent on regularity of the velocity for a maximum result, to attain a greater uniformity in, and increased quantity of, the manufactured article produced in a given time, without increasing the expenditure of power. This effect in grinding corn amounts to an increase of 10 per cent.

These instruments may be applied to existing steam-engines, water-wheels, &c., without interruption to their constant work, and at an expense very much below the value of the advantages obtained.

Testimonials may be seen, and every information obtained, at the office of the Patentees, and cards for admission to the numerous flour-mills, saw-mills, and other works in different parts of the country, where the Chronometric Governor is employed, on application to them.

SILCOCK and Co.'s PATENT PLANES may be had at the following places:—

Archer, 45, Goodge-street, Tottenham-court-road; Blyth, Whitechapel; Cock, 424, Oxford-street; Dean, 46, King William-street; Fenn, 105, Newgate-street; Holtzapffel and Co., 64, Charing-cross: and of all ironmongers and tool dealers in the United Kingdom.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 16s. per gallon.

STEPHENS'S PROCESS for DYEING or STAINING WOOD, as a substitute for Paint. The natural grain of wood is imitated by art, but the most successful imitation has a sameness of appearance when compared with the continual variety which different woods present in their natural grain. To give an ornamental colour to the wood without obscuring the grain, is the object of this process, which surpasses paint in appearance, while at the same time it is so economical that the whole interior of a house, which would take a month or six weeks to paint in the usual manner, may be finished in one week by the process above named, and be more pleasing when finished. The dyes or stains are prepared and sold by HENRY STEPHENS, 54, Stamford-street, Blackfriars-road; sold also at the Office of "THE BUILDER," 2, York-street, Covent Garden, London; Hodkinson, Widemarsh-street, Hereford; R. Sutton, "Review Office," Nottingham; H. Wills, 30, High-street, Lynn; and in Manchester, at Crake's Marble Works, Garratt-bridge. In bottles of 6d. and 1s. each, and at 10s. per gallon. The oak colour may be obtained in powder at 8s. per pound, which dissolves in water to form the liquid, and one pound will make one gallon of stain.—N.B. The Trade supplied.

TODD'S PATENT PROTOXIDE PAINT, manufactured by CHAS. FRANCIS and SONS, CEMENT WORKS, NINE ELMS, LONDON.

The properties of this Paint are peculiar for preventing iron from oxidation, wood from decay, and masonry from damp; it neither cracks nor blisters with the hottest sun, and is therefore most valuable for Railways, Boilers, Steam, Gas, and Water-pipes; Hothouses, Forcing-houses, and for Shipping. Its adhesion is so great to iron and wood, that the hardest friction will scarcely remove it. It prevents vegetation on stuccoed buildings, and is not affected by spray of sea-water.

PROTOXIDE PAINT is sold ground in oil, and, compared with white-lead, its property of concealing is as 75 to 60, so that one hundred weight is equal to one and a half of lead. It works well under the brush, and forms with oil an unctuous and cohesive mixture. If blended with other paints it has a softer tone than white-lead. For houses painted during occupation it is most preferable, being perfectly innoxious.

VARNISH, COLOURS, WHITE LEAD.

Genuine White Lead	per cwt.	27s.	0d.
Seconds	,,	25	0
Thirds	,,	23	0
Linseed Oil.....	per gallon	2	3
Turpentine.....	,,	4	6
Putty.....	per cwt.	7	6
Patent Dryers	,,	36	0
Oxford Oker	,,	36	0

Varnishes equalled by none:

Fine Oak	per gallon	10s.
,, Carriage	,,	12
,, Copal	,,	18
,, Body Copal	,,	24
,, Gold Size	,,	10
,, Black Japan	,,	10

Painters' Brushes, and every article in this branch, at the Manufactory, 87, Bishopsgate-street, Without, London.—THOMAS MILLINGTON, Proprietor.

CHEAP PAN FOR WATER CLOSETS, With Trap, in one Piece.

DOULTON and WATTS, Lambeth Pottery, High-street, Lambeth, London, Manufacturers of the above in superior glazed STONE WARE, price 7s. 6d. each. They are of the most durable ware, and are recommended in preference to iron on account of their cleanliness and cheapness. If preferred, they can be had in two parts, the pan at 4s. 6d., and the Trap at 3s. N.B. Manufacturers of RAIN-WATER PIPING for houses.

By Her Majesty's — Royal Letters Patent

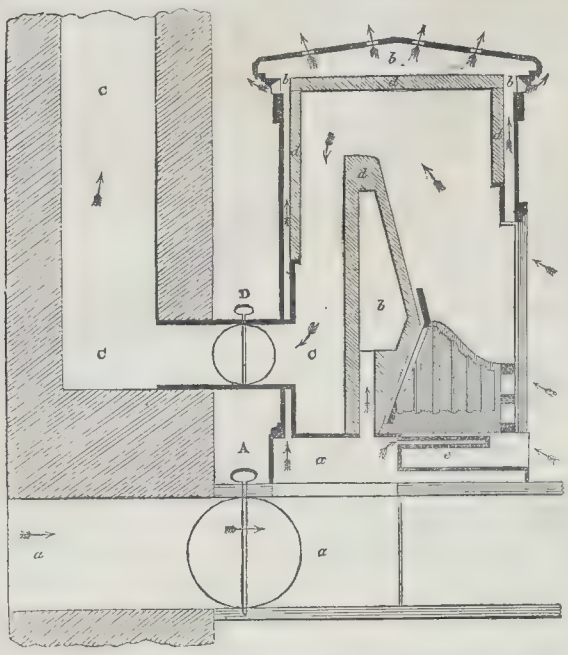
WILKINS'S "SILENT" WATER-CLOSET.—To Architects, Surveyors, and Builders.

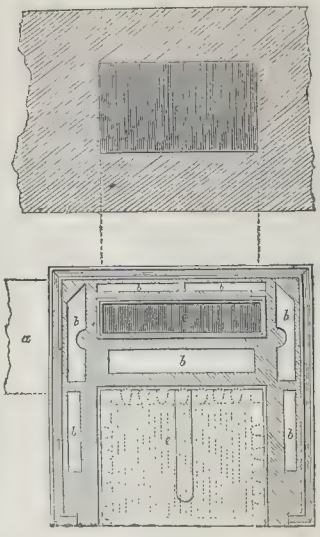
Gentlemen,—Your attention is respectfully invited to the above "Closet," the peculiar qualities of which are, that it is perfectly silent in the action of the Machinery and the supply of Water, and may be fixed in any convenient place in the House, without communicating the sound of a Water-closet to any of the adjoining Apartments, while it retains all that is useful in the ordinary Closets, it does away with the Ball Levers, Wire, Cranks, &c., which cause much of the noise to which the old closets are liable. The want of a Water-closet more suitable for the present mode of fixing them in the internal parts of Dwelling Houses and Office Apartments, has long been felt, and the benefit to be derived from one that is "Silent" in the action of the Machinery and supply of water, is sufficiently obvious to render unnecessary any lengthened comment in its favour.

This Closet is simple in its construction, the whole of the apparatus (including the trap), being completed between the floor of the room and the seat of the Closet, thereby rendering it quite easy to remove any noisy Closet and fix the "Silent" one in its place, without interfering with the old trap, which is generally embedded between the floor and ceiling below the Closet. The "Silent" Closet is also clean and so free from any effluvia, as to allow of its being fixed in any bed-room (where there is a convenience of fixing a pipe down the outer wall of the house) without occasioning the least unpleasantness whatever.

May be viewed Daily, and Orders taken at No. 26, Gower-place, University College, London, from 8 in the Morning to 9 in the Evening.

CUNDY'S PATENT IMPROVED OPEN FIRE PLACE, HOT AIR, VENTILATING STOVE.





PLAN.

Description of Diagram.

a a a a Fresh air channel, for admission of external air.
b b b b Hot air chambers (formed with artificial stone, *d d d d*) through which the air passes into the room, and is heated without being injured.
C C C The direction the smoke and vitiated air takes after it has passed through the fire and heated the artificial stone of the hot air chambers.
e Blow pipe to preserve perfect combustion placed immediately underneath the grating of fire place.
A and D are regulators.
The arrows shew the way the external fresh air is admitted, next passing through the hot-air chambers into the room, and lastly taken out of the room through the fire and up the chimney—thus completing ventilation.

This STOVE embraces the following most important principles connected with the economy of

WARMING AND VENTILATING CHURCHES,

And other Public and Private Buildings, viz.:—

HEAT by RADIATION from the Open Fire.

HEAT by CONDUCTION.—A copious and continuous stream of PURE WARM AIR is conducted into the room through the large Stove, at a regulated rate, by means of an air channel underneath the floor, communicating with the external air.

HEAT by REFLECTION.—The external casing of the Stove becoming warm, communicates its heat to the surrounding atmosphere.

VENTILATION produced by the OPEN FIRE—which will carry off the Vitiated Air through the chimney at the same rate the Pure Air is conducted into the room through the interior HEATING APPARATUS of the Stove, thereby keeping up a regular and agreeable system of Ventilation.

ECONOMY of FUEL.—This Stove, from the peculiar construction of the Fire Place, will produce a most BRILLIANT FIRE with the least possible quantity of fuel, and will continue to burn so long as any particle of coal remains.

TESTIMONIALS AFTER A WINTER'S TRIAL.

Gothic Villa, St. John's Wood, Oct. 22, 1846.

SIR,—Perhaps there are few private individuals who have had more experience in stoves than I have had; I have tried most of the newly invented ones, and rejected all but yours, two of which I have tried in my temporary church, and found them to succeed so well, that I have introduced them into All Saint's Church, St. John's Wood.

The following reasons induce me to approve of them:—Exemption of effluvia; the emission of a great body of pure warm air; the perfect system of ventilation; the sight of the fire; the consumption of vitiated air; the little attention requisite; the cleanliness connected with them; and though last, not least, the great economy of fuel.

All more I can say in favour of your stoves is, that whenever I require a stove, either for my house or church, I shall purchase your patent Stoves, and recommend all my friends to do the same. Yours truly,

ED. THOMPSON, M.A.
Incumbent of All Saint's, St. John's Wood.

29, Charter-house-square, Monday, Feb. 17, 1846.

DEAR SIR.—The Stoves which you have recently erected in my church have been highly successful, and I have great pleasure in expressing to you the entire satisfaction which they have given to all parties. The church, which was notoriously noted for its coldness and bad ventilation, is now most agreeably warmed and well ventilated. I shall be most happy, on any occasion, to bear testimony to the excellency of your stoves; and I will endeavour, to the best of my power, to make them known, and I will certainly recommend them to my friends.

I remain, Dear Sir, yours faithfully,
WM. ROGERS, St. Thomas's Charter-house.

St. Thomas's, Charter-house.

We, the undersigned, do hereby certify, that during the last three winters we suffered severely from the cold in the Church of St. Thomas's, Charter-house, although we had three large Arnott's Stoves, which consumed one sack and half of coals each day they were lit. The building was never warm; in consequence of which the congregation fell off, though we had a zealous preacher in the Rev. Dr. James. We have now two of Cundy's Patent Stoves, which consume but one cwt. of coal per day between them, and they impart to the church a comfortable heat and ventilation.

WILLIAM BUSHMAN, Verger.
THOMAS GEORGE, Beadle.

St. John's, Fulham, 2nd May, 1846.

My Dear Sir,—I have very great pleasure in giving my testimony to the efficiency of your Stove, as combining the double advantage of thoroughly warming and constantly ventilating any large church or building. Your invention appeared to me to be in theory all that could be desired; and I can honestly say, that I have not yet discovered the point in which the practice falls short of the theory.—The area of my church is computed to be nearly 200,000 cubical feet, and though a second stove will be required, the one already erected has fully answered my highest expectations, and realized all that you had given me to expect. If confirmation were needed for evidence of its efficiency, I might further state, that I had peculiar difficulties to contend with,—that various attempts had been made, and that every attempt had proved a signal failure,—that I was exposed to the charge of boldness in attempting what had baffled others; but that such is the power, the efficiency, and the comfort communicated by your Stove, that I know not of a dissentient voice, and have heard only of approval with unanimous consent.—I might add, that I was first led to the making inquiry respecting your stove, having gathered indirectly, that a disposition not unfavourable towards it was entertained in a certain high quarter, where, on account of ability of discernment, the smallest approach to approval must carry with it great weight.—I remain, Dear Sir, yours faithfully,

WILLIAM GARRATT, Minister of St. John's, Fulham.

Letter from the Rev. MATTHEW O'BRIEN, Professor of Natural Philosophy and Astronomy), M.A., F.R.S., &c., King's College.

Upper Norwood, 22nd June, 1846.

I beg to certify that one of Mr. Cundy's Patent Stoves was put up in my lecture room at King's College, last year, in place of a common stove (of Arnott's construction, I believe). I have no hesitation in saying from actual experience, that Mr. Cundy's Stove is far superior both in producing warmth over the whole room, and in promoting ventilation, without disagreeable currents of air, or close smell.

MATTHEW O'BRIEN.

*** Since this stove was put up, four others have also been fixed, one of which is placed in the Medical Library.

Letter from Professor BRADLEY.

King's College, London, July, 1846.

Sir,—I am happy to be able to bear testimony to the efficiency of your stove, which is fixed in my lecture-room at this Institution. It seems to have all the essential requisites of a good stove, a rapid draught, freedom from all smoke, and from that smell which arises from iron, heated in contact with the air of a dwelling-room, which is entirely avoided by your arrangement.—I am, Sir, your obedient Servant,

THOMAS BRADLEY.

To be had of the Manufacturers,

MESSRS. DOWSON, 69, WELBECK-STREET, CAVENDISH-SQUARE,

Where they may be SEEN IN OPERATION, and where also may be seen an ELEGANT assortment of REGISTER and other STOVES, FENDERS, CULINARY APPARATUS &c. &c. ARCHITECTS and BUILDERS supplied with IRON and BRASS CASTINGS, at Messrs. DOWSON'S FOUNDRY, 5, SEYMOUR-PLACE, BRYANSTON-SQUARE. Smith's Work, Gas Fittings, and all other works appertaining to a Smith and Founder, undertaken at estimated prices.

The Builder.

No. CCIXI.

SATURDAY, DECEMBER 26, 1846.

ANOTHER year has rolled by, and to-day we complete the fourth volume of our journal. It seems as if it were but yesterday that we commenced it, with promises of increased exertions, to render THE BUILDER worthy of the confidence reposed in it by the public, and we can scarcely believe that we have had, since then, fifty-one opportunities to redeem our pledges. But so it is: the preparation of a constantly recurring periodical work, especially if conjoined with other duties, is a sure means of making time fly fast. There is no cessation,—no pause; the task is never done; the mind never unoccupied. "I'll leave it till to-morrow," cannot be said; pleasant loiterings must not be hoped for; it is on, on, on, till the account is closed: and so the years' ends come long before they are looked for. An editor's duties, even in a case comparatively unimportant, are onerous and unthankful: those he praises "love him less than their dinner," and those he finds fault with hate him "worse than the d——l." If he step out manfully, he can scarcely avoid treading now and then on somebody's toes, who will make a point of never forgetting it; while those on whom he may bestow commendation, even if nothing more substantial, during his journey, will quietly place it all to the account of their own merits.

"And suppose they do," say our readers, perhaps, by this time; "what is that to us?" You are quite right: this is nothing to you. The fact is, however, we would gladly establish a friendly understanding with you; and though our province does not exactly include the feelings, should rejoice in believing that we had your kind consideration, and that our motives were rightly appreciated. Lest, however, you should not agree with us in this view of the subject, let us return to our promises of last year, and so to business.

These promises, we venture to think, have been kept faithfully; and we appeal to the volume itself as evidence, and would adduce the greatly increased circulation, and the improved position of THE BUILDER in public esteem, as convincingly confirmatory of the assertion. No expense has been spared to improve the character of the work; the illustrations are far superior to those of any preceding year, and we think it will be admitted that the volume contains a mass of information, not elsewhere attainable, of the utmost value to a large and varied class of readers. We have endeavoured, in as few words as possible, to place before the public the earliest intelligence on all matters within our province, and to offer them sound opinions on all matters in dispute: the circumstance that both our facts and opinions are regularly quoted, by the whole of the metropolitan and provincial press (to the conductors of which our thanks are due, moreover, for expressions of unvarying good will), affords us a gratifying assurance that our endeavours have not been wholly unsuccessful.

Of the engravings, we will not speak further than to say, that amongst the new works illustrated will be found views and details of the sorting-room in the Post Office, St. Martin's-le-grand; the laboratory in University College; the entrance to Kew-gardens; Fulham church tower; the Middlesex house of detention; All Saints' church, St. John's Wood; St. Mark's church, in Alexandria; the Crescent Chapel schools, in Liverpool; and the University galleries and Taylor Institute, in Oxford.

Our hope is to publish views of all the principal buildings, erected from time to time in England; and we invite architects, builders, and proprietors to give us such information, and to afford us such facilities, as may enable us to do so in the most satisfactory manner.

The year which is opening upon us promises to be more than ordinarily full of matter demanding our attention, and to this we will allude next week; suffice it now to say, that, strengthened by success, we shall enter upon the task with renewed energy, and a strong determination to advance the great objects we have in view.

Before concluding, we may mention, that an index, much fuller even than that which was given last year, has been carefully prepared, and, with the title-page, will be presented *gratuitously* with the next number, so as to render the whole of the information contained in the volume readily available.* A title-page *in colours* has been printed, and may be obtained on application at the office, by those who prefer it to that which accompanies the index.

We have now only to offer our respectful thanks to all who have aided us, and to solicit from them a continuance of their kind offices.

THE SITE FOR THE WELLINGTON STATUE.

A CONTEMPORARY, generally well informed on all points, said last week, "The site of the Wellington Statue is at length determined; and workmen have begun to prepare the foundation for a pedestal less stately, but more appropriate, than the one so earnestly contended for, in the open space west of the Horse Guards, and fronting the inclosure in St. James's-park."

This, however, is not exactly the case: the site is at present undetermined on. Mr. Burton, the architect of the arch, we have reason to believe, was requested to furnish a design for a pedestal, but for obvious reasons declined doing so. Mr. Barry was then applied to, and under his direction, as a preliminary step, some men were set to work to dig a hole, in the parade, simply to ascertain the nature of the ground there, so as to judge of the propriety of adopting that site. The excavation has since been filled in.

That it is the intention of the Government, at this moment, to remove the statue from its present doubly destructive position, we can affirm with tolerable confidence; but it is as certain, that those of the committee who have been instrumental in raising it there, are using all the means in their power to prevent interference with it, and would urge the silence of the public since the matter was stated to be settled, as an evidence of general approval, in order to move the Government from their intention. They reckon on the important businesses which will occupy parliament when it meets, and the occurrence of other events, to occupy the public; and think if they can get the scaffolding down, while good John Bull is enjoying the lull of security, there is good reason to believe it would not be put up again. They may rely, however, on having one watcher, although it be but,

THE BUILDER.

BUCKINGHAM PALACE.—On Saturday, the demolition of the ornamental colonnade forming the front of the south wing of the palace was commenced, from which point the wing which is to be added begins.

* Covers for the BUILDER may be obtained at the office, price 2s., or the publisher will undertake to bind the numbers at 3s. per volume.

A SUPPLEMENTARY CHAPTER ON DOMESTIC ARCHITECTURE.*

WHILST power was, varyingly, in the hands of the monarch, the church, or the barons, it is perhaps not surprising that political and sanguinary contention should be the chief matter for the records of the time, of which they really formed important elements. The history of the present age will bear a different aspect. But we may well feel curious, as regards other particulars affecting the social condition of our ancestors, not only of the ascendant class, in the retirement of their homes and the tranquillity of peace, but of those where documentary history falls short, including that class which had the condition and the badge of slavery. The future historian of the past must inquire into the history of the habitations and the domestic life of a country, and in this he will derive much assistance from the collections of household expenses, of letters, and other papers, so many of which have lately appeared. But he will still gain a small portion of the requisite matter, unless he make an attentive examination of the domestic architecture, of which examples of all periods remain in most countries; though now, circumstances which appear particularly to affect the present times are rapidly lessening the number, notwithstanding the efforts of many to preserve them.—The study of ecclesiastical architecture has excited a large amount of attention, whilst domestic architecture has scarcely received that which its importance as an exponent of national character and manners, of the social and political state of past centuries, might reasonably demand. The more celebrated examples have, indeed, been well illustrated, and their dates are sufficiently familiar to the comparative few, who have thought domestic equally important with religious edifices; but a similar attentive and prevailing study to that now given to ecclesiastical architecture, which shall not merely determine general dates, but inquire into the influence of national and local customs, and of situations as regards the aspect of the country, the state of parties and the provision for safety, and the nature of available materials, has yet to be undertaken. Many examples, which are now scarcely noticed, from their distance from other residences, would then contribute greatly to the correct delineation of the local history; and we have thought it not an unimportant object of our journal, to seize the opportunity of preserving records of the designs of such as happened to catch our attention. How many really valuable and interesting particulars of history would be open to us, had it in all cases been the practice to preserve merely such representations as we have given during the past year—examples deemed unimportant till they have passed away, and the evidence they could have afforded has been lost. It may, therefore, be a fitting supplement to the volume, if we offer some particulars of the general progress, which may assist in assigning the examples given to their proper place in the chronology of domestic architecture.

It is important to view the examples in each country, with a clear perception of their particular purposes; for these, along with differing manners and materials, would lead to great variety of destination and form, a matter not always made sufficiently obvious. The purposes of the cathedral, the abbey church, the collegiate church, the ordinary parish church, and each other variety of the ecclesiastical structure require to be discriminated; and similar considerations are far more to be recollected, in viewing the examples of domestic architecture, in which also are observable the influence of foreign manners, communicated by intercourse or conquest. Thus the Elizabethan architecture, ordinarily considered to be a union of the Italian and Gothic systems, owed many of its peculiar features to the taste of Flanders, which indeed had exerted a great influence in England, before the Elizabethan, as a defined style, had come into use. The domination of the Spaniards has also left its visible impress upon the character of the architecture in the Netherlands, and the same influence is even apparent in the remote town of Galway, in Ireland, of which some specimens were published in our third volume.

In Mr. Britton's "Architectural Antiquities," examples of domestic architecture are

* In connection with illustrations previously given in this volume.

subdivided, as:—Palaces for monarchs, prelates, and princes, baronial mansions, manor-houses, or halls, town-houses, farm-houses, and cottages. Whitaker, in his "History of Whalley," classifies them thus, according to the descending scale of society. 1st. The castle. 2nd. The castlet, peel, or tower, calculated for safety, and therefore retained near the borders, long subsequent to the use in other districts, of a less defensive character of building. 3rd. The ancient unembattled manor-house, which was quadrangular, surrounding a court, and was generally defended by a moat, which supplied the want of strength in the walls and gates. 4th. The greater and less embattled mansion of Queen Elizabeth and James the First. 5th. The ordinary Hall-house. 6th. The farm-house, and 7th. The cottage.

The state of society in England, during the reigns which immediately succeeded the Conquest, and in those of the Plantagenets, required that provision for defence should be the first consideration. Indeed, if we except Conway Castle, built by Edward I.—till the time of Edward III., it is not easy to discover any provision for domestic comfort. Fire-places, indeed, are found, as in Rochester Castle; but still there can be little doubt that personal comfort was a very minor consideration. In the reign of Edward III. the castle expanded into a castellated palace,—a character which it retained for some considerable period subsequent. Still the materials for a history of *domestic* architecture in the 12th century, are not unimportant; and examples are said to be in existence, indicating an object, to be distinguished from that of the castle. The house at Tournay (page 427) is thought to approach this early date. It seems that the ordinary manor-houses in England had the form of a parallelogram, two stories in height, the lower story being vaulted. The upper story was reached by steps from the outside of the building, there being generally no other communication, and usually the only fire-place was there situated. The windows in the lower story appear to have been small narrow lights, whilst those in the upper story were larger. There is an example of a manor-house of this date at Boothby Pagnel, Lincolnshire, having a moat. But, a different plan seems also to have been adopted, in which the chief feature was a hall, the whole height of the building. Until the year 1830, such a hall remained at Barnack: it was divided by columns and arches, like a church. At Oakham Castle, Rutland, one of this description is still existing, of the date 1180. A similar example, in the palace of the Bishop of Hereford, has the columns and arches of timber, and there are others also of early date. The square-headed window seems to have been adopted early; for at Moyses Hall, Bury St. Edmunds, it is found divided by a mullion, under a semi-circular arch. The Norman and early English houses seem often to have been hardly any thing else but the hall. It was generally the room on the second floor, approached as before described. Chimney-shafts were probably not in use prior to the 12th century. In Rochester Castle, the flues are carried up a short distance, and are then turned out of the wall; but later they were carried up the whole height. There is a chimney at Conway Castle of the 13th century.* In a house at Cologne, given in the Glossary, the gable with "corbie-steps," seems referable to the 12th century.

In the 13th century, the general plan of the previous date was continued, and there are many remains. Some barns are of this date; and one at Ely, destroyed about four years ago, has been described by Professor Willis in the "Transactions of the Cambridge Antiquarian Society." The earliest brickwork, resembling that now in use, seems to be of this century. At Wenham Hall, Suffolk, the bricks are rather thinner than modern ones. This building is remarkable for some variations in the former plan,—three of the rooms being arranged one above the other, in the form of a tower. One of the apartments is a chapel.

In the 14th century, the chief rooms were still up stairs; and early in its progress houses are found with a square tower, for purposes of defence. The bishop's palace and Vicar's Close, Wells, and Clevedon Court, Somersetshire, are amongst the remains, which are numerous, and have great variety of arrangement. The hall was the chief feature. Towards the middle of the century dormer windows were employed. Chimney shafts are found of early date; they were at first circular, but afterwards of a variety of forms. Subsequently they were much reduced in height, being terminated by a low spire or pinnacle, with apertures for the smoke. But there were taller shafts also, square, octangular, and circular, with a cornice at the top.—Many timber houses are to be found. The barge-boards were cut into featherings or cusps, and into double featherings, and sometimes had a series of small traceried panels in addition. The spandrils were either carved or pierced. The open timber roof, without tie-beam, must have come into use during this period; that of the hall at Malling Abbey (page 306) having had the date 1340 ascribed to it, with which its character seems to correspond.

In the 15th century, houses were built on various plans, and in every kind of scale and material; but until late in the century, it is not easy to find an entire house of the date. Great Chalfield, Wilts, Eton College, Eltham Palace and Hever, Kent, Tattershall Castle, Lincolnshire, Crosby Hall, and Hampton Court may be quoted as examples. We now find great variety of design, and houses of brick, timber, and stone are alike the medium of the richest decoration. The characteristic features of Tudor architecture were defined in the remarks which accompanied an interior view of the hall at Lincoln's Inn, in our last volume. This building so exactly represents the character of the style, that it may be referred to along with buildings of even earlier date. Barrington Court, in the same volume, is a good example of a stone house of this period. Entrance gateways sometimes took the form of a square tower, and sometimes had octangular towers on each side. Moats were still in use, but are not found in every example. In this century, chimney shafts, which before had been single, were clustered, at first in pairs. They were commonly of stone, in the first intance, and were made to adhere, if it may be so described, and not with spaces between them, as became the practice later. Shafts clustered in large stacks, appear to have been simultaneous with the general use of brick; they were often much ornamented. The most common form was the octagon. In the earliest halls, it had been the custom to have the fire in the middle of the floor, the smoke escaping through the louvre above, but fire places now became general. In the early English and decorated styles, they had seldom been deeply recessed, now they were more so, and the projecting hood of the previous dates almost dispensed with. Bay windows do not appear to have been earlier than the perpendicular style; sometimes they were placed on *both* sides the dais. The semi-circular form was not common till Gothic architecture had become much debased.—In some old towns are several houses of this period, many of them originally built as inns. A building at Newark, supposed to be of the time of Edward IV., is given as an early instance of the use of timber with ornamental plaster; there being small figures with canopies of the latter material. Here and elsewhere, there are long windows, extending across the whole front. In some houses the lower stories were arcades, of stone or timber, being open, and used for shops. The barge boards were used abundantly, and often of rich and beautiful designs. They terminated in a bip-knob, supporting a pinnacle, and having a pendant, or the latter only. They were perhaps less deeply cut than before, and at a late date they lost much of their effect, until they are frequently mere boards, carved with a line of foliage in low relief, or with a few plain mouldings. Hall screens are occasionally found early, but tapestry does not occur till the end of the century. Walls were indeed painted, even much earlier. Wainscot also now began to be used. Ceilings were mostly divided into squares, with flowers at the intersections, or were further subdivided by mouldings of plaster. Brick was in constant use, when little stone could be procured, as in the counties of Essex and Suffolk. In a wall at Waltham Abbey, bricks occur of the length of fifteen inches. They were often moulded for dressings.

The earliest architecture of the sixteenth century was still the Tudor, though modified by foreign influence, in the manner already pointed out in former articles (pp. 294, 320, and p. 457, in vol. 3), Layer Marney, Essex, Hampton Court, East Basham-house, Norfolk, Hengrave-hall, Suffolk, and Compton Wyniate Warwickshire, are all to be referred to the early part of this century, or the end of the last; whilst Moreton-hall, Cheshire, Wollaton-hall, Nottinghamshire, and Longleat, Wiltshire, perhaps better exemplify the style, which prevailed towards the close. The house at Ghent, 1532 (p. 582), and that at Malines, 1536 (p. 450), show a late use of Gothic details, mixed with many new features. From the middle to the close of the century, Italian features were continually increasing, so that the style of the end, varied much from that at the beginning. The successful government of Elizabeth allowed some attention to be devoted to the comfort of residences. Palaces and large mansions were in active progress, and many country houses are of this date. A peculiar style of ornament came into use, having a character not to be mistaken for that of any other style. Apartments were lined with wainscot, having small panels, in the earlier period filled with the linen pattern. An upper line of panels had also often a row of fanciful heads or subjects in relief.—The designs of ceilings were much altered in character, displaying great variety and fancy. That at Rouen (p. 474), ascribed to the commencement of the century, has no remnant of the Gothic character. In England, there seems to have been greater relief in the early part of the century than in the later, when plaster was the sole material. Sometimes the intersectious had pendants.—Semi-circular bay windows were common. Ornamental staircases and galleries were not found till the end of the century; in the latter, the space below the handrail was at first not filled with a balustrade, but with plaster. Of the use of the moulded brick in the early part of the century, there is an interesting example at Sutton Park, Surrey, where the jambs of the doors and windows are cast of a cream coloured clay, the walls being of red brick. Old English bond was always employed, the Flemish not coming into use till the time of William III.—The "Quarries," Rochester (p. 498), is a good example of what we may suppose was the ordinary house of Henry VIII.'s time.—The timber houses are often very splendid, and show great variety of design in different parts of the kingdom. In Cheshire, and the neighbouring counties, the spaces between the quarters are generally filled in with lath and plaster, whilst in Kent, they have brickwork plastered over, as already described and shown in several examples. Godfrey-house (p. 390), Eastgate-house, Rochester (p. 570), and the Cottage, at Sutton Valence, the latter not more than 180 years old, are as good examples as could be given of a style, which long remained in remote districts, and of which some of the peculiarities are even yet in use. Of course, in more important residences a different material would be adopted, and this is apparent in the view of Little Charlton-house, in Kent, the county which contains the examples just mentioned. Princess Elizabeth's Garden Porch, Combe Abbey (p. 6), is an excellent illustration of the style of ornament during the age of Elizabeth, as also is the doorway at Canonbury-house, Islington (p. 186).

The architecture of the early part of the 17th century was distinguished by the almost total absence of Gothic features: the style is in fact Italian, mixed with some grotesque details, and having large windows. A practised eye will detect many points of difference between the architecture of James the First's time and that of Elizabeth, though usually they are classed under one head. Audley End, Essex, Bramshill, Hampshire, Hatfield, Herts, Montacute, Somersetshire, and Holland House, all belong to this period, as well as Crewe Hall, illustrated in pages 319 and 438. The illustration at page 234, is a good specimen of a London house; and Flixton Hall, Suffolk, p. 330, lately destroyed, shews how long Gothic features could be found to linger in a remote district. The early architecture of Inigo Jones is tinged with the prevailing manner, which he did not readily subvert. Then a new style of architecture was introduced, in which also are many of the finest mansions of Eng-

* Vide the "Glossary of Architecture," edition, 1845, in which there is an excellent article on domestic architecture, by Mr. Wm. Twopeny.

land, amongst which it is only necessary to mention Blenheim and Castle Howard, commenced towards the beginning of the 18th century (*vide* vol. iii.). But our space does not admit any further extension of the present article, though much information will be found in previous pages, which will assist in elucidating the periods referred to.

TRINITY CHURCH, PADDINGTON.

Sir,—From the very able article which your paper of last week contained, urging the necessity of an architect being thoroughly acquainted with the more weighty and substantial portions of his art, in preference to the general, and in many cases injudicious, desire so prevalent in the profession, to crowd the exterior and interior of an edifice with ornament, I was induced to inspect the building therein mentioned, to ascertain, as correctly as possible, to what extent the evils referred to did exist, and endeavour, if existing, to ascertain their cause.

Trinity Church, Paddington, is a building I had many times inspected during its erection, and subsequent to its completion. And upon further inspection and inquiry (occasioned by your article of last week), I feel satisfied, no cause of apprehension or alarm was to be found, or mischief accruing from insufficiency of foundation; but other causes had been at work, occasioning the cracks (not slips), which are scarcely visible, but would have occurred, under like circumstances, with even Vitruvius himself, the which, when their real nature and consequent results are properly understood, very few will deny. The footings of this building are laid upon an artificial foundation of concrete, for which an excavation was made into the blue clay, of 6 feet in depth, under the ordinary walls, and 9 feet under the tower, into which the concrete was thrown, from a stage 16 feet in height, which the position of the raised roads adjoining readily furnished. The brickwork necessary to sustain the building was carried up with piers and arches to the height of 16 feet 6 in. from the top of such concrete, ere the ground line could be reached; this would of necessity incur a great expense, and hence an explanation of the 2,000*l.* reported to be so inefficiently expended in the foundations; but upon which I found a further sum of 1,000*l.* would not have been lavishly thrown away, had the proper authorities been sufficiently liberal in granting it.

Now, as to the real cause of the cracks, I was given to understand that the roads around this spot had been made to this great height of 16 feet by the Great Western Railway Company, in forming their terminus, long previous to the determination to erect a church upon this site. Such being the case, the walls would necessarily form a perpendicular side of a triangle in their relation with the roads, the sides of the embankments forming the hypothenuse. This triangle of earth, as it would appear in section, must unquestionably be filled up, to bring the ground around the church to a level with the roads. It then became a question how this should be accomplished; and after some delay, the parish authorities determined to undertake the task themselves (it forming no portion of the builder's contract), and therefore directed and appointed their own surveyor to superintend the work; thereby removing all responsibility from the architect (if any such could attach, seeing he had no jurisdiction, other than a warning) over the "modus operandi." However, the filling up was proceeded with, clay shot and punned in without any tabling of the sides, so necessary in all after sidings with embankments. The effect of this neglect would consequently be a subsidence towards the walls laterally; and would exhibit itself, upon the clay becoming charged with water, in the pressure exercising its greatest force against the longitudinal walls which present their sides to this breastwork of clay. A necessary deflexion would thereby be caused in such walls, and cracking must follow. This is precisely the result; not, as is supposed, a slip or settlement.—Yours, &c. Observer.

Mechanical Schemes.—It is said that no less than 460 plans for floating off the Great Britain have been received by the owners in Bristol.

RUINS OF PERUVIAN CITIES AND TUMULI NEAR LIMA.

These ruins are partly buried amongst moving sand, and are built of *loam*, a proof of the extreme dryness of the climate, where rains are of rare occurrence. The ruins of Pacachamac are the best preserved, and long rows of houses (several hundred) extend from the plain to the top of the hill; the uppermost seem to have been the best. The size of the houses is different, some are square, others oblong; and it is difficult to say whether one house had several rooms, or whether compartments, which appear to us as rooms, be distinct houses, as the walls are all of the same thickness, about 3 ft. Some of the houses, especially the smaller ones, have no openings (doors or windows) at all. Most of the walls are broken and decayed in their upper part, their height varying from 2 to 20 ft; in none, however, is there an opening except the door. The material is, without exception, moulded, unburnt clay. The bricks are 2 ft. long, 1 ft. broad, and ¼ ft. thick, and laid in regular courses. Of a few of the houses, the walls are in a good state of preservation, and painted with red or yellow colour; of other ornaments, however, no trace is to be met with. The streets must have been wide enough, but they are mostly obstructed by drifted sand. The chief curiosity is the large building on the top of the hill, which rises on the upper part of the city, towards the sea. The hill is 2,300 ft. high, and the building was certainly one for a public use, as no other houses surround it. Three or four stories of terraces, supported by walls, 12 to 15 ft. high, rise one above the other; at times there is only a small platform behind them, at times a wide space between the earthwork and the hill. These terraces are not of a very regular structure, and the plateau overtopping them is from 200 to 400 ft. wide. The south side of the upper part of the terrace is well preserved, and consists of a row of niches 10 ft. high, and this is the only architectural adornment within the whole extent of these ruins. Some Frenchmen have of late furrowed this hill, consisting of argillaceous schist, for the finding of a *golden bell*, said to be buried there, but without success. It is thought that the large building was a Temple of the Sun.

On the north of the city is a square, which is surrounded on three sides by rows of houses. It contains graves on graves, and the scenery is perfectly adapted for the sepulchre of a nation the very name of which has faded away. A number of sculls, bones, and the tissue of the shrouds, lying about, shew that this place is occasionally searched for some hidden treasure.

The ruins of Cajamarquika are nearly of the same character, but the city contains several squares; those on the upper part are covered with high walls, and the loam bricks are more compact and larger. Curious are a number of holes dug in the ground, just large enough to admit the entering of one person; they lead to subterraneous caves, which seem to have been stores for the keeping of provisions. The graves here form two hills, at some distance from the old city. An elevation in the midst of the ruins, points to the dwelling of the priest or chief.—Everywhere in this neighbourhood, the hills, which extend from the Andes to the plains, contain ruins of similar cities, some even larger than those of Pacachamac and Cajamarquika, which, as samples of American architecture of a subordinate character to those hitherto discovered, are not wanting in interest.

Water Raised by Waves through Valved Tubes.—A feasible and obvious application of Harvey's grand discovery of the use of valves in raising the blood through the veins, has just been suggested by a correspondent of the *Mechanics' Magazine*; namely, the raising of water from the sea, by the lash of the waves, through valved tubes, into reservoirs on a high level, for the acquisition, of course, of an unlimited supply of water power, to be turned to any requisite purpose. The inventor proposes to test the practicability of the principle on Southsea beach.

Leeds School of Design.—The school of design at Leeds has been formally opened. Seventy-two pupils entered during the first three days. Mr. Nursey is the master.

HISTORY AND DESCRIPTION OF SAINT MARY REDCLIFFE CHURCH, BRISTOL.

Mr. Sealey commenced his second lecture* by briefly recapitulating the leading characteristics of the several styles of Gothic architecture, and by enumerating the reigns in which they respectively prevailed. He then proceeded: In the absence of any certain records, the periods at which the several parts of Redcliffe Church were built must be judged of from the character of the architecture. It was quite uncertain how long the site of the present church had been occupied by an ecclesiastical structure. That there was a chapel near the spot before the erection of a church, dedicated to St. Mary, by De Burton, in the reign of Henry III., was unquestionable. It was mentioned as having stood on the south side of De Burton's church; and it was not destroyed till after the completion of the latter. It was dedicated to Saint Sprites (St. Esprit, or the Holy Ghost). And Wm. Wyrcester, a native of Bristol, who lived in the time of Henry VI., spoke of it as standing in his time; and called it an ancient chapel near Redcliffe Church. It was pretty certain, however, that a Norman church once stood on a portion of the area now occupied by the existing fabric; and at the west end, at the base of the tower, there still remains what appears to have been part of a Norman buttress. They found nothing distinctly recorded respecting the church, till the year 1294, when Simon de Burton, a citizen, who had been three times mayor of Bristol, was stated to have founded a church apparently on a grand scale; but of which the inner north porch, and probably the lower story of the tower, are almost the only parts remaining. Of the period of De Burton's death he could find no mention; but as one of the ancient Bristol chronicles said, that "Simon de Bourton, mayor, in 1294, had (two years before) begun to build Redcliffe Church, but he lived not to finish it, which afterwards William Canynge did," it seemed probable that he did not long survive the period at which he filled the office of mayor for the sixth time—1305. Comparing those dates (the commencement of the building in 1292, and the death of De Burton about 1306, or probably a few years later) with what he had said respecting the styles of architecture prevailing at different periods, they might expect to find any remaining portions of the church erected by De Burton, corresponding in their features with what he had described as early English Gothic; but late in the style, and verging towards the decorated. This was the case in the inner north porch and the lower portion of the tower. The former was, in its character, decidedly early English. It exhibited along each side an arcade, or connected series of arches, with shafts, foliaceous capital, and other sculpture, mouldings, and canopies, all clearly of that style; and it was roofed over with stone in the simplest form of groining—the ribs being only what were called cross-springers. In the lower portion of the tower they found some progress towards the decorated style; but still the flat buttresses, with shafts at their angles, and the row of niches above, belonged to the earlier period. In examining that tower, without other means of forming a conclusion than what the architecture itself afforded, he should be led to infer that it was founded about the commencement of the 13th century, and had progressed slowly, but uninterruptedly, occupying a period of not less than thirty years, and probably a longer time, in its construction. A tower so massive and so high, could not have been reared with greater rapidity at a period when mechanical appliances were rude; and the manner in which one portion of the work melts, as it were, into another, seems to mark that the transition of style kept pace with the progress of the building. They must not suppose that Burton's work was limited to the porch and tower. There could be little doubt that an early English nave was erected, for they found an early English buttress at the south-west angle of the present nave; and it was probable that the western window or windows were taken out to be replaced by one more in character with the nave, as rebuilt in the fifteenth century.

It was recorded in one of the old chronicles, called the Mayor's Calendar, under the date 1376, that William Canynge built the body of

* See p. 522, *ante*.

Redcliffe church from the cross-aisle downwards, and so the church was finished as it is now. The church "from the cross-aisle downwards" would consist of the nave with its aisles and porches, and include the completion of the tower and spire. William Canynge died in 1396, and as 1376 was nearly the date which they might set to the transition from decorated to perpendicular (which would, however, have been in progress some years before, and have continued for some years after), whatever he erected would, probably, be chiefly in the perpendicular style, but retaining traces of the decorated. They must not, however, depend too closely on the date given in the chronicle—it might mark the year in which Canynge began to build, or it might express a period at which his work was so far advanced as to attract attention from its splendid appearance. The tower and porch were both probably finished by or before 1396. The porch, though appearing to be later than the tower, was probably carried on without pause, but slowly, during De Burton's life and after his death. The north porch, which was of highly enriched decorated work, appeared to be late in the style, and might have been built somewhere about the year 1376, but he should say, more probably before than after. He thought it very doubtful whether the works at any time altogether ceased; but, considering the extraordinary and costly beauty of the north porch, and its unique character, as well as the singularity of its position, it was remarkable that they had no clue to the person by whom it was really built. The portions of Redcliffe church which were undoubtedly built by William Canynge the elder, were in great part destroyed by the fall of the spire, in a thunder storm, in 1445.

* * * *

In Redcliffe church the transepts had an aisle on each side; and perhaps no other case of a parish or even a conventual church could be instanced in which the same occurred. Among the English cathedrals there were three only —Westminster, York, and Ely, where such were to be met with. In cross churches the principal tower usually stood over the point (cross, or intersection) where the nave, choir, and transepts met—of course supported on piers of sufficient magnitude. These piers in Redcliffe church, though thicker than those with which they ranged, were hardly of such thickness as to warrant the belief that they were intended to carry a tower. The situation of Redcliffe tower, at the west end of the north aisle, was rather unusual; but there seemed to be no fixed rules for the location of towers, as they found them in various positions. Perhaps the completest form for cathedrals was to have the principal tower in the centre of the cross, and two smaller ones at the west end of the aisles of the nave, as at York, Westminster, Litchfield, &c. In smaller churches they occasionally found the tower at the east or west end of one or other of the aisles, and not unfrequently upon the north or south side of the building, while in some few instances, as at Berkeley, it was detached from the church, as was often the case with the Italian Campanili. In St. James's Church, in Bristol, the tower, which was of much later date than the rest of the structure, was at the east end of the south aisle—an extremely unusual position. Probably the original Norman tower may have stood between the nave, still existing, and the chancel, now destroyed—a position not unusual in Norman churches; still, it was quite possible that it occupied the site of the original tower, having been so erected to bring it more prominently into view. The tower of Redcliffe must have been in connection with the older church of Simon de Burton; and it evidently occupied the same position relatively to that as it did to the present building. Arguments in support of this view might be drawn from the position of the inner north porch—which (as he had stated) was probably older than even the lower stage of the tower, and from the nature of the ground, sinking as it did, to the north and west; but a conclusive one was furnished by the tower itself. It was quite plain that the north and west sides were always of solid masonry, whilst the eastern side had always an arched opening communicating clearly with the north aisle of the nave and the south side. No doubt the present situation was selected for so grand a feature as that most imposing tower, because it would stand in full view to those passing up Redcliffe-street, or entering the city from Bedminster. The early architects rarely failed to render a building picturesque, both as a whole and in its parts, even when they had some more important object in view; but when free scope was allowed them, as was the case in ecclesiastical architecture with bell towers, which were never regarded as essential parts of the structure, they were sure to turn it to the best advantage, for the dignity and general effect of the fabric. Redcliffe church had three porches —or, perhaps, to speak more correctly, a single porch on the south side and a double one on the north. Porches rarely occur but on the north and south sides of the nave; the grand entrance being generally in the centre of the western front.

The stone roofs of our gothic cathedrals and churches formed the greatest triumph of the masonic art. In the groined roofs raised by the gothic architects, they found an infinite variety in the arrangement of parts, producing the utmost elegance and beauty in the visible parts, combined with a great amount of constructive skill. Few churches were so rich in groining as St. Mary Redcliffe; every portion of the building was vaulted with stone. Nave, choir, aisle, porches, lady chapel—there were no less than twelve distinct varieties, from the simplest form in the old north porch, to the most beautiful complications in the nave, transepts, and beneath the tower. Among all of them, that of the transepts was the most remarkable for its lightness, richness, and constructive peculiarity. The finest views of the exterior of the church were from the north-east and north-west; the tower and north porch, the two most striking features of the whole, being seen most effectively from the latter point. The tower was divided into three stages, and was surmounted by four large pinnacles at the corners and a truncated spire in the centre. The lecturer then pointed attention to a model of the north porch. The building was hexagonal in plan, and at each of the disengaged angles stood a pentagonal buttress. The principal doorway facing the north was of singular form and most elaborate workmanship. In point of design there was nothing in this country that resembled it; but at the monastery of Batalha, in Portugal, there was one somewhat similar. He then spoke of the chamber to which such a poetical interest attached from its having contained the chests—indeed, though empty and broken, they existed there still—in which Chatterton professed to have discovered the Rowleian poems. "Surely," continued the lecturer, "if the genius of poetry had sought out a lodging-place she would not have met with one more to her taste than this dimly-lighted chamber, set about with all the enchantments of gothic art, its symbolism and mysterious beauty—where sounds of the city would come up softened into a murmur by mingling with the silence of the holy pile, and where the broken rays, creeping through the narrow apertures of the massive walls, would—

Teach light to counterfeit a gloom,

just such as best harmonizes with the pleasant melancholy of those who love out of such chaos of confused light and darkness—of substance and shadow, indistinctly blended—to form creations of their own, and live in worlds of their own imagining. Whatever added interest and fame may attach, through the inventions of the boy-bard Chatterton, to Redcliffe's holy pile, is but fair repayment of the inspiration which he derived from it, and which makes him the marvel of succeeding times. It was Redcliffe that taught him to kindle up the spirit of forgotten gothic verse with all its fancy, and beauty, and romance, in an age when poetry and architecture had both sunk into coldly imitative arts. And his genius took its tone from the building which he made his haunt, and grew up strongly in its shade; but when he removed to a less genial soil—when he left his solemn and solitary haunt in the muniment-room over Redcliffe porch for the busy streets and crowded taverns of London, it lost half its strength and all its beauty; and the author of 'Ella' and 'Harrold' became a writer of servile flatteries and virulent lampoons." Mr. Sealy went on to describe the open-work of the quartrefoil parapet, the roof, the buttresses, and to notice other portions of the porch. Time would not admit of his going over in detail the other parts of the structure; suffice it to say, that they possessed in Bristol one of the completest and most beautiful ecclesiastical structures of the land. He was sorry that it was fast hastening to decay, and if not speedily restored, must fall into ruins. Some citizens—he hoped they were not many —had an idea that restoration was unnecessary, and they used John Bull's argument in favour of his house: "It has stood for six hundred years, and it is not likely that it will now fall down." Besides, they preferred the picturesque grey tints of its present time-coated walls—and he should prefer them too, if their preservation was consistent with the security of the structure. But when they came to examine its stonework and timbers, they found that it required something more than mere repairs—that it required restoration. The northern porch (that beautiful work of art) was crumbling to decay, as were other parts of the structure; and although there was enough left to furnish data for a complete restoration, yet it was only in parts. The stonework, if closely examined, was found to be a mass of soot and sand: the operation of the wet and frosts had reduced it to this state. He had gone on to the top of the church with Mr. Proctor, the churchwarden, and he there saw a piece of the masonry, with a piece of iron through its centre, which had fallen from one of the pinnacles. The iron had been expanded by the action of the weather, and the stone had split and fallen upon the roof, making a hole in the lead. Accidents of this kind were continually occurring; fragments of the ornaments were frequently falling; and, in fact, it was dangerous to stand under it. The timbers were in an equally decayed state. If they ascended the tower they would find, as they got higher up, that the stonework was in even a worse condition than below, the pinnacles especially. And if they looked down upon the turret-tops, they saw sticking up splintered and shapeless but huge masses of masonry, which seemed to bear out Chatterton's words,—

"Rocks upon rocks, with iron joined, survey."

In one night thirty feet in length of the parapet had fallen in. Such was the decaying state of the building that it was difficult to estimate the extent of the evil. The walls were in some parts, and particularly in the middle portion of the church, falling outwards, and a hand could be placed between the roof and the walls on which it should rest. The restoration had now, however, commenced, and he trusted would steadily advance. The first stone was laid on the 25th April last, and one portion of the work was already nearly completed. The work was being done in the best possible style, and with a minute attention to the details of the original building. Several windows were in their places, and others ready to be put up. Some beautiful flying buttresses, which were completed, would give them an idea of the original beauty of the structure. The stone in use for the restoration had been brought from Caen, in Normandy, and it was the first of the kind used in Bristol since the building of St. James's Church, by Robert of Gloucester. It was a stone which worked easily, and was very durable, and not so likely to be acted upon by the weather as the stone from Dundry-hill, with which the old church was constructed. Mr. Sealy then expressed regret that the funds raised towards the restoration were nearly exhausted, and read an appeal from the committee. He expressed a hope that the liberality of the public would enable the work to be completed as it was being begun, imitating the former building with the greatest minuteness. Bristol could boast of the finest parish church in England, and if, in having brought the subject before their notice, he should have been fortunate enough to have contributed in the slightest way towards its restoration, he should feel abundantly repaid.

Chalk and Coal Fires!—The practical utility of chalk as an article of fuel has been tested within the last fortnight, according to a Salisbury paper, and with the most satisfactory results. Surrounded with coal, it gives a strong heat, and a clear fire, at half the usual expense; so that to the poor in the chalk districts it must be an invaluable boon.

ORNAMENTAL PROJECTIONS OVER PUBLIC WAYS.

The following circular has been addressed to the district surveyors, from the "Office of Metropolitan Buildings."

Sir,—With respect to the rule in schedule E of the Metropolitan Buildings Act, headed "Projections from walls of buildings over public ways," and to the circular addressed to district-surveyors on the 3rd of November ult., suggesting what it might be the duty of a district-surveyor to do in cases to which that rule might apply, I beg, on the part of the official referees and myself, to inform you, that serious doubts having been raised, as to whether such rule is intended to apply to buildings which were built before the Metropolitan Buildings Act came into operation, upon their being rebuilt. The suggestion alluded to is to be understood to be limited to cases of building new buildings, and of rebuilding buildings originally built since the Metropolitan Buildings Act came into operation.

In the mean time, the question whether the Act does or does not require the walls of buildings built before the Act came into operation, when rebuilt, to be set back, so that all intended projections shall only overhang the ground of the owner, is to be considered as yet undecided by the official referees; no case of this kind having arisen upon either requisition or information.

It is to be understood, at the same time, that it is competent to any district-surveyor, or to any person interested, to raise the question upon any case of the kind occurring, when the formal decision of the official referees must be made upon it.

Dec. 8th. Arthur Symonds,
Registrar of Metropolitan Buildings.

The circular of the 3rd of November caused considerable excitement, and promised some difficulties. The letter given above will of course lessen the number of cases in which these will occur, but does not go so far as we venture to think the referees will find necessary when the matter again comes formally before them. Anxious as we are not to cavil, we are nevertheless obliged to dissent from even the amended view that has been taken of this question, and shall seek an early opportunity to recur to it.

REMARKS ON NORMAN SARACENIC ARCHITECTURE,

IN THE ISLAND OF SICILY.*

It is interesting to trace the progress of the various transitions in the architectural improvements which occurred during the period we are now examining. To the northmen we are indebted for the discovery of the vertical principle, which distinguishes the style adopted in the magnificent monuments which were erected in the middle ages. The principle was eliminated by a gradual process, at once curious and instructive. It was by no means the production of ingenuity, arriving at success by a sudden and happy stroke of its inventiveness. It was, on the contrary, the result of a persevering and aspiring genius dissatisfied with the expression of its thoughts, and conscious that a more noble and perfect representation could be attained, of the feelings and perceptions which it cherished.

The single Roman arch with its columnar supports, at first simply imitated and left to range through the whole elevation of the building, was soon deemed insufficient by the Norman architect. Greater height was required; and to procure this additional elevation a repetition of the arch was contemplated. Of this improvement, if such indeed it can be termed, examples were not wanting. Their predecessors, the Romans, had employed it during the decline of their empire in numerous instances; and from these models they could form an approximate judgment of the effect. An arch placed on the summit of another immediately below, added much to the lofty appearance of the building, and produced something of the grandeur at which they were aiming. A third arch was subsequently raised. But the superposition of the several tiers, though it increased the elevation, and so far improved the effect, caused a disjointed appearance unpleasing to the eye, aggravated still more by the unseemly and unmeaning repetition of the same feature. To obviate the defect, they had recourse to ornament. They decorated the wall on either side of the tiers, placing against it a thin single circular shaft, extending from the floor to the roof. This addition served to connect the parts, and assisted materially in producing the appearance of unity in design. But the columnar supports on either side of the several arches, presenting three distinct bases in the ascent of the tiers, destroyed in a great measure the good effect which the introduction of the thin shaft or single column had produced. To remedy this, it became necessary to unite the smaller columns, by removing the two upper bases and prolonging the shafts. The attention gave rise to the adoption of clustered piers; and subsequently, by taking away the intermediate spandrils and arch, the whole compartment or bay—originally consisting of several arches and columns—was converted into the lofty mediæval arch, supported on its lateral piers.

But an architectural peculiarity of the greatest importance is to be observed in the examples in Sicily, which appears in no edifice erected by the Normans in other countries anterior to their occupancy of the island. The *pointed arch* is first adopted in place of the *semicircular*.

From the middle of the eleventh to the middle of the twelfth centuries, the architecture which prevailed in France, and a little later in England, presents numerous examples of Norman art, uninfluenced by any other style except the debased Roman, from which it derived its origin. The specimens in these countries are generally considered to supply the most correct notions of the advancement made by the Norman architects. The general features of the style are the massive cylindrical or polygonal pier, the semicircular arch, the large round moulding often richly ornamented, the column with its rude grotesque capital, placed in the angle of a rectangle, and the moulding ornamented with the beak head: chevrons, billets, and other decorations, are also used. Sculptured ornaments are at times employed in profusion in the anterior. In design, the buildings are usually simple. The windows, ordinarily, are small, and frequently divided by the colonette. Pilasters or buttresses, of slight projection, assist to support the massive walls; and in the masonry we observe a more regular and workmanlike method than is found in, and is characteristic of, the Romanesque.

These features are all common to what is called the debased Roman or Latin art, by some authors termed Romanesque, a style employed by the Lombards, Germans, Gauls, and Saxons at an earlier period, and found also in some of the oldest specimens of Norman-Saracenic, which still exist in Sicily. But it is in Sicily alone, in buildings of the eleventh century, that the Norman architects employed the pointed arch, which they received from the Saracens.

The Saracens who, as we have seen, entered the island of Sicily in A.D. 828, introduced the pointed arch into their buildings shortly after their establishment.

In a few instances, in places where the footsteps of the orientals may be traced, we find the pointed arch in use long prior to the ninth century. The oldest example with which we are acquainted may be seen in a mosaic in the church of St. Agatha, at Ravenna. Its date is assigned, with every probability of correctness, to the beginning of the 5th century. Ravenna was the principal port between that part of Europe and the East before Venice rose into consequence; intercourse with Greece and Constantinople soon changed the appearance of the city into that of an oriental capital. The arts were derived from Byzantium, at that time the seat of the eastern emperors, in which various instances of the adoption of the pointed arch may be seen. In confirmation of this opinion, we may notice, that the existence of this architectural feature in Spain, and Septimania, is to be referred to the period of the conquest of those countries by the Moors, after A.D. 713.

But the pointed form for an arch had previously been used by the Greeks and Romans; we might even go further back in history, and find examples: we can find a genuine Greek example existing at this day in Sicily. At the entrance to a tomb in the garden of the convent, Santa Maria delle Jesu, in Catania, this arch is employed. Its claim to antiquity is proved by the unfailing evidence of the peculiarity of its construction. In Sicily, we discover no examples in which the Romans had adopted it; but numerous instances of their use of this arch are to be seen in Italy. And it was also employed by the Arabians in various edifices in Africa, Persia, Syria, and India, a considerable time previous to their incursions into Europe.

From Sicily we think the pointed arch—which appears in Saracenic edifices after A.D. 828, and in Norman after A.D. 1030—was diffused through the other countries of Europe. Its employment as a symbol of the Christian's aspiring faith may be just; but its invention for such a purpose is quite poetical, and entirely opposed to facts.

Manuscripts executed by the Byzantine artists during the 8th and 9th centuries, exhibit the pointed arch among the architectural ornaments; but in the School of Design, established in the 9th century for the illumination of manuscripts, during the Anglo-Saxon period, we discover no signs of the pointed arch. We have thus evidence of the use of this feature in the corrupt and apostatical east, while it appears to have been unknown in the west, still pure and unshaken in its fidelity.

In the cisalpine countries, the introduction of the pointed arch previous to the middle of the eleventh century appears to be very doubtful. The cathedral of Bamberg is supposed to have been erected as early as A.D. 1012, but the pointed arches in the present edifice appear not to have formed any part of the original structure to which the date would refer. And at Coutances, in Normandy, the cathedral in which the feature in question is also employed presents many sound reasons for pronouncing it an uncertain example. The earliest date assigned to this work is that for which M. de Caumont contends, but he does not venture to assume it to be prior to A.D. 1056.*

Subsequently to this period the history of the pointed arch is well known. It became very generally adopted throughout Europe. But the different countries in which the grand monuments of mediæval architecture exhibit this elegant and characteristic feature, are unquestionably indebted for their knowledge of it, in the first instance, to the architects of Sicily.

The ingenious theory which has obtained among some antiquaries, that the origin of the pointed arch is to be found in certain combinations of vaultings, intersections of arches, and the peculiar contrivances adopted in the construction of buildings by the northern architects of the middle ages, is manifestly erroneous. The opinion is at once refuted by the facts to which we have drawn attention. It was used by the Normans in Sicily, and subsequently by the Italians and Germans, for some time prior to its introduction into Normandy, Belgium, and England. Derived from a clime far distant from our own, and from a people with whom Christendom could have no community of feeling, it has nevertheless proved a most valuable addition to architecture, increasing most materially the capabilities of the art, as well as improving the general appearance of buildings. This new element was unquestionably, the chief cause of the rapid progress to that perfection which was attained by the architects of the middle ages.

The Normans, during their stay in Sicily, imparted to the artists of the country many architectural features, which did not exist in any building erected previously to their arrival. They inserted grotesque heads, animals, and birds, among the foliage, ornamenting the capitals of their columns, and under the eaves; and introduced several new mouldings. At first we see the modified Romanesque style was adopted; but at a very early period they appear to have exchanged it for a pointed style. In the details of their great works, we find mixed with their own Norman ornaments the features of Greek, Roman, and Byzantine architecture, which union gives a very striking and decided appearance to the buildings, such as we do not observe elsewhere. At a glance you are reminded of the various powers whose sway had been successively acknowledged. You trace the marks of the eastern and western empires, of the rule of the Greek and Roman, the Mahommedan and Christian. The

* Concluded from p. 606, *ante*.

* Which has been satisfactorily disproved.—Ed.

NORMAN SICILIAN ARCHITECTURE.

WINDOW FROM PALAZZO CORVAIO: TAORMINA.



Saracen added his own style to those which preceded him, introducing the pointed and horse shoe arch, the Byzantine dome, the minaret, the honeycomb ornament, and profuse mural decorations.

The mosaics now covering the walls of the most splendid Norman buildings, are of Byzantine origin, executed by the Sicilian Greeks, who, previous to the arrival of the Normans, had probably learned the art of their own brethren at Byzantium.

It is the amalgamation of the several features we have enumerated, which characterizes the Norman Saracenic architecture in Sicily.

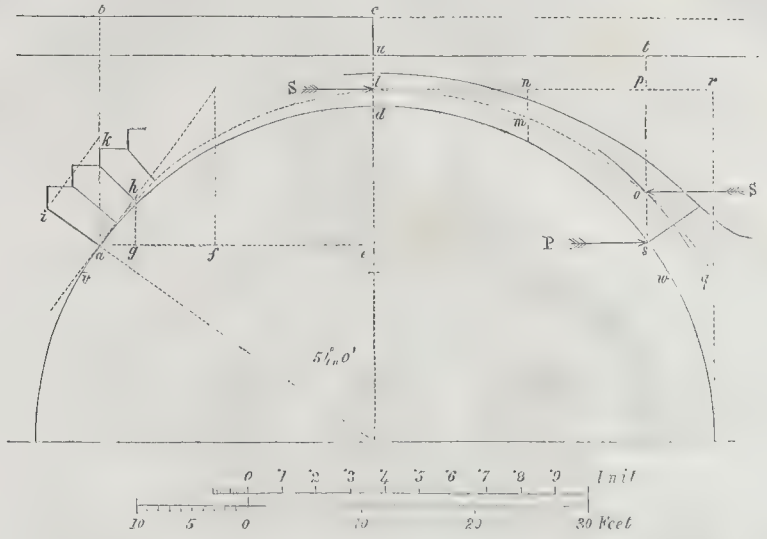
The engraving given above is a representation of one of the front windows in the first story of the Palazzo Corvaio, at Taormina. It was erected about A.D. 1180, under the Norman rule, and is a solid, well executed structure, possessing very considerable merits in its design. Immediately under the window, in the frieze of the ground floor, the cornice of which is composed in excellent taste, runs the following inscription (not any part of which is shewn in the engraving), in the bad Latin of the times: — "*Deum deligere prudencia est · Iesum imitari justicia, nullis inaversis ab eo abstrahi fortitudo est · nullis illegebris emmoliri temperancia est · et in hiis sunt actus vertutum · Par domus e celo set minore Dño.*

In the general design of this window we would notice the manner in which the hood moulding is carried up over the three pointed arches, forming itself into two intersecting ogees, partially developed, a characteristic of a much later style in our country. We cannot fail to acknowledge also the great elegance produced by the two slender marble colonettes dividing the window into three compartments, each of which has for its head the pointed arch. The employment of the lava as a means of ornament is not altogether forgotten.

Taormina possesses numberless remains of Norman architecture, which, together with its magnificent position, elevated high above the Ionian sea, overlooking the coasts of Calabria and the giant Etna, cannot fail to strike the least sensible with some degree of interest. The Saracens, after severe and lengthened contests, became masters of the town at the death of the Emperor Bazilius; but the eastern government some little time after regained possession of it, and retained it until A.D. 961, when it again fell into the hands of the Mahommedans, and the Caliph Abulassem entered it, and destroyed almost every building. At length the Normans drove out the Saracens, and as it naturally presented a peculiarly strong military position, they made it a town of head quarters, building for themselves princely dwellings. Their ruins, and those of a Roman theatre of considerable antiquarian interest, together with miserable filth, abject poverty, and the gorgeous scenery viewed from the town, alone remain to greet the traveller after his hard earned ascent to the summit.

W. L. B. GRANVILLE.

THEORY OF THE ARCH APPLIED.



PRACTICAL APPLICATION OF THE THEORY OF AN ARCH.

"Ponderibus librata suis,
Et pressa est gravitate sui."

THE way in which the theory of an arch is treated, like that of any more simple structure, is by determining the conditions absolutely necessary to ensure stability or rest, upon the assumption that any additional force to that allowed for would destroy the balance, and cause motion; the more, therefore, these conditions are deviated from in actual construction, the stronger will be the arch. The first condition necessary to the stability is, that the strength of the materials should be at least equal to the greatest stress to which they may be liable; subject to this, an arch may be of any form whatever, circular, elliptical, pointed, ogive, it may have huge pendants like some Gothic, or may be formed with deep frets, like some Moorish vaults.* For the strength of materials, recourse must be made to experiment, and observations of structures already executed successfully, or of such as have failed. The stress may be determined by theory alone. In constructing an arch, it is mostly impossible to proportion the strength to the stress in the first instance; when the centre is removed, some degree of depression will usually occur by the yielding of the joints; this sinking actually proceeds until the strength and stress are equal, or, as it is technically said, the arch has taken its bearings. Owing to this, the builder is restricted in choosing the form to such an one as will allow this action to take place, with the least danger of partial strains being produced, for though the voussoirs of an arch may be able to bear an immense stress when pressed together surface to surface, they would be very likely to be fractured by only a moderate weight, when pressed together edge to edge.

When a mass is balanced upon an edge, that edge is called a fulcrum. If a rectangular prism be placed upon a table, partly overhanging, in such a manner that the slightest touch might destroy the equilibrium, the edge of the table is the fulcrum; till the balance is destroyed, it is supported upon an area equal to half its base; afterwards, upon the edge of the table, which would be very likely to be indented, as well as the prism itself, especially if the disturbing pressure applied at one end were great, and the other end of it were to meet with some obstacle to prevent it from actually falling. Every point of the line which has been aptly named the curve of equilibrium (*almoq* in the figure), is supposed to be the position of such a fulcrum, with the supporting area (*so*, &c.) placed vertically, and the forces producing equilibrium acting horizontally. In order to guard against partial strains, the curve of equilibrium should be included within the form of an arch; if it touch the extrados as well as the intrados, partial pressure will ensue at the points of contact, in the event of motion taking place from the pressure on one side of the arch overcoming the pressure and resistance of the other side; the direction of this curve, therefore, indicates the *least* thickness (as regards the equilibrium) which should be given to the voussoirs.

The least pressure upon the voussoirs of an arch is at the vertex, and is called the horizontal stress, or thrust; any other part of them is subject not only to this, but also to a vertical one, depending upon the weight above it, so that the greatest pressure is at the abutments. It would not be well, therefore, to make the thickness of an arch less towards the abutments than at the crown; nor would it be quite proper to make it every where the same, though the materials used sometimes exact this. Since in arches of cemented masonry the greatest compression is at the joints, it appears proper that the voussoirs should be increased in thickness in the same proportion as the pressure upon them increases, namely, as the resultants of the horizontal and vertical pressures. The vertical cohesion of the materials, however, greatly influences the strength of an arch. An arch built with concentric courses of brickwork would not be so strong as one built with well bonded work, from the same cause that two or more beams placed horizontally above each other are not so able to resist a cross strain as a single beam equal to the others in bulk. When the cohesive power of the material is small, as that of brickwork, it would perhaps be best to make the arch increase in bulk according to the pressures; and indeed this might be a good rule in all cases. The proportioning of the parts of an arch is a matter of economy; a builder does not like the expense of wrought masonry when rubble, or ballast, or even void spaces might suffice; but he should always overrate rather than underrate what is necessary.

The particulars to be ascertained by calculation are the amount of pressure the thickness of the voussoirs and points in the curve of equilibrium. It is most convenient in calculations of the kind to make use of areas proportional to the pressures. Thus the vertical pressure upon any transverse vertical section of an arch being as the longitudinal section of the part of the bridge and load bearing upon it, another area may be found having the same ratio to the horizontal thrust of that part; this area when a maximum being divided by the height of the key-stones, will give the height of a rectangular column or wall, of the same materials as those of the bridge, whose base being equal to a transverse section of the arch at the vertex, would have to sustain an amount of pressure equal to the horizontal thrust or pressure upon the key-stones of the bridge; the height of this column multiplied by the weight of a cubic foot of the materials will give the pressure upon each square foot of a transverse section of the arch at the vertex.

It is not intended to go into minute details; but, to shew the application of some of the foregoing remarks, a particular case will be taken.

The figure represents a bridge with a semi-circular arch and level roadway; the spandrils are supposed to be solid, and the greatest probable extraneous load which the bridge will ever have to sustain, is assumed to be equal to a mass of the materials uniformly spread over the whole of the roadway in depth equal to *dc*. It has been actually observed (it is not theory), that when motion takes place in an arch of the kind, there are two points (*a* and *s*, called points of fracture) in the intrados, the masses above which (*abcd*) tend to overturn the masses below them as well as the walls or the piers upon which they

* This truism may perhaps shock those who put faith in the theory which determines the form of the roadway of a bridge from the intrados of the arch. This system is a misapplication of the theory of the equilibrium of chains; its inventor appears to have reasoned in this way: in order to make a chain assume a particular form, it must be loaded in a particular manner; therefore an arch of the same form should be loaded in the same manner. To make a chain assume the form of a semi-circle, it would have to be loaded towards the points of suspension, *ad infinitum*, therefore (not, as one might suppose it is, impossible, but) a semi-circular arch should be weighted in the same way. The theory fails to shew how this is to be performed, or how a material of finite strength is to bear an infinite burden. Again, a chain loaded in the middle may be made to assume the form of a pointed arch, therefore a pointed arch should be loaded in the middle. Some persons, apparently convinced by such reasoning, have supposed that a pointed arch should be loaded over the crown to prevent it from springing upwards. The reverse of this theory, that which determines the form of the arch from the form of the roadway, is not liable to the same objections.

abut, and thus tend to separate the bridge into parts along the lines *ab* and *st*. Peyronnet considered these points to occur in a semi-circular arch at intervals of about sixty degrees from the vertex, and this estimate may be used when mathematical accuracy is not pretended to.* In fact their position varies according to the depths of the arches and the loads upon them, and these being assumed, it can only be ascertained by approximation. The object is to determine such point in the intrados, as, taken for a fulcrum, would give the greatest possible value to the horizontal thrust.

Let the area *abcd* be equal to W, *af*, the horizontal distance of its centre of gravity from the vertical line *ab*, equal to D, the versed sine *de* plus, half the height of the key-stone, equal to X, then, $W \times D = X \times S$ and $\frac{W \times D}{X} = S$ an area proportional to the greatest horizontal stress.

Upon *ae* set off *ag*, equal to the height of the key-stone, and draw the vertical line *gh*, intersecting the tangent to the curve in *h*, *ah* is the thickness (nearly) which should be given to the arch at the points *a* and *s* upon the first foregoing hypothesis of what is proper. Draw *ik* parallel to the tangent intersecting the vertical line in *k*, *ak* is the vertical depth of the arch upon the second hypothesis. The bridge being supposed equally loaded on both sides, the curve of equilibrium would be alike on both sides, and would somewhat resemble the dotted sketch, *al*. The assumed extraneous load being supposed removed from one side of the bridge, a new condition of equilibrium arises, the most unfavourable possible under the assumptions, and ordinates as *mn*, *op*, *qr*, of the new curve, are to be found. It will be sufficient to shew a method of determining one of them, as any other may be found in the same way. When a lever, supported by a fulcrum, is in equilibrio, with two forces acting at different distances from the fulcrum, the sum of the forces is to the sum of the distances as the greatest force to the greatest distance, and as the least force to the least distance. Let *o* be the fulcum in question; *op* is the greatest distance, and *os* the least; and let P be the area proportional to the horizontal thrust of the mass, *stud*, obtained by taking *s* as a centre of motion; the force acting at the vertex *l*, tending to destroy the equilibrium, is as the difference between S and P, the greatest force that, acting against *s*, is as P, the sum of the two as S, and $S : P :: (sp) : (op)$ the ordinate sought for,

$$\frac{P \times (sp)}{S} = (op)$$

In the example the radius was made unity, the depth of the key-stones one-tenth, the depth of the permanent load over the crown one-twentieth. The point of fracture, *a*, was taken at fifty-four degrees from the vertex; and from these data the depth (*uc*) of the maximum extraneous load was determined to be ·10707, the ordinates, *mn*, *op*, *qr*, corresponding to 27, 54, and 90 degrees of the intrados, as laid down to the scale. The curve of equilibrium never approaches the extrados of the arch; and it is therefore evident that it would be a very good arch under the load allowed for, provided it were constructed of materials capable of resisting the pressures generated, without much yielding. The surface proportional to the horizontal thrust was found to be ·22375, which, divided by one-tenth, the depth of the key-stones, gives 2·2375 for the height of the columnar measure of the horizontal thrust. The above linear dimensions being multiplied by 30 feet, give for the span of a bridge 60 feet, depth of the key-stones, 3 feet, height of the permanent load above them, 1 foot 6 inches, depth of the variable load, 3·21 feet,† and height of the columnar measure, 67·1 feet; this last, multiplied by the weight of a cubic foot of the material (let it be brickwork, 117 pounds) gives 7850 pounds as the pressure per square foot. Now it is probable, that a brick wall 3 feet thick, 67 feet high, constructed on a base of well consolidated brickwork, would have but little power to compress that base; it may therefore be reasonably concluded, that such an arch, constructed of good brickwork, would be sufficiently secure. The modulus of fracture of good brickwork, that is to say, the height of a column of it, equal in weight to the crushing weight, has been estimated at 600 or 700 feet: if this be so, then the arch would be about ten times stronger than necessary to resist actual crushing. If the arch were made of the same thickness throughout, as is usually the case with arches of brickwork, it would be intersected by the curve of equilibrium near the point *o*, and it would be advisable to reinforce it with sound materials, at least as high as *o*S, to make it safe with the load provided for. If a greater load were imposed, fracture would be very likely to occur at that point, and at the lowest point (*d*) of the arch at the vertex. The strain should be estimated according to the resultant pressure, not according to the horizontal thrust as before. It has been assumed, that an arch has to sustain the whole burden. This is not actually the case: though the spandrils were filled in with loose gravel, they would contribute some aid to restrain the horizontal thrust. As was before stated, the theory merely teaches what is necessary under certain assumed circumstances; what those circumstances shall be must depend upon the judgment of the calculator; and if he is cautious, he will take care that his allowances are ample. It has also been assumed, that the abutment walls are immovable. If an arch of the kind be made very thin, the curve of equilibrium will intersect it very near the crown; and it will owe its stability almost wholly to the horizontal resistance of the spandrils. The arch of an equilibrated bridge is first supposed to be attenuated to the smallest thickness; and the curve of equilibrium is made to agree with it. The thicker the arch is actually made, the greater extraneous load will the bridge bear, without the new curve of equilibrium intersecting the arch.

Perhaps the most important result of theory is the disclosure of the enormous pressures which are generated; surely if practical men were aware of this, not so many failures of arches would occur, many no doubt, arising from the centres being struck before the materials are sufficiently consolidated to resist the stress upon them.

The columnar measure of the horizontal stress for semi-circular and semi-elliptical bridges, with horizontal roadways, may be determined sufficiently near for practical purposes by the following formula, deduced upon the supposition that the points of fracture, *v*, *w*, are midway between the springings and the crowns, and that the arcs included between them are parabolic.

Let r = half the rise;
s = half the span, corresponding to half the rise;
k = the height of the key-stone;
d = the whole depth of the bridge, and load over the vertex.

$$\frac{s^2 \times (r + 6d)}{12k \times \left(r + \frac{k}{2}\right)} = \text{The columnar measure.}$$

Applied to the preceding example it gives,—

$$\frac{26 \times 26 \times (15 + 6 \times 7{\cdot}71)}{12 \times 3 \times \left(15 + \frac{3}{2}\right)} = \frac{41411}{594} = 69{\cdot}7 \text{ feet.}$$

Applied to segmental arches the arcs not exceeding 120 degrees, r = the whole rise, s = half the span, k and d as before.

Let s=65 ft., h=25 ft., k=3·5 ft., d=8 ft.

$$\frac{65 \times 65 \times (25 + 6 \times 8)}{12 \times 3{\cdot}5 \times \left(25 + \frac{3{\cdot}5}{2}\right)} = \frac{308425}{1123{\cdot}5} = 265{\cdot}6 \text{ feet.}$$

The modulus of fracture of Aberdeen granite has been estimated at 9,581 feet; of Portland stone, 4,337 feet; of brick, 621—858 feet. The reader may make his own inferences.

In conclusion, it may be remarked, that when a bridge has been designed, of the form best adapted to the local circumstances, whatever that form may be, the above particulars may be calculated (the liberal assumptions which must be made shew that there is no occasion for minute accuracy) by the ordinary rules of mensuration and arithmetic, with as much facility as an estimate of its cost. It is supposed, of course, that the calculator is acquainted with the first elements of mechanics, such as are necessary for the understanding of this paper. J. P. W.

* The points of fracture of the arch of the bridge of Nogent-sur-Seine (a false ellipse), were observed by him to be very nearly a sixth of the whole intrados away from the springings. The points of fracture of a semi-circular arch being known, those of an elliptical one may be determined from them if all the corresponding heights of the arches and loads have the same proportion; they are distant from the abutments by the same proportional parts of the span in both. The same observation applies to all forms of bridges which may be deduced from each other by lengthening or shortening the dimensions one way, such as the form of the equilibrated bridge with a horizontal roadway which may be obtained from the dimensions of the common catenary. The method of obtaining this form of arch directly is ably treated in THE BUILDER page 598.

† Another trial and inspection of the Rouen and Havre line was made last week by the engineers of the company; the whole line being run over by the engine and carriages, except the viaduct of Malaunay, which is now undergoing the extraordinary trial ordered by the Government engineers. This is to lay upon it, for one month, ballast of sufficient thickness to weigh three tons per square yard superficial, which might become four tons if the weather be very wet during the period of trial. It is now said, that should the line go successfully through this ordeal, it may then be opened throughout.—*Railway Times.*

PRINCIPLES OF SYMMETRICAL BEAUTY.

SOCIETY OF ARTS.

DEC. 16th, Dr. Roget, Sec. R.S., Vice-President, in the chair. The secretary read an address from the council, which gave a retrospect of the proceedings of the past year, and the proposals of the council for the future. It stated that formerly the society, as is well known, stood alone as the great active, scientific, mechanical, and artistic circle of London, the Royal Society being the only other in any analogous position. That now, however, that great field is happily full of co-operating societies, each labouring on some one subject, formerly a mere dependant on its vast territory. That this removal from the parent society of so many branches has necessarily stripped it of many of its bright ornaments, but it appears to the council that far from being regarded as an evil, this multiplication of useful societies is a subject for congratulation, and should be regarded as one strong proof of its past usefulness. The council consider that the field on which the society might, with best effect, concentrate its future labours, as well as that which most properly belongs to it, is a department of the fine arts hitherto much neglected in this country, and which has been strongly approved of by H. R. H. Prince Albert, president of this society, viz., that of promoting high art in connection with the mechanical, for which our manufacturers are so justly celebrated.

After a communication "On the principles employed in the recent decorations of the great room," a paper was read "On the first principles of symmetrical beauty, and their application in certain branches of the art of design," by D. R, Hay, Esq. This paper commenced by stating that the first principles of symmetrical beauty originate in the powers of numbers, and that a means of applying the principle of numbers in the formation of plane figures, is afforded by the division of the circumference of the circle into 360 degrees, which degrees are again divisible and subdivisible by 60 into minutes, seconds, &c. Thus the abstract principle of harmony and proportion, in the relations of certain numbers to each other, becomes apparent and visible, in their application to the structure of geometrical figures, by means of the division of the circle. It then proceeded to show that to apply these degrees to rectilinear plane figures, each figure must be reduced to its primary element. That the triangle, which is half of the square, is the first and most simple of its class, and is the representative of No. 2; that the scaline triangle, which is half of the equilateral triangle, is, in like manner, the representative of No. 3; that the next scaline triangle which arises naturally in the series, is that which is half of one of the five isosceles triangles which form the pentagon, and is the representative of No. 5. We have, therefore, in the square, the equilateral triangle, and the pentagon, the primary elements of all symmetrical beauty as represented by plane figures, and evolving the operation of the harmonic numbers of 2, 3, and 5. Out of the primary rectilinear figures already referred to, arises a second class, as when an equilateral triangle is divided into two scaline triangles by a line drawn through one of its angles, and bisecting the opposite side, these scaline triangles if reunited by their hypothenuses instead of their longest sides, will form an oblong rectangle, every rectilinear figure having its corresponding curvilinear figure.—The paper concluded by attempting to show the operation of the principles of harmonic ratio in the formation of the mouldings of Grecian architecture, ornamental vases, and household utensils.

EARLY PROPOSAL FOR AN ENGLISH COLLEGE OF ART.

SOCIETY OF ANTIQUARIES.

At a meeting of this society, held on the 17th inst., a communication from the Rev. Joseph Hunter was read, on the subject of a proposal for the establishment of a royal academy of art as early as the year 1617, and which was agitated till 1626. A MS. in the society's library (No. 103) relates to it, and three others among the Harleian MSS.; but the main source from which Mr. Hunter derived his information was a MS. in his own possession, written by Sylvanus Morgan in 1661. James's Academe or College of Art, as it was termed, was to have had a common seal, 200*l.* a year and certain privileges. Papers were to be discussed; the members were to bear an "order;" and it was proposed to convert Windsor Castle into an English Olympus! The projector, Bolton, gave a list of eighty-four persons suggested as the first members of the academy; in which appeared the name of Inigo Jones.

A recommendation, on the part of the council of the Society of Antiquaries, to elect Captain W. H. Smyth, F.R.S., director of the society, in the place of Mr. Albert Way, who has resigned, was well received, and seems to have given satisfaction to the fellows generally. What is now wanting is, that for the next council, men should be chosen who really will work, and that they should have the opportunity of doing so.

PUBLICATION OF WORKS BY MEMBERS OF THE INSTITUTE OF ARCHITECTS.

Sir,—My name appearing invidiously in The Builder (page 603) of the 19th inst., I trust to your liberality and candour to give insertion in your valuable and extending publication, to the following letter, which I have the honour this day of addressing to the Council of the Institute of British Architects, through their secretary, George Bailey, Esq.

I am, Sir, &c., John Weale.

London, Dec. 22, 1846.

Sir,—As secretary to the Institute of British Architects, I take leave to address you.

My attention has been drawn to The Builder of the 19th inst., in which, in reporting the proceedings of the Institute of the previous Monday, my name appears, as having "offered to engrave and publish the works of the members, if they should furnish the drawings."

In reply to the accompanying observations, I have to state, that having been (either in the year 1839 or 1840) requested to attend the Council of the Institute relative to the publication of prize drawings, which was declined, I availed myself of that opportunity of suggesting to the Council, the propriety of publishing annually a volume of the works constructed by the members each year antecedently, to contain fifty plates and descriptive text; and that the drawings be reduced to a quarto size, to be placed in my hands, with fairly written copy for the text; all the expenses of the publication should be defrayed by me, and to present a copy to each of the Fellows, free of charge.

Some gentlemen observed at the time, that the expense of the reduction of the drawing would be considerable. In answer to which it was stated, that it was my belief that many young men would be glad of so favourable an opportunity of bringing their names before the public as draughtsmen for such a work, free of charge. I am not surprised at the gentleman who spoke in reference to my suggestion forgetting its occurrence, as the suggestion was not made in writing: it was received with such coldness, that a deep impression was made on my mind: I spoke of it with regret. At that time it was a favourite object to unite such an enterprize with the volumes of the transactions of the Institution of Civil Engineers, then publishing, and with the papers of the Royal Engineers, the latter of which has now reached the tenth volume.

I may be permitted to state, that subsequently, more than one million of money has been expended by the government of the country, and by public bodies, in the erection of new edifices; how much more must the desire be to see displayed, in print, works of such noble magnitude. It has been hinted, that no such proposition could have been made. Mr. Donaldson states, that "it sounded more liberal than it really was." I beg now distinctly to state, that I am still disposed to repeat my suggestion, as an offer, and to carry out my original proposition on the following terms:—

1. To publish a volume annually, a selection of the public and private buildings of Great Britain and Ireland, in sufficient detail to be useful to the rising architect, and to explain thoroughly the arts and contrivances of such structures, as shall be sufficiently plain to be useful to foreign professional men.

2. That the volume shall have fifty plates double and single, all to be engraved by the best engravers; that the same shall be accompanied with text, as stated in Proposition 1.

3. That the work shall be arranged, and the drawings executed, under the direction of a publishing committee (the publisher to be one), who shall take upon themselves the editorial duties of the work.

4. The Institute, in determining the subjects, shall be directed to subjects taken from public or private buildings, which may be considered fair representations of the science of construction, and the cultivated state of architecture in Great Britain and Ireland.

5. That all the expenses of the publication of the annual volumes shall be paid by the publisher; and the Fellows of the Institute shall have each a copy, free of charge.

6. That a certain number of copies, to be agreed upon, be set apart for the students, or others engaged in making the drawings, as a consideration for their trouble.

7. The work shall, after the performance of these conditions, be the copyright of the publisher.—I have the honour to be, &c.

John Weale.

To George Bailey, Esq., Secretary.
Institute of British Architects, &c. &c. &c.

MONUMENT TO PALLADIO.

Until recently, public monuments in memory of any but princes and warriors were rare,* not simply in England but abroad. Within the last five years our continental neighbours have been working hard to supply the deficiency. In all the towns of France and Germany, statues have been raised to their great men. In Italy too, several have been put up, though not to such an extent as in the former countries. Amongst them is a monument to Palladio† in Vicenza, his birth place, which was completed at the end of last year. The French journal *L'Illustration* of the week before last, gives an engraving of it and some few particulars, from which we gather, that this monument was raised in accordance with the will of the Count G. Velo, who bequeathed 100,000 *livres* for that purpose.

The statue of Palladio stands on a pedestal, two stories in height, with a genius by his side in the act of crowning him. Seated on the first story of the pedestal, against the angles of the upper portion, which is less in size than the lower, are two allegorical figures, one representing Vicenza with a wreath in her left hand, and looking up with pride at the artist, the other Architecture, depicting the history of the art on a scroll, by a representation of a primitive hut, and the Pantheon. Between these two figures on the upper part of the pedestal, is sculptured in bas-relief the baths of Caracalla, to express that it was by the study of the antique monuments that Palladio formed himself.

At the foot of the whole is a sarcophagus in imitation of that of Agrippa, containing the remains of the artist.

The monument stands within an octagon chapel in the new public cemetery of the city, and is the work of M. Fabris, a sculptor of Vicenza. The material is Carrara marble.

We may mention that a very complete account of Palladio, and his works, has been published by the Abbé Ant. Magrini, of Vicenza, under the title of *Memorie intorno la vita e le opere d'Andrea Palladio*. It was for this work, if we remember rightly, that the Institute of British Architects supplied the interesting catalogue of drawings by Palladio, now at Chiswick, published in our columns. ‡

* "One murder makes a monster, a million a hero."
† He was born in 1518, and died in 1580.
‡ Page 230, *ante*.

RAILWAY JOTTINGS.

On the question of the liability of directors of wound-up companies to repay deposits to allottees, in the case of Vollans *v.* Fletcher, lately before the Lord Chief Baron of the Exchequer, his lordship declared his opinion to be, that the directors had clearly no right to appropriate the plaintiff's money to any other purpose than that for which it was paid, namely, as it appeared, for preliminary expenses, and that towards these they had power to retain a sum of 2s. 6d. on each share, but no more.——The directors of several lines intend, it is said, to build spacious rooms at stations contiguous to populous towns, for concerts, &c., and to provide special trains to convey performers from the metropolis and back, at moderate charges!——The Great Western and the London and North Western are to renew the battle of the gauges, in the forthcoming session of Parliament, with increased vigour, if not also with increased asperity and questionable manœuvre. —— The Eastern Counties and Great Northern are about to construct, conjointly, two immense docks at Wisbech. One of them will cover an area of thirteen acres. —— The contract for the works on the Great Northern, from London to Peterborough, has, it is said, been let to Mr. Brassey, for 120,000*l.*——The Hull railway dock was opened for shipping on Thursday week. ——There are no less than 5,552 workmen new in full employment on the Edinburgh and Northern Railway.——It was lately stated by one of the town-councillors of Edinburgh, that "he had got information from Liverpool and Manchester which went to prove, that, since the opening of the railways on Sunday, crime had diminished by one-half. He had also got a glorious document, written by Mr. List, the superintendent of the Mid-Lothian police," to a like effect. He therefore seconded a motion of Mr. C. B. Tait, to the effect that measures in Parliament should be taken to *induce* the Edinburgh and Glasgow Company to afford the same means of travelling on Sunday as on any other day,—a "tyrannical, as well as irreligious motion," as Bailie Mack characterised it, seeing that the company in question had felt it, by a majority of four, to be against their consciences to allow the public such a privilege of diminishing crime; although, according to a Glasgow paper, it has unwarily transpired that it is by no means *inconsistent* with the same scrupulosity of conscience, to compel about 100 clerks and others, employed by them, to spend last Sunday, all day long, in busy occupation, in a tavern near their Queen-street station! In supporting the motion alluded to, another councillor stated, that amongst the probable opponents of Sunday trains no fewer than 241 carriages had driven up to various places of worship in the city on a previous Sunday, employing 241 drivers, besides footmen, and 400 horses, besides grooms, &c. The motion was agreed to by a majority of 20 to 7.

Another claimant, and another, to the high honour of originating the great wonder of the age, the Electric Telegraph, rises, one in shadowy succession to another. The most recent claimant is, indeed, one from the other world,—one of a family to whom this world is already much indebted,—one who, moreover, while himself in life, spent a princely fortune in the exercise of his scientific ingenuity and invention—namely, Ralph Wedgewood, a relative of the great proprietor of the Potteries. His son now claims our acknowledgment of this alleged fact, while unassumingly admitting that others are entitled to the full merit of carrying it into practical operation. An improvement of this invention has been lately patented by a Mr. Highter, of Rugby, and purchased by the Electro-Telegraphic Company. It consists mainly in the substitution of a slip of metallic leaf, with a magnet placed near it, for the old coil of wire and magnetic needles. The advantages gained by this change are, it is said, many and great, especially in cheapness (an apparatus costing 20*l.* being obtainable for 20s.), and in delicacy (a single cell battery being capable of working through 100 miles of wire). It has too, collateral advantages such as the division of a current into two or more parts, the same news being transmissible at one and the same moment to several places wide asunder, and through almost any number of stations

throughout the country, without diminution of power. So much simplification, it is thought, will lead to the practical use of the electric fluid, even in the organized communication between the different parts of the same public or other building.——The directors of the South Eastern Railway are so satisfied with the operation of the submarine telegraph, that they are preparing for its extension across the channel from Folkstone to Boulogne. The Folkstone Custom-house is already made the focus of a ganglion or plexus of the wire-nerves on their way to France.—— "Received by Lightning—Printed by Steam!" is the stereotyped head of the telegraphic news in the *Buffalo Courier*.

DECORATION OF THEATRES.

At the last meeting of the Decorative Art Society, Dec. 9, a discussion upon this subject was resumed by introductory observations from Mr. Cooper, in which, referring to the remarks in Mr. Dwyer's paper upon the plan of a theatre, he suggested that another form offered considerable and, probably, greater advantages. He described it as the oval, which he would have divided by its long diameter, one-half apportioned to the audience, the other to the stage, &c. He alluded to several continental theatres approaching to this form in construction—the circus of Franconi, Napoleon's grand amphitheatre at Milan, the Roman circus at Verona, and the Coliseum. As painted or shifting scenery was not employed for the Greek drama, the proscenium was richly decorated with ranges of marble columns, statues, gilding, and bronze. The advantages of the semicircular and semi-elliptical forms in plan beyond those of the horseshoe form, were enlarged upon, and the Olympic theatre at Vicenza, in Lombardy, built by Palladio, was said to exhibit them in a perfect manner. This was erected by order of the Olympic Academy of Vicenza, whose members directed him to build it in accordance with the ancient plan, that they might afford their compatriots an idea of the magnificence of ancient theatrical exhibitions.

The discussion was supported by Messrs. Parris, Seddon, Crabb, and others, and the following observations are selected from others of interest. A spheroidal form of ceiling, it was urged, offers several advantages, influencing ventilation and lighting, as well as contributing much towards a picturesque and pleasing effect. The decorations of the ceiling in the Italian Opera House, it was observed, had been copied from one in the Ducal Palace at Mantua (a coloured plate from Gruner's work was exhibited). It was considered questionable as to whether the example was suitable for such an extensive surface or not, and that, admitting the propriety of selection, the figures did not hold their just proportions; the great distance at which they are required to be seen had not been sufficiently regarded in the colouring, and the peculiar haze in a large theatre, as well as some other general principles in colouring, demanded a different treatment. The use of bright colours, such as vermilion, it was remarked, ought to be sparing, and indeed restricted to a very limited application. Mr. Parris supported this opinion by references to works by Raffaelle and Rembrandt, and he recommended Indian red and Venetian red, when supported by a bold mass of shadow, as producing a more powerful effect. He also objected to the prevalent use of bright colours for interior decorations, from their harsh, and, owing to the general absence of green, fatiguing impression. It was remarked that the decorations of the Italian Opera House appear most satisfactory when the seats are vacated, and, consequently, that the design did not embrace some essential principles. Encaustic painting was alluded to, and its durability and effect were said to have been proved equal to fresco, when subject to the influence of gas and vitiated atmospheres. Coloured decorations, when composed of sprawling cupids or allegories, were slightingly mentioned. Some suggestions were made that rich fabrics, coloured as Persian carpets, cloth of gold, &c., when thrown over the fronts of the boxes, would conduce to a rich and gay appearance, quite distinct from any obtained by painting. The Opera Comique at Paris was described. A quiet, satisfactory, yet rich effect, it was said, is there displayed, together with some important matter in construction. The ornaments were said to be composed of stamped brass. A description was given of Covent Garden theatre, as it was when first opened. It was designed by Smirke, and painted under his directions. The drop scene was painted by William Dixon, in subdued colours, with sienna columns, and statuary with broad masses of shadow, producing a forcible impression, by powerfully enhancing the effect of colours on scenery and dresses on the stage. The repose conveyed on the fall of the curtain was said to have been agreeable, but splendour was not at all aimed at.

At the first general meeting in January next, a paper on "Stained-glass windows chronologically considered," will be read.

WORKS OF THE ART-UNION OF LONDON.

At the present moment, the council of this association have a number of works in progress. Mr. W. Finden is commissioned to engrave Hilton's fine picture, "The Crucifixion," now in the Town Hall at Liverpool. Mr. Lightfoot is proceeding with "Sabrina," after a picture by Mr. Frost, A.R.A. Mr. Maclise, R.A., as we understand, has liberally prepared an entirely fresh drawing of his "Spirit of Chivalry," purposely to be engraved for the society. Mr. Selous' painting, "The Citizens of Calais," from his prize cartoon, should be ready next month. In the way of sculpture, Mr. Marshall, A.R.A., is proceeding with his figure, "The dancing girl reposing." Mr. Foley is making a reduced copy of his figure, "Innocence," (submitted in competition for the society's premium,) to be executed in statuary porcelain; and Mr. Kirk has reduced his "Iris ascending," exhibited at the same time as the last, to be executed in bronze,—and very charming things they will both make. In order to give an impetus to the art of casting in iron, and to spread abroad copies of a fine work in a durable material, Mr. Nixon, the sculptor, is commissioned to make a reduced copy of the antique figure, "Thalia," in the gallery of antiquities at the British Museum, to be cast in iron by the Coalbrookdale company. Mr. Wilson is executing a medal of Flaxman, and a number of other works are under consideration, including a new feature in the shape of a series of illustrative wood-engravings. A temporary stoppage has occurred in the delivery of the print for last year. The immediate demand was so much greater than was anticipated (as will at once be admitted when it is heard that, within three days after the print was due, more than 10,000 copies were delivered over the country), and so many more plates than was expected have been required, in consequence of the delicacy of the original engraving, that the delivery has been unavoidably stopped for a few weeks. Twenty-two electrotype plates have been already made! In operations so extensive and so new (so marvellous they would have been thought a few years ago), casualties can scarcely be guarded against.

"The Convalescent," due to the subscribers of 1845, which has been in the hands of Mr. Doo for several years, has not yet reached the council, and they, as well as the subscribers, have just reason to complain. Let them make what arrangements they may, and with whatever judgment and forethought,—if the artists commissioned do not keep faith with them, all their efforts are, of course, useless. The engravings after Mr. Uwins, R.A., for the current year, are nearly completed, and so will be ready for distribution in good time.

NOTES IN THE PROVINCES.

In clearing the site of the late fire at Gravesend, it is remarkable that, until the last week or two, volumes of smoke, and even bodies of flame, have occasionally burst forth from the ruins. The insurances, to the extent of 30,000*l.*, have been all adjusted, and an agreement has been come to that the whole line of the re-erections is to be set back full nine feet, so as considerably to improve both the town and the properties themselves.——The erection of a church, or chapel, in the Gothic style, from designs by Mr. Pugin, it is said, is contemplated by the Roman Catholics at Salisbury.——Maddington parish church was re-opened on Wednesday week, after being extensively repaired and restored. The aisles have been repaved, the stone work made good, a stone pulpit erected, and the pews renewed, in oak, with increased accommodation. A Gothic "Temperance hall" has been erected at Cirencester, at a cost of about 1,500*l.*——Baths and wash-houses have been erected at Cheltenham, at a cost of 4,500*l.*, of which 700*l.* were contributed by a lady, Mrs. Becker, of Green-park.——The demolition of the old town-hall, Doncaster, to make way for the new, was last week nearly completed. It has been proposed to preserve, in one form or other, the remains, now exposed to view, of the ancient church of St. Mary Magdalene, incorporated with the old town-hall; or rather, a portion of which church constituted the latter building.——On a spot, in a field at Melton, belonging to Mrs. Barker, of Ipswich, and hitherto remarked for the luxuriance of the crops raised on it, the sub-soil was lately found to be full of broken tiles of unusual size and thickness, and manifestly of Roman manufacture. A further cutting revealed an entire Tegularium, or tile-work, with regular layers of tiles, and a large quantity of brick-earth, moulded into form, and ready for burning, with a layer of sand between each. A strong pavement of carburetted earth, with ashes, &c., completed the evidence of the real nature of this interesting relic of old times.——The town council of Edinburgh are in a quandary about a responsibility to the extent of 60,000*l.*, under which they lie to certain proprietors of the banks of North Esk and Logan Burn, in the event of the wall of the water company's reservoir in that quarter giving way; a risk which it appears is becoming gradually more and more imminent, since the company do not appear to care about the risk or liability of either council or proprietors; having not only already raised the wall to a greater height than heretofore, but manifested a decided intention to raise it higher still; "thereby greatly increasing the danger of the reservoir bursting,"—an event which would far outshine the distressing occurrence at the Harrington Water-works at Liverpool, end of last year. The council are naturally "anxious to rid themselves of all connection with it."——The Commissioners of Woods and Forests have requested the Edinburgh Council to intimate to them the probable discovery of the remains of Queen Mary of Guildres, said to have been interred in Trinity College Church, which is to be taken down. If found, the remains are to be removed.——The necessary steps have been taken to obtain the Aberdeen Improvement Act, already alluded to; in course of next session, Old Aberdeen intends to have improvements of its own, and hence does not co-operate with the city on this point.

Correspondence.

DECORATIONS AT SOCIETY OF ARTS.—BARRY'S PICTURES.

Sir,—It is the fact, as you suspect, that the chief part of the cost of decorating the hall was presented to the Society of Arts by Mr. Hay. The allowance made for the repairs did not reach half the actual cost. It may also be stated, that the society is indebted to Messrs. Minton and Co., the manufacturers, and to Mr. Blashfield, their agent, for the present of the Mosaic pavement.

It is not true that the process of cleaning the pictures, in the least degree caused the stains now apparent in the Orpheus. The cleaning was most judiciously and carefully done under Mr. Hay's personal directions; and its effect has been beneficial to all the pictures—even to the Orpheus, for it has shewn the mischief that exists and was done some dozen years ago. I believe Messrs. Mulready, R.A., Eastlake, R.A., and Redgrave, A.R.A., among other artists, have seen these pictures since they were thus cleaned, and I have heard that they unanimously agreed that the cleaning had been judiciously done, and was a perfectly proper step, and that the pictures were in excellent state. But certain members, who were parties to the varnishing and tampering with the Orpheus years ago, now alarmed at the mischief they did, protest that this mischief is the result of the cleaning, in order to shift the disgrace from themselves. And what makes the attempt the more impudent is, that one of them, without the slightest pretence to artistic or critical knowledge, is said to have been a disappointed contractor for painting the hall.

A Member.

Miscellanea.

THE BISHOP OF ELY'S SHAKSPEARE PORTRAIT.—The paragraph which appeared in our pages relative to a picture in the possession of the Bishop of Ely, supposed to be a portrait of Shakspeare, excited considerable interest, and was reprinted by the majority of our contemporaries. We have since seen the picture, and are prepossessed in favour of its genuineness. It is without the beard, closely resembling the engraving in the folio edition, to which were appended Ben Jonson's well-known lines. The painting is on a panel, 1 ft. 8 in. by 1 ft. 3⅞ in.; and when found, was in an old ebony frame, covered with dirt, and disregarded. It was bought for a few shillings, solely on the ground of its likeness to Shakspeare. The date and age (1603, æt. 39) serving to confirm this impression, were not discovered till afterwards: these are in the left-hand corner of the picture, at the top, in the same position as they are in the portrait of Cornelius Jansen, dated 1610.

FLIXTON HALL.—A writer in the *Bury Herald*, speaking of the building recently destroyed, says:—"The stair step exhibited a remarkable evidence of the unsparing desire of the ancients to give all possible room and accessibility to this part of the building, as they were of the enormous width of eight feet, and broad in proportion in the tread. The windows, which, it is said, originally were equal in number to the days in a year, consisted of girt lights, varying in number from six to sixteen, and glazed in lead, curiously composed of octangular panes, and small internal lozenges. On the upper landing were three unusually wide oak doors (with rudely manufactured locks of iron), the centre of which, and which led to the saloon, contained panels of curiously carved workmanship, with architraves containing two grotesque figures carved in bold relief. The hall, an apartment of neither space nor architectural pretensions, was remarkable for possessing a very antique fire-place, entirely of iron, exhibiting the heraldic bearings of the proprietor, and a curious old oak chest, containing rare specimens of china."

THE 3,000*l.* FINE.—Mr. Jenkins's attempt to quash the order of amercement by the Westminster Sewers' Commissioners has failed, Lord Denman deciding, on the 17th instant, that they possessed in law the power which they claimed; that the power itself was reasonable in the circumstances of the district in which it was exercised; and that even if there did exist any general objection to such an order as that complained of, Mr. Jenkins had, by his own proceedings, estopped himself from advancing such objections. The rule *nisi* obtained for a *certiorari*, was therefore discharged with costs. On the following day, at a general Court of Sewers, the solicitor reported the result, but the court eventually resolved to defer the execution of the amercement until it was ascertained what steps Mr. Jenkins would take in the matter.

COVENT GARDEN THEATRE.—A peep into the theatre the other afternoon startled us. All the inside of the house is taken out, and the bare inclosing walls stand exposed their whole height, to a depth of twenty or thirty feet below the level of the pit floor. The interior was filling with scaffolds; men in every corner were shouting and hauling; while the old chandelier, under the decorated ceiling, throwing light upon the hubbub and ruin, served to recal its former appearance, and produced a most singular effect.

VICTORIA PARK, DOVER.—A building site possessing features of great interest, and commanding the most extensive sea and land views, with a south-western aspect, and backed by the castle, is now being prepared and laid out for building operations, to commence early in the spring. It is intended to erect about forty houses of the first class in the form of a crescent. About 40,000 loads of soil will require to be moved to fit it for its destined purposes. The works are being carried out by a company under the directions of Mr. J. Walker and Mr. W. Huntly.

INTERFERENCE WITH WORKMEN.—Seventeen working engineers and iron-founders have been committed for trial at the Liverpool assizes, for conspiring to prevent workmen from entering and from continuing in employment at the Viaduct Foundry, near Warrington, which the "Trades Union" had "picquetted."

PARIS.—A chapel, painted by M. Amaury Duval, has just been uncovered at the Church of St. Germain-l'Auxerrois, and four other chapels by different artists are to be shortly exposed to view at Notre-Dame-de-Lorette and St. Sulpice. We learn from the *Athenæum* that the following statues have been recently placed on their pedestals in the hemicycle of the bureau of the Chamber of Peers:—That of Colbert, by M. Debay, the father; of Malesherbes, by M. Bra; of Portalis, by M. Ramus; of D'Aguesseau, by M. Maindron; of Turgot, by M. Legendre Hérald; of Mathieu Molé, by M. Bare, the son; and of L'Hôpital, by M. Valois. In a recess to the left of the President has been placed the statue of St. Louis, by M. Dumont;—another niche in face of the chair is destined to receive the figure of Charlemagne, executing by M. Etex. The statues of Montesquieu, by M. Nanteuil and Etienne Pasquier, by M. Foyatier, are placed at the two extremities of the library of the Chamber. Queen Christina has just had constructed in the garden of Malmaison, a little Gothic chapel, in imitation of the Sainte-Chapelle, at the Palais de Justice.

PROJECTED WORKS.—Advertisements have appeared in the current newspapers for contract-tenders for the restoration of part of Trinity Church, Coventry; the construction of a large dock, &c., at Gloucester; the various works necessary in the erections of Woodhouse Grove School,—of a number of houses, lodges, stations, and other works, on the Midland, and York and North Midland, railways,—and of several branch and other lines of railway and portions of lines, connected with the York and North Midland, the Rugby and Leamington, the Stirling and Dunfermline, and the Glasgow, Paisley, and Kilmarnock railways,—and for earth-work and masonry on the North-Western,—numerous carriages, trucks, &c., for the Leeds and Thirsk,—sawed oak piles and keys for the Isle of Wight Commissioners of Sewers,—and materials for repairing roads in Worcestershire.

ROOF-REARING FEAST.—On the 11th inst., a dinner was given at the Bell Inn, Frampton-on-Severn, Gloucestershire, to the contractors and workmen engaged in building the new church at Kingsholm, Gloucester, and the new church at Fretherne, in the same county, both under the direction of the same architect, Mr. F. Niblett, and by the same builders, Messrs. Ashbee and Cholerton. The architect was in the chair, and much good feeling was exhibited.

WARMING RAILWAY CARRIAGES.—*Chaufferettes* heated with hot water, have been introduced into the first-class carriages on the Amiens Line with great increase of comfort to the passengers.

TO CORRESPONDENTS.

"*G. C.*"—We know of no objections to the use of slate for covering a well. For the opening named we would have 1½-inch thick.

"*C. C.*"—We called, but were too late to see the furniture in question.

"*A Fire-brick Consumer*" asks for "The History of Fire-stone." We will seek an opportunity to give it.

"*J. B.*"—Thanks. It seems of scarcely sufficient importance to engrave.

"*S. B.*"—We are gratified by the recognition.

"*A.*" (Dorchester), cannot have the numbers he wishes we are sorry to say. We shall be happy to receive the remarks offered.

"*R. B.*"—Part of the specification shall appear.

"*N. M.*"—An oven-builder is correct in saying that fire-bricks are quite unsuitable for the construction of ovens, but not so in recommending soft half-burnt bricks. We will write privately on this and as to naves of wheels.

"*B. M.*"—We cannot give the prices required.

"*Architectural Modelling.*"—*J. S. M.* says, "can any of your correspondents inform me what is the best material for architectural modelling? An article which can be used with the greatest facility in designing, so as to be moulded into any required form as readily as possible is needed."

"*J. M.*"—We cannot give an opinion on such slender information; but should doubt the power of the neighbour to prevent a fire being made.

"*Glass.*"—Correspondents are inquiring for glass milk-pans and coloured glass roof-tiles. Are these obtainable?

"*J. S.*"—We believe that the minister will be heard as well with the open roof as he is now with the flat ceiling. We may perhaps consider the subject at some length.

"*G. H.*"—may rest assured that the fault rests only with his bookseller. THE BUILDER is invariably published early on Friday morning.

Received.—"B. B.," "J. R. N.," "G. H.," "Health of Towns Association," "W. H.," "H. S.," "J. W."

Books Received.—"Instructions in Practical Surveying, Topographical Plan Drawing, &c.," by G. D. Burr, Prof.; second edition (Murray, Albemarle-street). "The Life of James Gandon, Esq., Architect," with essays; edited by the late Mr. T. J. Mulvany (Hodges and Smith, Dublin). "Lectures on Painting and Design," by B. R. Haydon; second volume (Longman and Co., Paternoster-row). "Patent Journal Almanac."

"*Books and Addresses.*"—We have not time to point out books or find addresses."

*** Reviews of several books, especially of Mr. Holtzapffel's excellent work on "Turning and Mechanical Manipulation," have been unavoidably delayed.

TO PROVINCIAL READERS.—In reply to complaints of the irregular delivery of THE BUILDER in provincial towns, we beg leave to state that it is invariably published by seven o'clock on Friday morning; and that the irregularity complained of rests entirely with the parties through whom it is obtained.

CHARGE FOR ADVERTISEMENTS IN "THE BUILDER."

	£. s. d.
For Sixty Words or less	0 5 0
Every additional Thirty Words	0 1 0
One Column	2 2 0
One entire Page	5 5 0

For a series of advertisements above 5*s.* a reduction will be made.

ADVERTISEMENTS.

WORCESTER ENCAUSTIC TILES. Specimens of these beautiful Tiles in all their Varieties, may be seen and information obtained at the London Agents, Messrs. GRIEVE and GRELLIER, Marble-wharf, Belvidere-road, Waterloo-bridge, or at the Encaustic Tile Works, of Messrs. F. ST. JOHN G. BARR, and Co., Worcester.

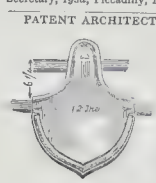
ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—J. M. BLASHFIELD, Agent. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

TO BRICK AND TILE MAKERS.

THE AINSLIE PATENT TILE MACHINE COMPANY (James Smith, Esq., of Deanstone, Chairman), invite attention to their improved Brick and Tile Machines, and to their new improved Patent Kilns for drying and burning Bricks and Tiles, by which a saving of from two-thirds to three-fourths of the fuel is effected, and all the articles are burnt equally without loss or damage. The Machines at work, and a model of the Kilns, to be seen, and all particulars to be obtained from Mr. JOHN PATON, Secretary, 193*a*, Piccadilly, London.—Agents wanted.

PATENT ARCHITECTURAL ROOFING TILES.



ARCHITECTS, Builders, and others may now be supplied with these ornamental Tiles, which for security, beauty, and effect, surpass every other kind of roofing, whilst their cost but little exceeds the covering with common pantiles, and their superiority over slating is at once apparent. For prospectuses and full particulars, apply to Mr. J. G. HUGHES, at the Company's Offices, 186, Strand.

Price, from 16*s.* to 22*s.* per square.

ARCHITECTURAL SUBJECTS (Outlines) coloured for competition or exhibition, and embellished with landscape, &c. Buildings, Portraits, and Views of every description, lithographed in a superior manner, by GEORGE CHILDS, 12, Amwell-street, Pentonville.

SILCOCK and Co.'s PATENT PLANES may be had at the following places:—

Archer, 45, Goodge-street, Tottenham-court-road; Blyth, Whitechapel; Cock, 424, Oxford-street; Dean, 46, King William-street; Fenn, 105, Newgate-street; Holtzapffel and Co., 64, Charing-cross; and of all ironmongers and tool dealers in the United Kingdom.

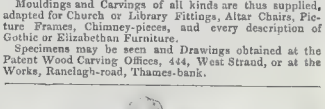
TO ARCHITECTS.

THE attention of Architects is directed towards the new Patent for CARVING IN WOOD, STONE, and MARBLE, by MACHINERY. This interesting invention will enable them to see their plans carried out, which in many cases they are prevented doing, owing to the enormous expense attending hand-carving. The work, when executed by this machine, whether in stone or wood, has the appearance of hand-carving done in a masterly style. Monuments beautifully executed to any design, at an immense saving in price. The works are in full operation, and Architects are invited to inspect their merit at Eccleston-place, Eccleston-street, Pimlico, late Chauntrey's foundry.

DECORATIONS in WOOD.—The unrivalled perfection at length attained by the patent process of Carving, enables its proprietors to offer to the public, at an extremely reduced price, every possible variety of Carved Wood for external and internal enrichment—thus substituting the genuine material for those numerous imitations which have invariably been found fragile or unsatisfactory.

Mouldings and Carvings of all kinds are thus supplied, adapted for Church or Library Fittings, Altar Chairs, Picture Frames, Chimney-pieces, and every description of Gothic or Elizabethan Furniture.

Specimens may be seen and Drawings obtained at the Patent Wood Carving Offices, 444, West Strand, or at the Works, Ranelagh-road, Thames-bank.



IMPORTANT TO ARCHITECTS, BUILDERS, AND CABINET MAKERS.

LEA'S PATENT DOUBLE-ACTION BOLT, combining Cheapness, Facility of Action, and Security; adapted for the Strongest Folding-doors as well as the most Elegant Cheffonier.

Agent, E. PARKS, 140, Fleet-street.

Best Patent Cut Clasp.

6d.	7d.	8d.	1*s.*	1*s.* 6d.	2*s.* 3d.
3d.	4d.	6d.	8d.	10d.	20d.

Best Patent Sash Line.

4*s.* 3d.	5*s.*	6*s.* 6d.	7*s.* 6d.	10*s.*	12*s.*
1	2	3	4	5	6

Every description of Ironmongery equally low.

FILTERED WATER.—As the rainy season produces its dirty water, JOHN DAY, proprietor of Defouville's system of filtration, the only one known by which large quantities of liquids are easily filtered, begs to announce that he continues to supply these apparatus, which are easily applied to cisterns and water-butts, and when fixed require no care or attention from servants, and never get out of order. The prices are from Two to Four Guineas, producing from 100 to 300 gallons daily; for brewers, distillers, paper makers, hospitals, and large establishments, to an unlimited quantity, the prices varying accordingly.

40, Clove-lane Platform, Rotherhithe; Office, 33, Conduit-street, Bond-street.

CHEAP ROMAN CEMENT is sold in Casks that will not contain five bushels, even by some manufacturers of a very respectable name. Consumers should see that the standard size cask is 29 inches long by 17½ across the head, outside measure. Any workman with a rule in his pocket can ascertain this.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.

Manufactured by J. B. WHITE and SONS, of Millbank-street, Westminster; and sold at their warehouses:—Earl-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and undestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Seel-street, Liverpool.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the Coldest Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will receive a larger proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, especially intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

TO PLASTERERS.

LIME FOR PLASTERING, that may be used immediately without risk of blistering, manufactured expressly for Plastering, and sold at the usual price, at FORREST'S WHARF, Earl-street, Blackfriars. Sheds for the slacking and mixing of lime. Accommodation for loading and landing bricks, sand, ballast, &c.

RAWLINGS'S LIME WHARF.—TO BUILDERS, &c.

BANGOR WHARF, KING'S ROAD BRIDGE, CAMDEN NEW TOWN, Builders, &c. are respectfully informed, that they can have Blue Lias, Grey Stone, and Chalk Lime, Roman Cement, Thames Ballast, Sand, Tiles, Cement Pots, and all kinds of Welch goods, of the best quality at lowest terms, being the nearest Lime Wharf to the North of London.

FIRE BRICKS, Stourbridge, Welsh, and Newcastle; also Lumps, Tiles, and Clays, a large Stock of the best made Goods are selling at very reduced prices (a great reduction having taken place in freights) at WARD'S Honduras Wharf, Bankside. Windsor Nonsuch, and Town-made Oven Tiles, PP.N. and Circular Red Fire Bricks, Country Pan, Plain and Ridge Tiles, Paving Bricks, Corn Drying and Patent Malting Tiles.—Country Builders promptly supplied. Rough River Ballast for Concrete and Thames Sand, above and below bridge, by freights or loads. Prepared Sand for Plastering.

TO BUILDERS AND OTHERS.

MESSRS. H. G. and E. ROSHER, having closed their Lime Wharf at Montague Close, Southwark, have removed their business to Albion Wharf, Holland-street, Bankside, where they intend keeping a constant supply of Grey-stone, Flame-burnt, and Plasterers' Lime, Sand, Cement, Bricks, Tiles, Chimney Pots, Fire Bricks, Lumps, Fire Clay, and other building materials. Messrs. ROSHER have also Lime Wharfs at Limehouse, Millbank-street, Westminster, and Kingsland Basin, Kingsland-road. *** Ground Lime for Concrete.

PAVING, 2s. 9d. PER SQUARE YARD. Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen for covering bridges and arches.

COMMISSIONERS OF FINE ARTS' REPORT ON THE MEANS OF PREVENTING DAMP IN WALLS.

THE DIRECTORS of the SEYSSEL ASPHALTE COMPANY have much pleasure in recommending to the notice of Architects, Builders, and others, the application of the ASPHALTE of SEYSSEL as the only effectual means of preventing DAMP rising in WALLS.

J. FARRELL, Secretary.

Seyssel Asphalte Company's Works,
"Claridge's Patent."
Stangate Depôt, London.

The following account of its application is extracted from "The Appendix to the Commissioners of Fine Arts' Report," page 18:—

"In 1839 I superintended the construction of a house of three stories on the Lac d'Enghien. The foundation of the house is constantly in water, about 19½ inches below the level of the ground floor. The entire horizontal surface of the external and internal walls was covered, at the level of the internal ground-floor, with a layer of SEYSSEL ASPHALTE, less than half an inch thick, over which coarse sand was spread.

"Since the above date no trace of damp has shewn itself round the walls of the lower story, which are for the most part painted in oil of a grey stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so painted, yet the pavement of the floor, resting on the soil itself, is only about 2½ inches above the external surface of the soil, and only 19½ at the utmost, above that of the sheet of water.

"The layer of Asphalte having been broken and removed, or the purpose of inserting the sills of two doors, spots indicating the presence of damp have been since remarked at the base of the door-posts."

INJUNCTION.

BUNNETT and CORPE'S Patent REVOLVING IRON SHUTTERS.—Since the verdict found in favour of the Patentees, in the Court of Exchequer, in the action tried by order of the Court of Chancery, that Court has granted a perpetual Injunction for restraining all infringements of this Patent, and therefore all parties are hereby cautioned against infringing the same.

THE PRICES ARE GREATLY REDUCED, and BUNNETT AND CORPE'S PATENT IRON SHUTTERS ARE THE CHEAPEST AS WELL AS THE BEST. They are made with convex laths, if required. The worm and wheel motion for raising and lowering revolving iron shutters (as secured by this Patent) is the only safe and durable mode of effecting that object. In large shutters it is indispensable.

Some thousands of Bunnett and Corpe's Shutters have now been put up, without a single complaint of their want of strength or security; and nine years' practical experience (during which they have adopted every real improvement) enables the Patentees to challenge comparison with any others. They will guarantee all Shutters put up by them to keep in order, and last twice as long as any with thin convex laths.

B. and C. also manufacture REVOLVING WOOD SHUTTERS (the Patent for which has expired), at the same prices as other makers, but greatly superior, being fitted with their patent raising gear, and proper metallic hinges, without which no shutter can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop-fronts fitted with Iron Shutters, Patent Brass or Zinc Sashes, Plain or ornamental, handsomely Engraved, Moulded, Stall-board Plates, best Plate Glass, and Internal Brass Fittings of all kinds, superior in quality and workmanship, and lower in price than any other house.

Contracts taken in Town or Country.

Metal Drawing and Stamping for the Trade.

Office at No. 26, Lombard-street, London; Works, at Deptford, Kent.

Steam-engines, Sawing, Planing, and Moulding, Cutting-machines on Improved Plans, especially adapted for Builders' purposes, may be seen in operation at the Works.

JENNINGS'S SHUTTER FASTENER.

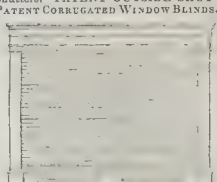
Shop Fronts are more damaged and disfigured by the Shutter Bar than from any other cause. Bars are a trouble to put up and take down, and troublesome when down. JENNINGS'S REGISTERED SHOP SHUTTER FASTENER supersedes the destructive Bar, and answers the purpose also of a shutter-shoe. The shoes and fasteners being made of brass, afford greater protection to the corner of the shutter, and leave no rusty deposit on the stall-board in damp weather. Hundreds of shops have been secured by the inventor, and testimonials of their ease and efficiency may be obtained from the occupiers. A front, containing eight shutters, secured for 24s., or a new front shod and secured for 40s. A liberal discount allowed to Builders, Ironmongers, and Painters, who introduce it to the notice of persons whose shops they decorate. To be had of the Inventor, 29, Great Charlotte-street, Blackfriars'-road; or of any respectable ironmonger.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS.

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee having fixed a great number of his shutters in London, and given universal satisfaction, can confidently recommend them both for security and durability, the edges being sheathed with Iron. Their construction is so simple that the largest establishment can be opened or closed with the greatest possible ease without the use of machinery. Their superiority over other revolving shutters consists in their great strength and stiffness, being without metal hinges, consequently cannot rust, buckle, be strained, or get out of order, and are safer. Persons dissatisfied with the patent rising gear now used for iron shutters can have it removed, and the shutters made to draw up in any part of the premises with the slightest exertion, without machinery, thereby avoiding the unpleasant use of oil.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.—Patent Panelled Iron Safety Shutters. PATENT OUTSIDE SHUTTER BLINDS.—PATENT CORRUGATED WINDOW BLINDS.



The attention of Architects, Builders, and Blind Makers is requested to the IMPORTANT PATENTED IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD & Co. 115, Old Street, London.

The great importance of strength and stiffness in the Laths of REVOLVING IRON SHUTTERS, when required for security, is so obvious, that it is only necessary to point out the fact, that the Patent Convex Laths are twelve times stronger than the ordinary flat Laths (as shewn by the engravings and description), to insure their general adoption.

The Patentees invite attention to their greatly improved Gearing for Raising and Lowering their patent Shutters, which, possessing all the advantages of the endless screw (worm and wheel), cannot, even by wear, be liable to run down, and entirely avoids the necessity of using the ratchet wheel; it is at once simple and THOROUGHLY EFFECTIVE, and is far MORE DURABLE than any plan yet adopted for that purpose, thus rendering their patent Revolving Shutters the SAFEST and MOST EFFICIENT in use. These Shutters are fixed horizontally (either above or below the window or door), or vertically, for which position the great additional strength of the Convex Laths renders them peculiarly suitable.

REVOLVING IRON SHUTTERS, MADE OF THE COMMON FLAT LATHS, at a considerable reduction of price.

CAUTION.—The Patentees beg to caution all persons against Making or Using HEWES'S CONVEX LATHS for REVOLVING IRON SAFETY SHUTTERS (whether winding horizontally or vertically), so as to obtain increased strength and stiffness, as they thereby render themselves liable to legal proceedings for infringing this patent.

Engravings and Prospectuses will be forwarded on application.

DRAWN METALLIC SASH BARS, ASTRIGALS, MOULDINGS, STALL BOARD PLATES, &c.

Patentees and Manufacturers, R. HOWARD and Co., London.

CAEN SUFFERANCE WHARF, ROTHERHITHE.

LUARD and BEEDHAM beg to inform architects, surveyors, builders, and others, that they have removed from Norway Wharf, Greenwich, the whole of their Caen stone business, to the above extensive premises, where a large stock will be kept up by continual fresh arrivals from their quarries at Allemange. Orders received at the wharf, and further particulars may be obtained of Mr. GEORGE GATES, 13, Southwark-square, Borough, London.—Orders shipped direct from Caen to any port.

The Waterman steam-boats call at Lavender-pier, adjoining Caen Wharf.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

SAMUEL CUNDY begs to inform Architects and others that GOTHIC WINDOWS, and every other branch of Stone-work, &c., is executed at the cheapest possible rate, and packed for the country ready for fixing or fixed, enabling ARCHITECTS to have the most difficult TRACERY for CHURCHES, or other buildings in the PROVINCES, executed under their immediate inspection in TOWN.

BUILDERS and MASONS can have every description of Stone in the London Market, either in the rough block, or cut to sizes from the saw, or prepared ready for fixing or fixed, avoiding either waste in the goods or carriage.

Box Chimney-pieces from 12s. upwards.

THE WORCESTER ENCAUSTIC TILES, in all their beautiful variety, may be inspected, in addition to the usual extensive stock of Chimney-pieces and FONTS.

Estimates given for building generally.

TO ARCHITECTS, BUILDERS, &c.

GAS LAMPS, GAS BRACKETS, GAS PILLARS, BURNERS, &c. &c. In calling the attention of architects, builders, &c., to their assortment of Gas Furniture in general, C. DEBAUFER and SON respectfully announce they continue to fit up premises of every description on the most approved and newest system of gas fitting. An experience of forty years justifies us in making the above assertion.—P.S. Country orders attended to with dispatch.—10 and 11, Creed-lane, St. Paul's.

The Builder,

A JOURNAL FOR

The Architect, Engineer, Operative & Artist.

VOL. IV.—No. 152. | JANUARY 3, 1846. | Price ..... 3d. Stamped .. 4d

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ADVERTISEMENTS.

TO ARCHITECTS.

AN Experienced and Respectable Man wishes to be employed in an Architect's office. Terms moderate. Satisfactory references with testimonials can be given.—Letters left for N. N. N., at the office of "The Builder, 2, York-street, Covent-garden, will be attended to.

TO POLISHERS OF SCAGLIOLA.

WANTED, an Experienced Man for five or six months, or more. Testimonials as to character and ability required. — Apply by letter only, stating terms, to JAS. PULHAM, artificial stone and scagliola works, Hoddesdon.

TO BUILDERS AND OTHERS.

WANTED, by the Advertiser, who is of steady habits, a permanent SITUATION as FOREMAN of Plumbers, Painters, Glaziers, and Paper-hangers. Has a thorough knowledge of the above branches; can measure and make out estimates, if required. Apply by letter, pre-paid, B, N., Mr. Bates, No. 18, Tottenham-court, New-road.

FIFTY GUINEAS PREMIUM.

To Auctioneers, Land and House Agents, Surveyors, Solicitors, and others.

WANTED to PURCHASE a PLOT of FREEHOLD GROUND, from 200 to 300 feet square, with or without buildings thereon. It must be situated within the city of London, or in some one or more of the following parishes or places, viz., Saint Sepulchre, Saint Andrew, Holborn, and Saint George the Martyr; Saffron-hill, Hatton-garden, Ely-rents or place, Saint Clement Danes, Saint Mary-le-Strand, Saint Anne, Soho; Saint Paul, Covent-garden; the Liberty of the Rolls, the Precinct of the Savoy, Saint Giles in the Fields and Saint George, Bloomsbury; Saint James, Clerkenwell; Saint Luke, Middlesex; Saint Mary, Islington; or Saint Pancras.—Particulars and terms in writing, under seal, and endorsed "Particulars of Ground," to be sent to SAMUEL HEATH, Esq., Solicitor, 1, Church-court, Clements-lane, City, on or before Saturday the 17th January, 1846.—N.B. Upon the completion of the purchase, the sum of Fifty Guineas will be paid as remuneration to the party who shall give such information as shall lead to the said purchase.

TO BUILDERS AND OTHERS.

TO BE DISPOSED OF on advantageous terms the old-established BUSINESS of a BUILDER situate in a good market town in the county of Suffolk, a capital of about 1,500l. would be requisite to carry on the concern. For particulars apply to Mr. P. J. COLLIER, 3, Moorgate-street.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge. — Wyatt, Parker, and Co., Agents. The above tiles have lately been considerably reduced in price. An assortment of plain and ornamental door furniture, slabs and tiles for fire-places, &c.

CONTRACTS.

NEW CHURCH AT PENSNETT, NEAR DUDLEY.

BUILDERS desirous of CONTRACTING for its erection are informed that the plans, specifications, and general conditions may be seen at the Rev. F. FOWKE'S, Pensnett, between the hours of Nine, A.M. and Three, P.M., any day after the 21st instant.—Further particulars may be obtained by application (if by letter, post-paid) to J. M. DERICK, Esq., architect, Oxford.

Tenders must be sealed and endorsed as follows: — "Tenders for Works for the new Church, at Pensnett, Dudley," and to be delivered on or before the 20th of January, 1846, at the hour of noon, at the office of the architect, Oxford. The foundations of the church are already laid. No sketches of the drawings will, on any account, be allowed to be taken.

ONGAR UNION.

THE Board of Guardians of this Union is desirous of receiving TENDERS for the performance of certain alterations and additions at the Workhouse at Stanford Rivers, according to the plans and specifications thereof, which may be inspected at the workhouse any day after Tuesday, 6th inst. (Sundays excepted) until Monday, the 26th inst.

Sealed tenders are required to be forwarded to me free of expense previous to the 26th inst. which will be taken into consideration at the weekly meeting of the Board on the 27th inst.

The contractor will be required at his expense to execute a bond with two sufficient sureties, to be approved by the Board of Guardians, for the due performance of the works agreeable to the said plans and specification in such sum and within the time to be specified by the Board at the said intended meeting. By order of the Board,

Chipping Ongar, Essex, January 1st, 1846. W. BAKER, Clerk.

FIFTY GUINEAS PREMIUM.—TO ENGINEERS AND OTHERS.

FIFTY GUINEAS premium is offered for the best plan or model, not patented, for making "Cork's Economic Firing" in various sized blocks, to be awarded by the majority of three scientific engineers on the 17th of January next. That plan or model will be considered the best that shall combine the most economic and rapid mode of manufacturing the blocks in connection with the smallest cost of the machinery itself, when considered with the cost of working by the most economic and efficacious steam power. Twenty guineas will be given for the second best plan. As machinery will be required for England and foreign countries, each plan or model must be accompanied by a specification stating the cost of erecting and completing the machinery at each factory, so as to make 50 tons of "maintaining" firing and 50,000 igniting blocks per day.

The size of the blocks, with models of the present system of forming them, may be seen, and all particulars obtained, at 3, Trafalgar-square, where each plan or model, with the specification, must be left before 12 o'clock on the above day.

Half of the premiums will be paid on the day of the award, the other half on the completion of the first set of machinery, so soon as it is found to work well.

METROPOLITAN BUILDINGS ACT.—NOTICE TO CANDIDATES FOR DISTRICT SURVEYORSHIPS.

Office of Metropolitan Buildings, 3, Trafalgar Square.

NOTICE IS HEREBY GIVEN, that the examiners appointed by and in pursuance of the Metropolitan Buildings Act will hold their next examination of persons desirous to obtain a certificate of qualification for the Office of District Surveyor on Wednesday, the 30th day of January, instant.

Persons desirous to be examined must apply on or before the 27th inst. and their applications must be accompanied by a preliminary statement according to the course of examination prescribed in the rules for that purpose, copies of which, and any information on the subject, may be had at this Office, or at Mr. WEALE'S, Architectural Bookseller, 59, High Holborn.

Subsequent examinations will be held in the months of April, July, October, or at such other periods as shall be appointed, of which due notice will be given.

ARTHUR SYMONDS, Registrar of Metropolitan Buildings.

A WARM AIR APPARATUS, complete, by Howden, TO BE SOLD very cheap, may be seen as now fixed at 42, Old Change, Cheapside.

COWLEY STOCKS.

FOR SALE, at Suffolk Wharf, James street, Camden-town, a quantity of superior COWLEY STOCKS, at 38s. per thousand. Also, some white and brimstone coloured facing bricks, moulded and fancy bricks, coping tiles, &c. N.B. Moon's patent chimney bricks for circular flues.

CAST-IRON COLUMNS for SALE, viz. 28 plain and 34 fluted, about 9 ft. high by 6 in. diameter, with cross heads and plugs complete. Apply to Messrs. DRUCE and CO., Furniture Bazaar, King-street, Portman-square.

BRICK FIELD.

TO BE LET, situate about seven miles from London, a snug BRICK FIELD, capable of making about a million of bricks per annum. There are two close kilns on the premises, and the whole may be procured on most favourable terms. Apply to Mr. WILLIAM THOMAS WOODS, Bedford New-road, Clapham-rise, Surrey.

MINORIES.

TO BE SOLD, FOUR FREEHOLD HOUSES, Nos. 36, 37, 38, and 39, on the east side of the Minories. The houses are very roomy, three of them having extensive back premises, and are let (with the exception of No. 38, which is in hand), to respectable tenants, on leases or agreements, at very moderate rents. — For particulars apply at Messrs. WIGG and POWNALL'S offices, 7, Bedford-row.

SIXTY MARBLE CHIMNEY-PIECES, A SPRING-CART AND HORSE.

MR. BURN will SELL by AUCTION, on the premises, 22, Somer's-place, New-road, on Thursday next, at one, sixty-marble chimney-pieces, consisting chiefly of statuary and vein of moderate dimensions, suitable for second and third-rate houses; also an excellent spring-cart and horse. May be viewed, and catalogues had on the premises, and of the auctioneer, in Harrow-road.

TO BUILDERS, PAPER-HANGERS, HOUSE DECORATORS, AND OTHERS.

MR. BRAY, Jun., will SELL, at his rooms, 259, High Holborn, on Wednesday, the 7th day of January, 1846, at twelve for one o'clock precisely, the first portion of Mr. M. Cohen's extensive stock of Paper-hangings, removed from Henry-street, Commercial-road; comprising, upwards of 6,000 pieces, including elegant Flocks on crimson and oak ground, Mock Flocks in crimson and drab, Rich Satins, Blended Parlors, Crimson and other Library Patterns, Marble and Gothic Staircase Papers. And in the early part of February next, will be sold upon the premises, Nos. 4, 5, & 6, Henry-street, Commercial-road, the whole of the valuable Plant, Printing Blocks, and Implements in Trade, by order of the proprietor, relinquishing the whole-sale business. May be viewed one day prior, and catalogues had upon the premises, as above, and at Mr. Bray's Auction Offices, 259, High Holborn.

CAEN STONE.

LUARD and BEEDHAM have a quantity of the above stone, of the best quality, direct from their Quarries at Allemange, which may be inspected at the Norway Sufferance Wharf, Greenwich.—Further particulars at Mr. G. GATES', 18, SOUTHWARK-SQUARE, SOUTHWARK.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

SAMUEL CUNDY begs to inform Architects, &c., that every description of Stone, Marble, and Granite work is executed at the cheapest possible rate.

Estimates given for Mason's Work in all its branches.

Gothic Work, Tombs, Monuments, &c.

MARBLE WORK for Halls, Dairies, Tables, Columns, Vases, at most reasonable prices.

A large collection of Designs for Mural and other Monuments.

CHIMNEY PIECES from Twelve Shillings upwards.

Depôt for CAEN STONE, &c.

THE WESTMINSTER MARBLE COMPANY inform the Public that the great reduction they have made in the price of their VEIN MARBLE CHIMNEY-PIECES, they are supplying them at a lower price than the Slate Chimney-pieces made up to imitate marble. They also invite Architects and Builders to inspect their stock of elegant carved Chimney-pieces, executed in a style entirely unequalled in this country.

WESTMINSTER MARBLE WORKS, EARL-STREET, MILLBANK.

A Vacancy for a respectable person, who is well acquainted with the marble trade, to assist in the out-door department. Apply by letter only.

FIRE-PROOF SAFES.—125, ALDERSGATE-STREET, CITY.

THE CHEAPEST HOUSE in LONDON for WROUGHT-IRON FIRE-PROOF SAFES.—JOHN LEADBEATER, many years Manufacturer for Messrs. Chubb, of St. Paul's Churchyard, Bankers, Merchants, Railway Companies, and the Public generally, are respectfully informed that he has constantly on SALE, at his Manufactory, 125, Aldersgate-street, City, a large assortment of very superior WROUGHT-IRON FIRE-PROOF SAFES, chests, boxes, and doors for strong-rooms or closets; the whole fitted up with improved detector locks, throwing from two to twelve bolts, warranted of the best materials and workmanship, yielding a positive security to cash, books, deeds, plate, &c. against the destructive effects of fire, and the skill of the most experienced burglars, at considerably reduced prices. Made to order at the shortest notice, at his Manufactory, 125, Aldersgate-street, City.

PORTER'S CORRUGATED, and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanizing Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway, and other Iron and Smith's work Manufactured of the best quality. Iron Fence and Hurdles as usual.—The Trade Supplied.

MOREWOOD AND ROGERS' PATENT GALVANIZED TINNED IRON.

T. W. BEALE begs to acquaint the public that he is prepared to lay roofing, plain or corrugated, fix pipes, gutters, &c. Also chimney-tops and ventilating cowls of every description; also water and oil cisterns, of this incorrodible and fireproof metal. He manufactures all kinds of baths, as hip, shower, Roman, open, slipper, sponging, foot, children's, and self-heating baths; also toilet-cans and pails, slop-pails, coal-scuttles, cash and deed-boxes, and fire-proof safes of every description, 10 per cent. cheaper than any house in London.

The PATENT GALVANIZED TINNED IRON is applicable to the following uses:—The Lining of Ships' Store Rooms, Ships' Water Buckets, Water Jugs and Receivers, and for almost every purpose to which zinc, tin, copper, brass, or any other metal is now applied; is more durable, and manufactured at much less expense. An experienced workman sent to any part of the kingdom. All orders punctually attended to. For particulars, apply to T. W. BEALE, 46, Bridge House-place, Newington Causeway.



PATENT GALVANISED TINNED IRON.
(MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and water-closets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 90s. to any required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quick-set-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

By Her Majesty's Royal Letters Patent.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED METAL.—This article was at first sold under the name of Galvanised Tin Plates, but the Patentees finding that the public, in some instances, overlooking the word Tin, confounded the article with Galvanised Iron, and that the character of their metal has thereby sustained injury, are desirous of giving it a name so distinctive as to prevent such mistakes, and consequent disappointment to purchasers in future. They therefore respectfully request purchasers to inquire for MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON. In order to enable the public readily and at first sight to distinguish between the two metals, it may be well to inform them, that Galvanised Iron has a plain zinc-like appearance, while M. and R.'s Patent Galvanized Tinned Iron has a smooth crystalline surface.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON, Patronized by the Admiralty and the Honourable Board of Ordnance, being extensively used in her Majesty's Dock-yards, at the Tower, and elsewhere, for every variety of Roofing, and other purposes, where a strong, light, cheap, and durable material is required.

It has been found by experience that this article is beyond all comparison superior to zinc; possessing, as it does, all the advantages arising from the strength and firmness of iron, combined with perfect immunity from rust; whilst it is free from the very serious objection which applies to zinc, viz. its contraction and expansion, consequent upon every change of temperature, and from which circumstance leakage must of course result.

This material is not likely to be destroyed by fire, as is the case with zinc and lead, which melt and run down, thus freely admitting fresh air to the fire, and causing it to burn more fiercely. It is, therefore, obviously well adapted for all the purposes above-named, and most importantly so, when there is the possibility of fire. It is also peculiarly suitable for chimney-tops, gutters, spouting, and out-door work generally, possessing the strength of iron, without its liability to corrosion. It is by far the most economical metal roofing that can be obtained, in consequence of its strength, as it may be laid without boards, and upon the lightest rafters.

This mode of preserving metal from rust does not only apply to sheet-iron, but also to manufactured iron in any form, as nails, nuts, hinges, nails, &c. &c.

Sold by the Patentees, Messrs. MOREWOOD and ROGERS, Dudley, Worcestershire, and 4, Wharf-road, City-road, London, where every information may be had, and where specimens may be seen. Particulars apply to S. HOLLAND, 34, Grace-church-street.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery.

Best Patent Cut Clasp.

6d. 7½d. 8½d. 1s. 1s. 6d. 2s. 3d. per 1000.
3d. 4d. 6d. 8d. 10d. 20d.

Best Sheet Floor Brads 10s. 6d. per cwt.
Best Town Glue 44s. per cwt. Do. Scotch 54s. per cwt.

Best Patent Sash Line.

1 2 3 4 5 6
4s. 3d. 5s. 6s. 6d. 7s. 6d. 10s. 12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6d., 7d., 8d. per inch.
Self-acting Kitchen Ranges with Oven and Back Boiler.

Wrought Bars and Bright Fittings.

3 ft., 3l. 3s. 3 ft. 6 in., 3l. 12s. 6d. 4 ft., 4l.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 168, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

RAIN WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from ½ in. to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, and No. 6, Bankside, Southwark.

R. W. PIPES.

Messrs. NEILSON and MITCHELL beg to inform Builders that they have always on hand, at their premises, 18, Wharf-road, City-road, a large assortment of R. W. Pipes, Guttering, Sash-weights, &c., which they are disposing of at very low prices.

Castings of every description done to order.

BALLUSTERS.

GAS LAMPS, FITTINGS, &c.

A NEW ASSORTMENT of HYDRAULIC GAS PENDANTS, new pattern Opal Gas Brackets, &c.—C. DEBAUFER and SON have on view a new assortment of hydraulic Gas Sliding Pendants, opal and brass handsome Gas Brackets, Gas Pillars, newest patterns, and Chandeliers, at their Manufactory and Showroom, 10 and 11, Creed-lane, St. Paul's; adapted for public buildings, shops, and private houses.—N.B. Architects, Builders, &c., wishing to fit up at shops, houses, &c., are requested to take an early opportunity of inspecting their stock.—Estimates given from 5 lights to 1,000 at wholesale prices.

CHARLES SMITH and SON, 25 GREAT CHARLES STREET, BIRMINGHAM (late STANDLY and SMITH, formerly STANDLY and GALE, Bull Street), Locksmiths, Bell-hangers, Brass-founders, Whitesmiths, &c., beg most respectfully to solicit the attention of MAGISTRATES, ARCHITECTS, and ENGINEERS to their inventions for prisons, lunatic asylums, &c. C. S. and Son will be happy to attend any committee of magistrates without charge, and submit a VARIETY of patterns of peculiar locks, signals, inspection apparatus, chapel door-fastenings, iron frames, hinges, &c., as supplied by them at the MODEL PRISON, LONDON, and TWENTY-THREE SIMILAR GAOLS, where they have given entire satisfaction. Among other testimonials, can be shewn that of Major Jebb, attesting the efficiency of the labels, &c., invented by them. The contracts will be executed to the approval of the inspector-general of prisons, and the architects, C. Smith and Son, also are prepared to contract for the supply of the whole of the ironmongery requisites for the residences of the nobility and gentry, churches, banks, barracks, gaols, asylums, and workhouses, including locks, bells, hinges, grates, kitchen-ranges, staircases, gates, park fencing, fire-proof safes, bookcases, doors, metal sashes of all kinds, and every description of ornamental brass and iron work, light castings, &c.

C. S. and Son beg to refer to the extensive works performed by them at Windsor Castle, Northumberland and Sion House, Blenheim Palace, Chatsworth, &c. as a guarantee for the superiority and durability of their work, in confirmation of which numerous letters from noblemen can be shewn.

NOTT'S PATENT STOVES still maintain their decided superiority over every other. They give out twice the heat with half the fuel, and will burn ten hours without replenishing. Twelve years' experience in churches, chapels, private dwellings, warehouses, and public offices, fully confirms this statement. They cannot possibly explode, or give out offensive gases, as many others do. They are adapted not only for warming the apartment in which they stand, but for the circulation of hot water to conservatories, or any distant parts of the building. Orders addressed to Nott's Stove Company, 80, Great Queen-street, Lincoln's-inn-fields, will be attended to. A liberal allowance to ironmongers, builders, &c.

ELEGANT DRAWING-ROOM STOVES, FENDERS AND FIRE-IRONS.

JEREMIAH EVANS and CO. respectfully solicit the attention of the Nobility and Gentry to their novel and splendid STOCK of STOVES, FENDERS, and FIRE-IRONS, manufactured of every variety of pattern, including the Gothic, French, Elisabethan, &c.—Manufactory and show rooms, 33, King William-street, London-bridge. Established 1815.

MR. ALLEN, Patentee and Manufacturer of the SELF-ACTING WORM STOVE, begs to inform scientific persons and the public generally, that having received the most gratifying encomiums on his invention, has now a variety ready for inspection, and he feels confident from their efficiency of action for all requisite purposes where heat and ventilation becomes a desideratum, they will recommend themselves to public patronage. It may be proper to observe, that the principles of the Worm Stove facilitates the method of heating by steam or hot water.—21 and 22, Worship-street, Finsbury.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft. 3 ft. 3 in. 3 ft. 6 in. 3 ft. 9 in. 4 ft.
3l. 5s. 3l. 13s. 3l. 16s. 4l. 4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft. 3 ft. 3 in. 3 ft. 6 in. 3 ft. 9 in. 4 ft.
5l. 5l. 15s. 6l. 5s. 6l. 10s. 7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 3½d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

HEATING by WARM WATER.—An improved method of HEATING by the CIRCULATION of HOT WATER may be seen in operation daily at J. L. BENHAM and SONS, Stove Grate Manufactory, 19, Wigmore-street, Cavendish-square. Estimates given for warming churches and other public or private buildings in town or country. A great variety of warm-air stoves of every description, from fifteen shillings to twenty pounds.—19, Wigmore-street, Cavendish-square.

HOT WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories, and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises. BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

PERKINS'S HOT-WATER APPARATUS, FOR WARMING AND VENTILATING BUILDINGS, &c.

EXTENSION of PATENT.—On the 10th March, 1845, her Majesty's Privy Council having previously heard evidence as to the merits of A. M. Perkins's Patent Hot-water Apparatus, Lord Brougham gave judgment, of which the following is an extract:—"Their lordships are of opinion that they ought to advise her Majesty to extend this patent, which is an ingenious and useful invention, for the period of five years."

The patentee having acquired great experience during fourteen years' close application to the erection of this apparatus in every variety of form, and having effected many improvements, he can with renewed confidence offer it to the attention of the public as a most efficient mode of warming and ventilating buildings. Numerous references can be given of its successful application to churches, mansions, Conservatories, warehouses, offices, drying rooms, &c., &c. Plans and estimates will be furnished on application at the manufactory, No. 6, Francis-street, Regent-square, Gray's-inn-road, London.

TO ARCHITECTS AND BUILDERS.

DOOR SPRINGS AND HINGES.—GERISH'S PATENT DOOR SPRINGS, for CLOSING every description of DOOR, consists of Single and DOUBLE-ACTION BUTT HINGES in Brass and Iron for Doors to open one or both ways, and Rising Hinges for the convenience of Doors opening on uneven Floors. Likewise Swing Centres, which consist of a combination of power unequalled by any made at present. Manufactured by F. W. Gerish, East-road, City-road; and sold by all respectable Ironmongers in the United Kingdom.

TO ARCHITECTS AND BUILDERS.

COLLINGE'S PATENT HINGES.—Sole Manufactory, 64, BRIDGE-ROAD, LAMBETH, where a great variety are always on view, for Church, Park, Coach-house, and all other Doors and Gates, of large or small dimensions, a gate of a ton in weight moving with these hinges as easily as a wicket; they are also admirably adapted for drawing-rooms, being highly ornamental, and folding-doors fitted with them may be removed and replaced in an instant. Rising and spring Hinges, also double-action Butts on the most improved principle, and very superior Fastenings for exterior Gates, at moderate prices. To be seen at Charles Collinge and Co's Patent Axletree, Sugar-mill and Spherical-hinge Manufactory, 64, Bridge-road, Lambeth.

BUILDERS' AND CARPENTERS' IRONMONGERY WAREHOUSE.

THE Proprietor of this Establishment has, by his connections with the most extensive Manufactories, selected the largest and best-suited Stock of Builders' Ironmongery yet offered to notice. It includes every article in Ironmongery suited to Building purposes, such as Locks, Nails, Screws, and every requisite for internal fittings, finishing, and decuration; also Rain Water Pipe, Sash Weights, and all kinds of Castings, and combines (being entirely new) all modern improvements in principle and design. The Prices throughout, even in the most minute article, have been the object of the strictest economical consideration, the profit of the undertaking being anticipated only by a large return. From this Stock every article may be selected, exactly adapted for its intended use, of any required quality or quantity, at a moment's notice, and Catalogues of Prices had, per post (on prepaid application, enclosing posting-stamp), at 16, BLANDFORD STREET, MANCHESTER SQUARE, LONDON, leading from BAKER STREET, PORTMAN SQUARE.

JOHN YOUNG, Jun., Proprietor.

LITHOGRAPHIC ESTABLISHMENT, 6, LEICESTER-SQUARE.

MESSRS. MACLURE, MACDONALD, and MACGREGOR, of 18, Fenwick-street, Liverpool, and 57, Buchanan-street, Glasgow, beg to intimate that they have recently established themselves here as Engineering and General Lithographers. London, Dec. 16th, 1845.

WINDOW BLINDS,
ORNAMENTAL WIRE-WORK, FLOWER-POT STANDS, &c.

To Architects, Builders, Contractors, Upholders, and others.

M. H. BUSBY, NEW VENETIAN HOUSE,
7 and 8, Anderson's Buildings, City Road, London,

Manufacturer of every Description of Window Blinds on the most approved principles, namely, the Spanish, Oriental, Florentine, Louvre, and Venetian Sun Shades, for the exterior; and Venetian Dwarf, Metallic Gauze, Perforated Zinc Blinds, Transparent, Landscape, and Holland Blinds on Springs, Patent and Common Rollers for the Interior; Blinds for Shop Fronts, Plain and Ornamental, on the most Improved plans. Old Blinds Altered, Renovated, and Refixed. A variety of Flower-pot Stands always Ready. Rustic, Portable, and other Garden Seats and Stools; Wire-work for every purpose useful and ornamental.

VENETIAN BLINDS FOR EXPORTATION.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

REDUCTION IN THE PRICE OF
BUNNETT AND CORPE'S
PATENT REVOLVING IRON SHUTTERS.

THE validity of this Patent being completely established, the Patentees have much pleasure in stating that the very extensive demand, and the employment of improved machinery in the manufacture, have given them an opportunity (of which they gratefully avail themselves) of making a considerable reduction in the price of this well-knownand tried invention, thereby rendering them the cheapest as well as the best iron shutters in use. Every improvement suggested by practical skill and most extensive application has been adopted, and no effective REVOLVING IRON SHUTTER can be constructed without infringing B. and C.'s patent. The worm and wheel, as patented by them, being the only safe, durable, and efficient mode of raising and lowering such shutters, these shutters can be applied horizontally, either above or below the window, or vertically, as introduced by BUNNETT and CORPE, in some of the largest establishments: they are made with bent or corrugated laths, if required.

BUNNETT and CORPE also manufacture
REVOLVING WOOD SHUTTERS,

with their patent raising machinery, or with counterbalance weights, and with proper metallic hinges, without which no shutters can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop Fronts fitted in a superior manner with Iron Shutters, Patent Brass or Zinc Sashes, Moulded Engraved Stall Board Plates, best Plate Glass, and internal Brass Fittings of all kinds, on the most advantageous terms. Estimates given and contracts taken in Town or Country.—All kinds of metal works executed to any design. Metal Drawing, Rolling, and Stamping for the Trade. OFFICE, 26, LOMBARD-STREET, LONDON. WORKS, at DEPTFORD, KENT.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.

PATENT SAFETY IRON SLIDING SHUTTERS,





The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 118, Old Street, London; or at the Licensees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only neces ary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using RENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licenses Granted

CHEAP AND DURABLE ROOFING.

By Her Majesty's Royal Letters Patent.

F. McNEILL and Co. of Lamb's Buildings, Bunhill Row, London, Manufacturers and ONLY Patentees of

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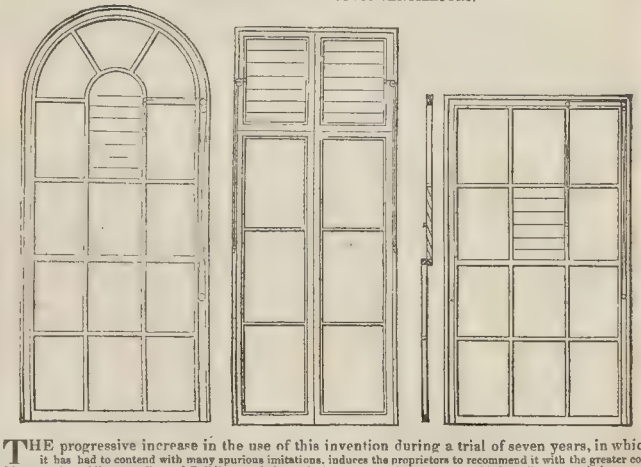
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January, 1846.

DECORATIVE ART SOCIETY, No. 11, Davies-street, Berkeley-square. General Meeting on Wednesday, 14th inst. Conversazione.—Theme.—"Under what Circumstances in Modern Decoration should the Gothic or the Italian style be preferred?"
Visitors are admitted by free tickets, obtainable from the Secretary. E. C. LAUGHER, Hon. Sec., 17, Sussex-place, Kensington.

TO BUILDERS.

PERSONS desirous of CONTRACTING for the erection of the proposed NEW CHURCH at PEMBURY, KENT, are hereby informed that the Plans, Specifications, &c., may be seen at the Camden Arms Inn, Pembury, between the hours of 10 a. m. and 6 p. m., on and after Monday, the 19th inst.
The general conditions, and further particulars, may be obtained after the above date, by application to Mr. E. N. STEVENS, Architect, New Corn Exchange, Tunbridge Wells. Letters to be post paid.
Tenders to be delivered to the Architect, at the Camden Arms, at 12 o'clock on Saturday, the 24th inst., sealed and endorsed "Tender for New Church at Pembury." Draft bills of the quantities will be prepared. No tracings of the Drawings will be allowed. Pembury is about five miles from Tunbridge, and three miles from Tunbridge Wells. No pledge is given to accept the lowest Tender.
January 9, 1846.

FIFTY GUINEAS PREMIUM.

To Auctioneers, Land and House Agents, Surveyors, Solicitors, and others.

WANTED to PURCHASE a PLOT of FREEHOLD GROUND, from 200 to 300 feet square, with or without buildings thereon. It must be situated within the city of London, or in some one or more of the following parishes or places, viz., Saint Sepulchre, Saint Andrew, Holborn, and Saint George the Martyr; Saffron-hill, Hatton-garden, Ely-rents or place, Saint Clement Danes, Saint Mary-le-Strand, Saint Anne, Soho; Saint Paul, Covent-garden; the Liberty of the Rolls, the Precinct of the Savoy, Saint Giles in the Fields and Saint George, Bloomsbury; Saint James, Clerkenwell; Saint Luke, Middlesex; Saint Mary, Islington; or Saint Pancras.—Particulars and terms in writing, under seal, and endorsed "Particulars of Ground," to be sent to SAMUEL HEATH, Esq., Solicitor, 1, Church-court, Clements-lane, City, on or before Saturday the 17th January, 1846.—N.B. Upon the completion of the purchase, the sum of Fifty Guineas will be paid as remuneration to the party who shall give such information as shall lead to the said purchase.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—Wyatt, Parker, and Co., Agents. The above tiles have lately been considerably reduced in price.
N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

ORNAMENTAL TILES FOR COVERING BUILDINGS.

ROBERT BROWNE'S newly-invented CURVED ITALIAN TILES, for which invention the Society of Arts and Sciences awarded a medal. The Gothic Grooved Ridge Tile, with vertical ornaments, invented by R. B. in 1840; also a variety of plain Gothic Ridge Tiles adapted for tile or slate coverings; ornamental Plain Tiles of various patterns.
Tiles form in winter a warmer and in summer a cooler covering than slates or metal, and may be burnt of any desired colour. Address ROBERT BROWN, Tile Works, Surbiton Hill, near Kingston, Surrey.

HIP TILES to suit slate roofs in colour; Ridges, with plain or rebated joints, roll tops, and vertical ornaments; drains, many sizes, with plain or socket joints; paving in squares, hexagons, octagons, &c., different colours; roofing, in Grecian or Italian styles, other devices also, or plain; conduits, which do not injure pure water; fire-bricks and tiles; clinkers, and out-door paving; sundry wall-coping, garden-borders, chimney-tops; also tubular and other flues of peculiar material. No agent, but a depôt at 22, WHITEFRIARS-STREET, FLEET-STREET, LONDON, under Mr. PEAKE'S personal care, to supply genuine TERRO-METALLIC goods at fair prices as per quality; also, additional Stock at No. 4 Wharf, Macclesfield-street, South, City Basin.
The TILERIES, TUNSTALL, STAFFORDSHIRE, are near the centre of England, whence boats are sent direct to any inland place; or to the Mersey for the coasts, the colonies, and elsewhere.

TO BUILDERS, PLUMBERS, ENGINEERS, AND IRONMONGERS.

BEST PAN WATER-CLOSETS, with round Valve, complete, 30s. each.
Plumbers' Bib, Ball, and Stop Cocks, ½ in., 20s.; ¾ in., 28s.; 1 in., 50s. per doz.
Lifting Force Pumps on Planks, 2½ in., 4*l.*; 3 in., 4*l.* 15s.
Washing Coppers, 1s. 1d. per pound.
Water Balls, 15s. per doz.
Gun Metal Steam Cocks, Safety Valves, &c., and every description of Brass and Copper Work equally low, and warranted best town make, at A. McGLASHAN and Co. Brass-founders and Coppersmiths, 16, Long-acre.
Discount on Quantity.

KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Parentees and manufacturers, J. B. WHITE & SONS, Millbank-street, Westminster,

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.

2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.

3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, bliater, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with the Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

Mann and Co. beg to call the attention of the Trade to the following spontaneous letter, just received:—

"Newcastle, Staffordshire, 17 Dec., 1845.

"Messrs. Mann and Co.

GENTLEMEN,—I am returning to you three empty casks (two cement and one paint). When you receive them, please to forward me a statement of my account, and I will remit you the amount. I have every reason to believe the cement will answer. The front of my building has now been finished some months, and stands in an elevated situation, very much exposed to the weather. I have not painted the exterior walls with the stucco paint, but have used it in the lobbies, and it seems to answer well. I finished all my principal rooms with the cement, laid on thin as a lath coat, and although the house was only commenced last April (the exterior walls only being built), it is now papered and painted, and I am residing in it, feeling confident that from finishing the inner walls with the cement the paper will keep dry, and not injure, as other walls do. The front looks well and has been much admired, and I think many will adopt it, all other cements used about here having failed in one way or other.

I am, your obedient servant,

JOHN LAMB, Mayor of Newcastle-under-Lyne.

P.S. You are at liberty to make what use you like of this information, if it will be of any service to the patentees.

TO ENGINEERS, ARCHITECTS, AND CONTRACTORS.

GREAVES'S LIAS CEMENT and GROUND BLUE LIAS LIME, at 2, South Wharf, Paddington, London, and Works, Southam, Warwickshire.

Agent for Liverpool, Mr. WYLIE, 56, Gloster-street; ditto for Manchester, Mr. J. THOMPSON, Hack King-street; ditto for Chester, Mr. J. HARRISON, Linen Hall-street.

ATKINSON'S CEMENT.—The public is respectfully informed, that the price of this very excellent Cement, which has now been in use for Architectural and Engineering works upwards of thirty years, is reduced to 2s. 3d. per bushel, and may be had in any quantity at Wyatt, Parker, and Co.'s Wharf, Holland-street, Surrey side of Blackfriars-bridge.

N.B.—This Cement being of a light colour, requires no artificial colouring or painting, and may be used for stucco with three parts its own quantity of sand.

PORTLAND CEMENT, which does not vegetate, and requires no colouring, is perfectly hydraulic, and resists the action of Frost. The cost of the material and of working it is about the same as Atkinson's Cement, Manufactured by J. B. WHITE and SONS, Millbank-street, Westminster, and sold at their Warehouses:—

Druce's Wharf, Chelsea,
Bell's Wharf, Paddington,
Earl-street, Blackfriars,
Albion Wharf, Deptford-bridge,
by Salmon and Co., Dublin,
and at 36, Seel-street, Liverpool.

WALKER'S WHITE and CLOUDED LIAS LIME STONE, adapted for chimney-pieces, hall and kitchen floors, hearth-stones, steps, and staircase work, and every other purpose to which Portland stone is applicable. It has the advantage of being less porous, more durable, more easily worked, and of a more delicate and beautiful colour, than the lias lime stones at present in use, and consequently far superior also to Portland stone and others of a similar nature; in confirmation of which, references of great respectability can be given. It has also the advantage of being procurable in blocks or slabs of larger dimensions than those usually brought to this market, and "at exceedingly low prices."

Specimens to be seen and further information obtained at the "METALLIC SAND CEMENT WHARF" (opposite Pratt-street) Kings-road, Camden New Town, London.

BRITISH and FOREIGN SHEET GLASS, for Horticultural purposes, Sky-lights, &c. may be had at JAMES BROMLEY'S 315, Oxford-street, London, at the reduced prices, also Microscopial Glass, French Shades, Plate and Crown Window Glass. J. B. will be happy to furnish Lists of Prices, or any other particulars that may be required.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

SASHES, SHOP FRONTS, &c.

JOHNSON and PASK thank the public in general for the very liberal support they have received since they commenced manufacturing for the trade, and beg to state that they continue to manufacture sashes, glazed complete, at 11½d. per foot, shop-fronts with the best British plate-glass. All kinds of joiners' work cheaper than any other house in the trade.

1, Amwell-street, Clerkenwell.

UNION PLATE-GLASS COMPANY,
26, Soho-square, London.

ALFRED GOSLETT, Agent for the Union Plate-Glass Company, begs to inform Architects, Builders, and the Trade generally, that the extension of the Works at Pocket Nook, St. Helen's, Lancashire, being now nearly complete, he is in a position to deliver any quantity of silvering or glazing glass, within one week from date of order. A. Goslett begs to assure the Trade that the present manufacture of the Company cannot be equalled for either quality or brilliancy of colour.

BUILDERS, PAINTERS, GLAZIERS, and others supplied with every article used in the trade upon the best wholesale terms.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5 Princes-street, Leicester-square, London, for complete lists, priced, of dry and good Colours, Brushes, Pumps, Closets, Plumber's Brass Work, and all materials.

COLOURED and ORNAMENTAL GLASS of every description at the very lowest prices.

BRITISH and FOREIGN SHEET for Horticultural and all other purposes, as low as any house in the kingdom.

LAMP SHADES AND GAS GLASSES.

Gas Contractors, Fitters, Glass Merchants, and others supplied with any description. Lists of nearly 100 patterns, with prices affixed, sent to any part of the kingdom gratis.

CLOCK MAKERS, ALABASTER FIGURE MAKERS, ARCHITECTS, MODELLERS, and others, supplied with FRENCH ORNAMENT SHADES,

for covering Models of Public Buildings, Geological Curiosities, &c., &c., of all sizes and shapes. List of Prices may be had on application. Bee Glasses, Striking Glasses for Nurserymen, Fish Globes and Confectioners' Glasses, &c., of every size and description.

TO ARCHITECTS AND BUILDERS.

COLLINGE'S PATENT HINGES.—Sole Manufactory, 64, BRIDGE-ROAD, LAMBETH, where a great variety are always on view, for Church, Park, Coach-house, and all other Doors and Gates, of large or small dimensions, a gate of a ton in weight moving with these hinges as easily as a wicket; they are also admirably adapted for drawing-rooms, being highly ornamental, and folding-doors fitted with them may be removed and replaced in an instant. Rising and spring Hinges, also double-action Butts on the most improved principle, and very superior Fastenings for exterior Gates, at moderate prices. To be seen at Charles Collinge and Co's Patent Axletree, Sugar-mill and Spherical-hinge Manufactory, 64, Bridge-road, Lambeth.

FOREIGN WINDOW GLASS.

THOS. MILLINGTON begs to inform his friends, that he continues to receive weekly large consignments of FOREIGN GLASS, which he is determined to offer upon the very lowest terms. Address, 87, Bishopsgate-street Without.

PLUMBERS' BRASS WORK, WATER-CLOSET PUMPS, &c.—These articles require the greatest attention and care in the manufacture, and will be found superior and cheaper than at any other manufactory. Best Pan Water Closets, 32s.; 2¼ Lift Pumps and Planks, 4l. 10s. 0d.; 3-inch Pumps, 5l. 10s. 0d.; ¾-inch Bib Ball and Stop Cocks, 2s. 4d. each, and every article in this branch equally low. Every article warranted.—Address, THOS. MILLINGTON, 87, Bishopsgate-street.

VARNISH.

THOS. MILLINGTON begs to inform the Trade, Builders, Painters, and others, that this article can be had at his Manufactory, of the best quality and at the very lowest price. Mr. M. has long been a manufacturer, and has devoted much time and attention to it, using only the best of gums, and sparing no expense in the manufacture. Fine Pale Oak or Wainscoat Varnish, per imperial gallon, 10s.; Fine Carriage Varnish, 12s.; Copal, 18s.; Body Copal, 24s.; Gold Size, 10s; White Hard, 18s.; Brown Hard, 18s.; French Polish, 18s. per gallon. Paint, Dryers, Colours, ready and ground, and every article in the trade. If quality is taken into consideration, this will be found the cheapest house in London. Address, 87, Bishopsgate-street Without.

COPAL VARNISHES AND FINE COLOURS.—Messrs. WRIGHT and IBBOTSON beg to announce that they have on hand a large and varied stock of choice and superior manufactured VARNISHES, in excellent condition, either for home consumption or exportation, suitable for all climates, which they can recommend with the greatest confidence. Messrs. WRIGHT and IBBOTSON having been many years engaged in the manufacture of Varnishes, and being also practical chemists, possess the ability as well as the means of supplying merchants, shippers, artists, builders, and others on very advantageous terms, and to any extent

Superfine Colours of every kind, and of first-rate quality.

A liberal discount for cash payments.

Manufactory on the banks of the Thames, Hammersmith, Counting-house, 16 A, Argyll-street, London.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; a boy can use it as well and effectually as the best workmen: it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 20s. per gallon.

LITHOGRAPHIC ESTABLISHMENT, 6, LEICESTER-SQUARE.

MESSRS. MACLURE, MACDONALD, and MACGREGOR, of 18, Fenwick-street, Liverpool, and 57, Buchanan-street, Glasgow, beg to intimate that they have recently established themselves here as Engineering and General Lithographers. London, Dec. 16th, 1845.

TO CIVIL ENGINEERS, SURVEYORS, &c.

HENRY POPE, Wholesale Stationer, having had for some time a large stock of Drawing Paper on hand, which, from its age, is so superior for mounting, feels much confidence in recommending his Mounted Papers, lengths of which upon linen and cotton are kept always ready. Maker of the Patent Metallic Levelling and Surveying Field Books, Tracing Papers, and all kinds of Stationery. The Ordnance Maps supplied. 22, Budge-row, Watling-street.

STEPHENS'S LIQUID OAK, MAHOGANY, ROSE, and SATIN WOOD STAINS, for Staining various sorts of Inferior Woods, so as to give them the appearance of the more costly and ornamental kinds; also for reviving the natural colour of Wood Carvings and Panellings, and other ornamental Wood Work, when such has become faded from age or other causes.

IN THE BUILDING AND DECORATING NEW CHURCHES, where it is desirable to give to the cheaper kind of Woods the appearance of Antique Oak, or to make Deal assume the character of Oak Panelling, whereby the effect of the more costly may be produced by the use of a cheaper material, these Stains will be found more effective than any other method employed.

IN OLD MANSIONS AND HALLS, where the Wood Carvings and Panellings have faded, the application of these Stains will be found to revive and bring back the rich natural colour, and which colour may be varied from the lighter to the deeper shades of the most Antique Oak.

The BIRCH WOOD, which has a fine natural grain, with little colour, is particularly suited to the application of these Stains; and the appearance which it assumes after Staining is so near that of the natural wood, that is is only when the grain and colour of the latter is particularly fine that it is preferred. Beech, Birch, Elm, Ash, and other Woods, English and Foreign, receive the Stains and produce various imitations.

For the exposed Timbers of the inside of the ROOFS of CHURCHES, for which north country Timbers and Deals are generally used, by brushing them over with the Stain, which operation is very rapidly, and of course economically, effected, the appearance of an Oaken Roof will be produced. For colouring the backs of the Seats, Pews, the fronts of Galleries, the Pulpit, &c., it is equally advantageous.

Prepared by HENRY STEPHENS, and may be obtained at 64, Stamford-street; of Mrs. ROWLAND, Painter and Glazier, 3, Broad-street, Golden-square; and at the Office of "THE BUILDER," 2, York-street, Covent-garden, at which places specimens of their application may be seen.

THE BUILDER.

ELEGANT DRAWING-ROOM STOVES, FENDERS AND FIRE-IRONS.

JEREMIAH EVANS and CO. respectfully solicit the attention of the Nobility and Gentry to their novel and splendid STOCK of STOVES, FENDERS, and FIRE-IRONS, manufactured of every variety of pattern, including the Gothic, French, Elizabethan, &c.—Manufactory and show rooms, 33, King William-street, London-bridge. Established 1815.

NOTT'S PATENT STOVES still maintain their decided superiority over every other. They give out twice the heat with half the fuel, and will burn ten hours without replenishing. Twelve years' experience in churches, chapels, private dwellings, warehouses, and public offices, fully confirms this statement. They cannot possibly explode, or give out offensive gases, as many others do. They are adapted not only for warming the apartment in which they stand, but for the circulation of hot water to conservatories, or any distant parts of the building. Orders addressed to Nott's Stove Company, 80, Great Queen-street, Lincoln's-inn-fields, will be attended to. A liberal allowance to ironmongers, builders, &c.

MR. ALLEN, Patentee and Manufacturer of the SELF-ACTING WORM STOVE, begs to inform scientific persons and the public generally, that having received the most gratifying encomiums on his invention, has now a variety ready for inspection, and he feels confident from their efficiency of action for all requisite purposes where heat and ventilation becomes a desideratum, they will recommend themselves to public patronage. It may be proper to observe, that the principles of the Worm Stove facilitates the method of heating by steam or hot water.—21 and 22, Worship-street, Finsbury.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

2 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3l. 6s.	3l. 13s.	3l. 15s.	4l.	4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

2 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5l.	5l. 15s.	6l. 5s.	6l. 10s.	7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 3½d., and 4d. do.
Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

HEATING by WARM WATER.—An improved method of HEATING by the CIRCULATION of HOT WATER may be seen in operation daily at J. L. BENHAM and SONS, Stove Grate Manufactory, 19, Wigmore-street, Cavendish-square. Estimates given for warming churches and other public or private buildings in town or country. A great variety of warm-air stoves of every description, from fifteen shillings to twenty pounds.—19, Wigmore-street, Cavendish-square.

PERKINS'S HOT-WATER APPARATUS, FOR WARMING AND VENTILATING BUILDINGS, &c.

EXTENSION of PATENT.—On the 10th March, 1845, her Majesty's Privy Council having previously heard evidence as to the merits of A. M. Perkins's Patent Hot-water Apparatus, Lord Brougham gave judgment, of which the following is an extract:—"Their lordships are of opinion that they ought to advise her Majesty to extend this patent, which is an ingenious and useful invention, for the period of five years."

The patentee having acquired great experience during fourteen years' close application to the erection of this apparatus in every variety of form, and having effected many improvements, he can with renewed confidence offer it to the attention of the public as a most efficient mode of warming and ventilating buildings. Numerous references can be given of its successful application to churches, mansions, Conservatories, warehouses, offices, drying rooms, &c., &c. Plans and estimates will be furnished on application at the manufactory, No. 6, Francis-street, Regent-square, Gray's-inn-road, London.

POLONCEAU'S BITUMEN PAVEMENT for paving Foot walks, Terraces, Garden walks, Stables, Coach Houses, Granaries, Corn Stores, and Salt Warehouses. For the exclusion of Damp and Vermin in Basements it is particularly adapted, and for Roofing Dwelling Houses, Porticos, Balconies, and Sheds.

Price 3s. 6d. per square yard.

BITUMEN for covering the Arches of Bridges, Culverts, &c. &c. on Railways and other places (with instructions for laying it down), may be had at the rate of 45s. per ton, by applying to JOHN PILKINGTON, 15, Wharf-road, City-road.

TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorized CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used gas-tar and other worthless and offensive compositions have been introduced.

I. FARRELL, Secretary.
Stangate, near Westminster Bridge, Jan., 1845. Seyssel Asphalte Company.

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 19, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

MOREWOOD AND ROGERS' PATENT GALVANIZED TINNED IRON.

T. W. BEALE begs to acquaint the public that he is prepared to lay roofing, plain or corrugated, fix pipes, gutters, &c. Also chimney-tops and ventilating cowls of every description; also water and oil cisterns, of this incorrodible and fireproof metal. He manufactures all kinds of baths, as hip, shower, Roman, open, slipper, sponging, foot, children's, and self-heating baths; also toilet-cans and pails, slop-pails, coal-scuttles, cash and deed-boxes, and fire-proof safes of every description, 10 per cent. cheaper than any house in London.

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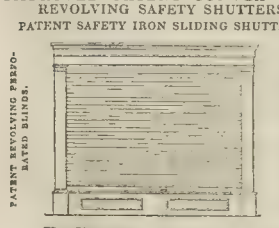
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"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Teplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the texture of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotised principles it contains, by entering into chemical combination with them.

(Signed) "THOMAS GRAHAM."

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"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound. (Signed) "WILLIAM THOMAS BRANDE,
"JOHN THOMAS COOPER."

"To Sir William Burnett, K.C.H., F.R.S., &c. &c."

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Begs to inform the Trade that he has removed to 8, LAWRENCE POUNTNEY-HILL and THREE CRANES WHARF, 69, Upper Thames-street. Orders addressed to either place for ROMAN CEMENT of genuine quality will be executed with promptitude and the strictest regard to quality and economy.

BARGAIN.—Builders and others having occasion for a quantity of OLD BRICKS and some STONE, &c., say from 200 to 300 one-horse loads, would find this lot well worth attention: for cash only.—Apply personally, or by letter, post-paid, to A. B., 2, George's-row, John's-row, St. Luke's, near Pickford's-wharf.

TO BUILDERS, CARPENTERS, AND OTHERS.

CARCASSES TO BE SOLD OR LET, for finishing at a low ground-rent. They are substantially built, the situation excellent, and the term 80 years.—For particulars apply to Messrs. ROBERTS and ROBY, 24, Moorgate-street, Bank.

BUILDING LAND.

TO BE LET, some eligible Plots, within 6d. omnibus ride of town, having a frontage to the high road, screened by beautiful timber trees. Advances may be had if required. Plans and Particulars may be seen, upon application to Mr. EALES, Architect, No. 4, Chapel-place, Cavendish-square.

TO BUILDERS.

SEVERAL Excellent Lots of BUILDING GROUND in the neighbourhood of London, TO BE LET on Building Leases on most advantageous terms.—For further particulars apply to Mr. FRANCIS E. H. FOWLER, Architect, 28, Sackville-street, Piccadilly. Money advanced as the work proceeds.

COWLEY STOCKS.

FOR SALE, at Suffolk Wharf, James-street, Camden-town, a quantity of superior COWLEY STOCKS, at 38s. per thousand. Also, some white and brimstone coloured facing bricks, moulded and fancy bricks, coping tiles, &c. N.B. Moon's patent chimney bricks for circular flues.

BRICK FIELD.

TO BE LET, situate about seven miles from London, a snug BRICK FIELD, capable of making about a million of bricks per annum. There are two close kilns on the premises, and the whole may be procured on most favourable terms. Apply to Mr. WILLIAM THOMAS WOODS, Bedford New-road, Clapham-rise, Surrey.

Further Letting of Building Ground, belonging to the Clothworkers' Company.

TO BE LET, by PUBLIC TENDER, for 80 years (land-tax redeemed), about 3¼ Acres of Land, well adapted in all respects for building purposes, situate on the east side of the New North-road, Islington, near the bridge over the Regent's Canal. For particulars and plans, inquire between the hours of ten and four, at Clothworkers' Hall, Mincing-lane; or at Mr. ANGELL'S, the surveyor to the estate, 19, Gower-street, Bedford-square.

ROBERT BECKWITH TOWSE, Clerk.

January, 1846.

TO BUILDERS.

TO be LET, on a BUILDING LEASE, in a highly respectable and very improving neighbourhood, a parcel of Ground of nearly two acres, containing good Brick earth, with a frontage of five hundred feet, and possessing advantages not always to be met with. For particulars apply to Mr. BOND, House and Estate Agent, Dorcas-terrace, Hammersmith-gate.

TO BUILDERS.

TO BE SOLD.—A well-constructed Pulpit and Reading Desk (with staircase and branch candlesticks for the same), and a Communion Table, with coverings of rich crimson silk velvet, having three gold embroidered glories, and trimmed with deep gold fringe and lace; also three cushions with handsome gold tassels (very little worn, but partly damaged by fire). Price for the whole, 60*l.* (original cost of the hangings alone 120*l.*).—Apply to Mr. FORSTER, carpenter, Winchmore Hill, Edmonton.

MARBLE CHIMNEY-PIECES.

MR. H. BIERS will SELL by AUCTION, on Thursday, January 22nd, 1846, at 12, at Webster's Repository, Market-street, Edgware-road, 50 very elegant drawing, dining, and bedroom, marble chimney-pieces, in statuary, Sienna, black and gold, vein, black, &c. The designs are excellent, and the workmanship superior to any in the market.—May be viewed on Wednesday, and morning of sale, when catalogues may be had on the premises, or of Mr. H. BIERS, 12, Dorset-place, and Poland House, Broad-street, Golden-square.

NOTICE is HEREBY GIVEN, that a GENERAL ANNUAL MEETING of Members of the Institution of BUILDERS' FOREMEN will take place at the Salisbury Arms Tavern, Durham-street, Strand, on Wednesday evening next, January 21, to receive the report of the Audit Committee, and other business of importance.

W. ALLARD, Secretary.

PUBLICATIONS.

In 12mo. price 4s. 6d., bound.

PROCEEDINGS under the METROPOLITAN BUILDINGS ACT: containing a collection of Awards made by the Official Referees; the Modifications sanctioned by the Commissioners of Works, &c.; and some account of the Office established under that Act. Digested and arranged by EDWARD LAWES, Esq., of the Middle Temple, barrister-at-law.

JOHN WEALE, 59, High Holborn, 1845.

Just published, in one vol., price 12s.

THE LAWS relating to BUILDINGS; comprising the New Building Act—Fixtures—Insurance—Dilapidations—and Actions on Builders' Bills; by THOMAS CHAMBERS, barrister-at-law, and GEORGE TATTERSALL, surveyor, with a copious Glossary of Technical Terms, peculiar to building. Illustrated with numerous Engravings.

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CROSBY'S BUILDERS' PRICE BOOK for 1846. Containing a correct account of all the present prices allowed by the most eminent Surveyors; the alterations and additions in this new edition will be found to be most important, including the New Building Act, a new Plate, shewing the sections of Walls for Dwelling-houses, Warehouses, &c. also a complete list of surveyors.

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MEETING OF PARLIAMENT.

FOR the convenience of Persons who have not time to wade through the whole of the PARLIAMENTARY DEBATES, THE ENGLISH GENTLEMAN will present each week a faithful Summary of the Week's Proceedings, illustrated with extracts from the best portions of the best Speeches. A carefully condensed Account will also be given of the Proceedings of Committees on Railway and Private Bills.

Office, 4, Brydges-street, Covent Garden.

THE WESTMINSTER REVIEW, No. 87, just published, may be obtained of GEORGE LUXFORD, 1, Whitefriars-street, Fleet-street, London.

Contents: 1. Life of the Rev. Joseph Blanco White. 2. The Papal States. 3. Scandinavia. 4. German Theology—The Priest Rouge. 5. Imprisonment for Debt. 6. Exploring Expedition of the United States. 7. Railway Investment. 8. Critical and Miscellaneous Notices.

GEORGE LUXFORD having succeeded Mr. CLARKE as publisher of the "Westminster Review," Communications for the Editor, and Bills and Advertisements for future numbers, should be forwarded to the above address.—December 31, 1845.

PREPARED FLOORING BOARDS.

AT REDUCED PRICES.

ALWAYS ON SALE, a LARGE ASSORTMENT of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¼ inch to 1¼ inch thick. Rough Boarding for Flats.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Smith-street, Westminster.

PREPARED FLOORING BOARDS.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, and Old-Barge-Wharf, Upper Ground-street, Blackfriars, a very large stock of well-seasoned Floor Boards of every variety.

A. R., in calling the attention of builders and consumers, confidently presumes on his being able to supply them on such advantageous terms, as will ensure and merit their favours and approbation.

MUIR'S PATENT PLANING MACHINERY.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

THE GENERAL WOOD CUTTING COMPANY, TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.—SAWING in all its branches executed with the greatest precision and despatch. PLANING by the most approved Machinery, reducing the Boards to a parallel width and thickness, and grooving or matching with undeviating accuracy. The operation economises time, money, and material.

SIR WILLIAM BURNETT'S PATENT for the Preservation of Timber, Canvas, Cordage, Cotton, Woollen, &c., from Decay.

TESTIMONIALS.

From THOMAS GRAHAM, Esq., M.A.,F.R.S., L. and E., Professor of Chemistry, University College, London.

"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.

"The wood appears to be fully and deeply penetrated by the metallic salt; I have found it in the centre of a large prepared paving block.

"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the crystallizable salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.

"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Teplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotised principles it contains, by entering into chemical combination with them.

(Signed) "THOMAS GRAHAM."

"University College, 25th October, 1845.

From Professors BRANDE and COOPER.

"London, 4th November, 1845.

"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.

"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.

"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.

"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.—(Signed) "WILLIAM THOMAS BRANDE,
"JOHN THOMAS COOPER."

"To Sir William Burnett, K.C.H., F.R.S., &c. &c."

Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 53, King William-street, London-bridge.

PAYNE'S PATENT PROCESS FOR THE PRESERVATION AND IMPROVEMENT OF TIMBER, &c.

PAYNE and LODER beg to invite the attention of Engineers, Railway Companies, Architects, and others to the above process, and to state that they are prepared to erect the necessary apparatus in any part of the United Kingdom where the quantity is sufficiently large to cover the outlay of its removal.

Further particulars can be obtained at Whitehall-Wharf Cannon-row, Westminster, or at their other stations, Fleetwood-on-Wyre, Lancashire; Wisbeach, Cambridgeshire; Union-Wharf, Southampton; and Guildford, Surrey.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above.

N.B.—A weighbridge on the premises.

WESTBOURNE SAW MILLS.
50½, WESTBOURNE STREET, EATON SQUARE, PIMLICO.

J. NEWSON, having now completed his improved STEAM MACHINERY, begs to inform the Public that he is enabled to execute Sawing in all its branches with the greatest dispatch, and at such charges as he trusts will ensure to him a share of their patronage.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—Wyatt, Parker, and Co., Agents. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

HIP TILES to suit slate roofs in colour; Ridges, with plain or rebated joints, roll tops, and vertical ornaments; drains, many sizes, with plain or socket joints; paving in squares, hexagons, octagons, &c., different colours; roofing, in Grecian or Italian styles, other devices also, or plain; conduits, which do not injure pure water; fire-bricks and tiles; clinkers, and out-door paving; sundry wall-coping, garden-borders, chimney-tops; also tubular and other flues of peculiar material. No agent, but a depôt at 92, WHITEFRIARS-STREET, FLEET-STREET, LONDON, under Mr. PEAKE'S personal care, to supply genuine TERRO-METALLIC goods at fair prices as per quality; also, additional Stock at No. 4 Wharf, Macclesfield-street, South, City Basin.

The TILERIES, TUNSTALL, STAFFORDSHIRE, are near the centre of England, whence boats are sent direct to any inland place; or to the Mersey for the coasts, the colonies, and elsewhere.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 169, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

GAS LAMPS, FITTINGS, &c.

A NEW ASSORTMENT of HYDRAULIC GAS PENDANTS, new pattern Opal Gas Brackets, &c.—C. DEBAUFER and SON have on view a new assortment of hydraulic Gas Sliding Pendants, opal and brass handsome Gas Brackets, Gas Pillars, newest patterns, and Chandeliers, at their Manufactory and Showroom, 19 and 11, Creed-lane, St. Paul's; adapted for public buildings, shops, and private houses.—N.B. Architects, Builders, &c., wishing to fit up at shops, houses, &c., are requested to take an early opportunity of inspecting their stock.—Estimates given from 5 lights to 1,000 at wholesale prices.

BED FEATHERS.

MIXED, 1s. per lb.
Grey Goose, 1s. 4d. per lb.
Foreign, ditto, ditto, 1s. 8d. per lb.

Best Foreign Grey Goose, 2s. per lb.
Best Irish White, ditto, 2s. 6d. per lb.
Best Dantzic, ditto, ditto, 3s. per lb.

Warranted sweet and free from dust.

A List of every description of Bedding, containing weights, sizes, and prices, sent free by post, on application to HEAL and SON, Feather-dressers and Bedding manufacturers, 196, opposite the Chapel, Tottenham Court-road.

BUILDERS' AND CARPENTERS' IRONMONGERY WAREHOUSE.

THE Proprietor of this Establishment has, by his connections with the most extensive Manufactories, selected the largest and best-suited Stock of Builders' Ironmongery yet offered to notice. It includes every article in Ironmongery suited to Building purposes, such as Locks, Nails, Screws, and every requisite for internal fittings, finishing, and decoration; also Rain Water Pipe, Sash Weights, and all kinds of Castings, and combines (being entirely new) all modern improvements in principle and design. The Prices throughout, even in the most minute article, have been the object of the strictest economical consideration, the profit of the undertaking being anticipated only by a large return. From this Stock every article may be selected, exactly adapted for its intended use, of any required quality or quantity, at a moment's notice, and Catalogues of Prices had, per post (on prepaid application, enclosing posting-stamp), at 18, BLANDFORD STREET, MANCHESTER SQUARE, LONDON, leading from BAKER STREET, PORTMAN SQUARE. JOHN YOUNG, Jun., Proprietor.

CHEAP AND DURABLE ROOFING.

By Her Majesty's Royal Letters Patent.

F. McNEILL and Co. of Lamb's Buildings, Bunhill Row, London, Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Beg to call the attention of the Trade to their ROOFING FELT, which has been exhibited at the great Agricultural Shows of England, Scotland, and Ireland, and OBTAINED THE PRIZE, for being the best and cheapest article for Roofing. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only One Penny per Square Foot. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION.

THE ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW, LONDON. A Specimen Roof to be seen at the Factory. A liberal Discount allowed to the Trade.

THE PANKLIBANON IRON WORKS,
WHOLESALE AND RETAIL, 58, BAKER STREET, PORTMAN SQUARE.



ARCHITECTS, BUILDERS, and Others, about to supply STOVES and KITCHEN APPENDAGES, will find at this Establishment the most unique and elegant assortment of STOVE-GRATES, FENDERS, and FIRE-IRONS ever offered to the Public, at prices considerably below the usual charges. The Proprietors at the same time beg to invite attention to their extensive Stock of FURNISHING IRONMONGERY, Tinned Copper, Tin and Iron Cooking Vessels, Block Tin Dish-Covers, Japanned Ware, Table Cutlery, and especially their Sheffield Plate and German Silver Wares, embracing every Article suitable for the Table, comprising Dish and Plate Covers, Liquor Frames, Epergnes, &c. &c. The plan adopted by the Proprietors of affixing the price to each article for cash, enables all purchasers to have the same advantage. The Patent Thermio Stove is in daily operation. THORPE, FALLOWS & COMPANY, 58, Baker-street, Portman-square, London.

TO ENGINEERS, ARCHITECTS, AND CONTRACTORS.

GREAVES'S LIAS CEMENT and GROUND BLUE LIAS LIME, at 2, South Wharf, Paddington, London, and Works, Southam, Warwickshire.

Agent for Liverpool, Mr. WYLIE, 55, Gloster-street; ditto for Manchester, Mr. J. THOMPSON, Back King-street; ditto for Chester, Mr. J. HARRISON, Linen Hall-street.

ATKINSON'S CEMENT.—The public is respectfully informed, that the price of this very excellent Cement, which has now been in use for Architectural and Engineering works upwards of thirty years, is reduced to 2s. 3d. per bushel, and may be had in any quantity at Wyatt, Parker, and Co.'s Wharf, Holland-street, Surrey side of Blackfriars-bridge.

N.B.—This Cement being of a light colour, requires no artificial colouring or painting, and may be used for stucco with three parts its own quantity of sand.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, produceable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

Mann and Co. beg to call the attention of the Trade to the following spontaneous letter, just received:—

"Newcastle, Staffordshire, 17 Dec., 1845.

"Messrs. Mann and Co.

GENTLEMEN,—I am returning to you three empty casks (two cement and one paint). When you receive them, please to forward me a statement of my account, and I will remit you the amount. I have every reason to believe the cement will answer. The front of my building has now been finished some months, and stands in an elevated situation, very much exposed to the weather. I have not painted the exterior walls with the stucco paint, but have used it in the lobbies, and it seems to answer well. I finished all my principal rooms with the cement, laid on thin as a lath coat, and although the house was only commenced last April (the exterior walls only being built), it is now papered and painted, and I am residing in it, feeling confident that from finishing the inner walls with the cement the paper will keep dry, and not injure, as other walls do. The front looks well and has been much admired, and I think many will adopt it, all other cements used about here having failed in one way or other.

I am, your obedient servant,

JOHN LAMB, Mayor of Newcastle-under-Lyne.

P.S. You are at liberty to make what use you like of this information, if it will be of any service to the patentees.

PORTLAND CEMENT, which does not vegetate, and requires no colouring, is perfectly hydraulic, and resists the action of Frost. The cost of the material and of working it is about the same as Atkinson's Cement, Manufactured by J. B. WHITE and SONS, Millbank-street, Westminster, and sold at their Warehouses:—

Druce's Wharf, Chelsea,
Bell's Wharf, Paddington,
Earl-street, Blackfriars,
Albion Wharf, Deptford-bridge,
by Salmon and Co., Dublin,
and at 36, Seel-street, Liverpool.

WALKER'S WHITE and CLOUDED LIAS LIME STONE, adapted for chimney-pieces, hall and kitchen floors, hearth-stones, steps, and staircase work, and every other purpose to which Portland stone is applicable. It has the advantage of being less porous, more durable, more easily worked, and of a more delicate and beautiful colour, than the lias lime stones at present in use, and consequently far superior also to Portland stone and others of a similar nature; in confirmation of which, references of great respectability can be given. It has also the advantage of being procurable in blocks or slabs of larger dimensions than those usually brought to this market, and "at exceedingly low prices."

Specimens to be seen and further information obtained at the "METALLIC SAND CEMENT WHARF" (opposite Pratt-street) Kings-road, Camden New Town, London.

KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Milbank-street, Westminster,

HEATING by WARM WATER.—An improved method of HEATING by the CIRCULATION of HOT WATER may be seen in operation daily at J. L. BENHAM and SONS, Stove Grate Manufactory, 19, Wigmore-street, Cavendish-square. Estimates given for warming churches and other public or private buildings in town or country. A great variety of warm-air stoves of every description, from fifteen shillings to twenty pounds.—19, Wigmore-street, Cavendish-square.

HOT WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories, and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises. BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

ELEGANT DRAWING-ROOM STOVES, FENDERS AND FIRE-IRONS.

JEREMIAH EVANS and CO. respectfully solicit the attention of the Nobility and Gentry to their novel and splendid STOCK of STOVES, FENDERS, and FIRE-IRONS, manufactured of every variety of pattern, including the Gothic, French, Elizabethan, &c.—Manufactory and show rooms, 33, King William-street, London-bridge. Established 1815.

NOTT'S PATENT STOVES still maintain their decided superiority over every other. They give out twice the heat with half the fuel, and will burn ten hours without replenishing. Twelve years' experience in churches, chapels, private dwellings, warehouses, and public offices, fully confirms this statement. They cannot possibly explode, or give out offensive gases, as many others do. They are adapted not only for warming the apartment in which they stand, but for the circulation of hot water to conservatories, or any distant parts of the building. Orders addressed to Nott's Stove Company, 80, Great Queen-street, Lincoln's-inn-fields, will be attended to. A liberal allowance to ironmongers, builders, &c.

MR. ALLEN, Patentee and Manufacturer of the SELF-ACTING WORM STOVE, begs to inform scientific persons and the public generally, that having received the most gratifying encomiums on his invention, has now a variety ready for inspection, and he feels confident from their efficiency of action for all requisite purposes where heat and ventilation becomes a desideratum, they will recommend themselves to public patronage. It may be proper to observe, that the principles of the Worm Stove facilitates the method of heating by steam or hot water.—21 and 22, Worship-street, Finsbury.

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Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
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Best Register Stoves, at 7d., 8d., and 9d. per inch.

Do. Elliptic do., at 3d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

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RAIN WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from 1¼ in. to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above castings at JONES'S Iron Bridge Wharf, and No. 6, Bankside, Southwark.

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Messrs. NEILSON and MITCHELL beg to inform Builders that they have always on hand, at their premises, 15, Wharf-road, City-road, a large assortment of R. W. Pipes, Guttering, Sash-weights, &c., which they are disposing of at very low prices.

Castings of every description done to order.

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WILSON'S PATENT VENTILATING SPIRAL CHIMNEY POT, for the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success. This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance. The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory, Southwark-bridge Iron Roofing Works.

DAY'S PATENT WINDGUARD, for ventilating churches, hospitals, factories, theatres, breweries, malt-houses, club-houses, shops, bed-rooms, smoking-rooms, school-rooms, nurseries, stables, larders, kitchens, offices, ships, mines, vaults, tunnels, &c. Also for preventing down draft; and is guaranteed to cure all smoky chimneys caused by wind; and entirely supersedes the use of revolving cowls, or any thing moveable or unsightly on the tops of chimneys or ventilators.

The object of this invention is to create a draft where otherwise it would not exist, by the spontaneous action of the external air. The Windguard forms a pleasing octagonal pillar, and by its peculiar construction to carry out the principle on which it is based, which consists of the wind giving a disposition for a vacuum within, thereby causing a continual upward current about equal to the velocity of the wind at the time acting upon it, which averages about six feet per second thirty-one out of thirty-one; therefore, will nearly at all times ensure a continual change of air, being no impediment to spontaneous ventilation, even on a perfectly calm day. One five feet square will ventilate a building containing upwards of 1,000 persons. The Windguard applied to ships and steam vessels, in the form of a sky-light, prevents rain or the sea entering within, however boisterous the weather may be, thereby affording excellent ventilation as well as light. The Windguard is simply applied for effectually ventilating bed-rooms, nurseries, smoking-rooms, offices, &c., causing the air of the apartment to be at all times as pleasant as can be desired. It is fixed at the top of the chimney, in addition to which a cast-iron frame and valve (about one foot area), made to open and shut at pleasure, is let into the flue, near the ceiling of the room, to allow the constant ascending vitiated air being immediately carried off. The opening is guarded by a neat venetian blind or grating; and so powerful is the effect on a windy day that if a handkerchief be thrown up to the grating, it will remain there—i. e. if the valve be open. In winter the valve would be only partially open, to allow the smoke to ascend, but if the room be found too cold can be entirely closed. The Windguard applied to the tops of chimneys prevents all annoyance from smoke (caused by wind); indeed, where it does not, nothing else applied at top will (of the same size); care, therefore should be taken to have the proper size applied. It is simple in its application, reasonable in price, ornamental in appearance; no machinery or anything moveable in it, therefore, cannot get out of order; free from noise or any unpleasantness whatever; not liable to choke up with soot; no obstacle to the machines used for sweeping chimneys. May be had of all respectable ironmongers in town and country; and may be seen daily in operation, where its powers and usefulness are exhibited by the severest tests, at THE PATENT VENTILATING WORKS, COMMERCIAL-ROAD, PIMLICO, LONDON; where also may be seen Mr. G. T. DAY'S plans (illustrating the different applications of his Patent Archimedean Ventilator and his Portable Water Apparatus) for effectually Ventilating, Warming, and Cooling the Air of Buildings, Ships, Mines, &c. &c. By the use of these inventions many thousand cubic feet, or any quantity of pure warm or cold air, can be guaranteed to be continually exchanged per minute, day and night, winter and summer; thereby insuring, at all times, free ventilation to the rooms and passages of buildings, &c. from the basement to the roof, at the same time in such a manner as shall not be inconveniently perceptible. The size of the apparatus depends on the nature and use of the building and its occupants. The Patentee has been honoured by his inventions being applied at the following places:—

Windsor Castle, Buckingham Palace, St. James's Palace, Claremont Palace, Walmer Castle, the Houses of Parliament, New Conservative Club, White's Club, Travellers' Club, Oxford and Cambridge, Parthenon, Wyndham, Army and Navy, Senior United Service, Junior United Service, Admiralty, British Museum, Somerset House, Custom House, Mint, Hon. Artillery Company, H. M. Salamander, Trinity House, Ordnance, Greenwich Hospital, Christ's Hospital, Westminster Hospital, Bethlehem Hospital, Surrey Lunatic Asylum, New Royal Exchange, Mansion House, Goldsmiths' Hall, Fishmongers' Hall, Haberdashers' Hall, Dyers' Hall, Grocers' Hall, Armourers' Hall, Weigh House Meeting-house, Hanover-square Rooms, Theatre of the Westminster Literary and Scientific Institution, Grand Cigar Divan, Strand, City Club, and many other Public Buildings in Town and Country, as well as to the Mansions of many Noblemen and Gentlemen. Licenses granted for Manufacturing the above. Drawings and Plans made for Ventilating and Warming Buildings of every description.

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HENRY POPE, Wholesale Stationer, having had for some time a large stock of Drawing Paper on hand, which, from its age, is so superior for mounting, feels much confidence in recommending his Mounted Papers, lengths of which upon linen and cotton are kept always ready. Maker of the Patent Metallic Levelling and Surveying Field Books, Tracing Papers, and all kinds of Stationery. The Ordnance Maps supplied. 22, Budge-row, Watling-street.

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GREAT Reduction in the Prices of Zinc and Galvanized Iron at J. DORE'S Manufactory, 17, Exmouth-street, Clerkenwell.

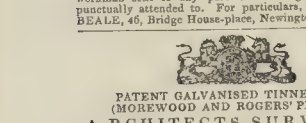
Chimney Flues, round bottom ..... 1s. per foot.
Square, ditto, ditto..... 1s. 3d. ,,
Malt-house Cowls, 4s. each.
Rain-water Pipes and Gutters, 2 in., 4d. per foot; 2½ in., 4½d.; 3 in., 5d.
Flats and Cisterns, 4½ per foot, super.
Day's Patent Wind-guard, and Kite's Patent Ventilator.

PORTER'S CORRUGATED, and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanizing Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway, and other Iron and Smith's work Manufactured of the best quality. Iron Fence and Hurdles as usual.—The Trade Supplied.

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T. W. BEALE begs to acquaint the public that he is prepared to lay roofing, plain or corrugated, fix pipes, gutters, &c. Also chimney-tops and ventilating cowls of every description; also water and oil cisterns, of this incorrodible and fireproof metal. He manufactures all kinds of baths, as hip, shower, Roman, open, slipper, sponging, foot, children's, and self-heating baths; also toilet-cans and pails, slop-pails, coal-scuttles, cash and deed-boxes, and fire-proof safes of every description, 10 per cent. cheaper than any house in London.

The PATENT GALVANIZED TINNED IRON is applicable to the following uses:—The Lining of Ships' Store Rooms, Ships' Water Buckets, Water Jugs and Receivers, and for almost every purpose to which zinc, tin, copper, brass, or any other metal is now applied; is more durable, and manufactured at much less expense. An experienced workman sent to any part of the kingdom. All orders punctually attended to. For particulars, apply to T. W. BEALE, 46, Bridge House-place, Newington Causeway.



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(MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and waterclosets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 9oz. to any required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quick-set-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

By Her Majesty's  Royal Letters Patent.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED METAL.—This article was at first sold under the name of Galvanised Tin Plates, but the Patentees finding that the public, in some instances, overlooking the word Tin, confounded the article with Galvanized Iron, and that the character of their metal has thereby sustained injury, are desirous of giving it a name so distinctive as to prevent such mistakes, and consequent disappointment to purchasers in future. They therefore respectfully request purchasers to inquire for MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON. In order to enable the public readily and at first sight to distinguish between the two metals, it may be well to inform them, that Galvanised Iron has a plain zinc-like appearance, while M. and R.'s Patent Galvanized Tinned Iron has a smooth crystalline surface.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON, Patronized by the Admiralty and the Honourable Board of Ordnance, being extensively used in her Majesty's Dock-yards, at the Tower, and elsewhere, for every variety of Roofing, and other purposes, where a strong, light, cheap, and durable material is required.

It has been found by experience that this article is beyond all comparison superior to zinc; possessing, as it does, all the advantages arising from the strength and firmness of iron, combined with perfect immunity from rust; whilst it is free from the very serious objection which applies to zinc, viz. its contraction and expansion, consequent upon every change of temperature, and from which circumstance leakage must of course result.

This material is not likely to be destroyed by fire, as is the case with zinc and lead, which melt and run down, thus freely admitting fresh air to the fire, and causing it to burn more fiercely. It is, therefore, obviously well adapted for all the purposes above-named, and most importantly so, when there is the possibility of fire. It is also peculiarly suitable for chimney-tops, gutters, spouting, and out-door work generally, possessing the strength of iron, without its liability to corrosion. It is by far the most economical metal roofing that can be obtained, in consequence of its strength, as it may be laid without boards, and upon the lightest rafters.

This mode of preserving metal from rust does not only apply to sheet-iron, but also to manufactured iron in any form, as bolts, nuts, hinges, nails, &c. &c.

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Elliptic Stoves, 3d. per inch. Registers, 6d., 7d., 8d. per inch. Self-acting Kitchen Ranges with Oven and Back Boiler.

Wrought Bars and Bright Fittings.

3 ft., 3d. 3s. 3 ft. 6 in., 3d. 12s. 6d. 4 ft., 4d.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

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REDUCTION IN THE PRICE OF BUNNETT AND CORPE'S PATENT REVOLVING IRON SHUTTERS.

THE validity of this Patent being completely established, the Patentees have much pleasure in stating that the very extensive demand, and the employment of improved machinery in the manufacture, have given them an opportunity (of which they gratefully avail themselves) of making a considerable reduction in the price of this well-knownand tried invention, thereby rendering them the cheapest as well as the best iron shutters in use. Every improvement suggested by practical skill and most extensive application has been adopted, and no effective REVOLVING IRON SHUTTER can be constructed without infringing B. and C.'s patent. The worm and wheel, as patented by them, being the only safe, durable, and efficient mode of raising and lowering such shutters, these shutters can be applied horizontally, either above or below the window, or vertically, as introduced by BUNNETT and CORPE, in some of the largest establishments: they are made with bent or corrugated laths, if required.

BUNNETT and CORPE also manufacture

REVOLVING WOOD SHUTTERS,

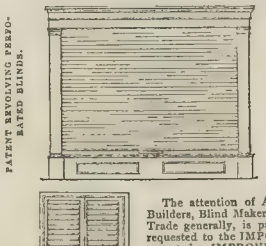
with their patent raising machinery, or with counterbalance weights, and with proper metallic hinges, without which no shutters can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop Fronts fitted in a superior manner with Iron Shutters, Patent Brass or Zinc Sashes, Moulded Engraved Stall Board Plates, best Plate Glass, and internal Brass Fittings of all kinds, on the most advantageous terms. Estimates given and contracts taken in Town or Country.—All kinds of metal works executed to any design. Metal Drawing, Rolling, and Stamping for the Trade. OFFICE, 26, LOMBARD-STREET, LONDON. WORKS, at DEPTFORD, KENT.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.

PATENT SAFETY IRON SLIDING SHUTTERS.





The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 115, Old Street, London; or at the Licencees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

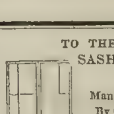
The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

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CAUTION.—The Patentees beg to caution all persons against Making or Using BENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

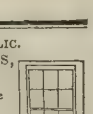
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A large stock of well-seasoned Doors always on hand.

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Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

WINDOW BLINDS,
ORNAMENTAL WIRE-WORK, FLOWER-POT STANDS, &c.

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Manufacturer of every Description of Window Blinds on the most approved principles, namely, the Spanish, Oriental, Florentine, Louvre, and Venetian Sun Shades, for the exterior; and Venetian Dwarf, Metallic Gauze, Perforated Zinc Blinds, Transparent, Landscape, and Holland Blinds on Springs, Patent and Common Rollers for the Interior; Blinds for Shop Fronts, Plain and Ornamental, on the most Improved plans. Old Blinds Altered, Renovated, and Refixed. A variety of Flower-pot Stands always Ready. Rustic, Portable, and other Garden Seats and Stools; Wire-work for every purpose useful and ornamental.

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NOTICE.—Persons desirous of participating in the profits applicable to the year, from 9th February, 1846, to 9th February, 1846, ought to lodge their Proposals at the head-office, or at one of the agencies, on or before the 7th of February next. ALEX. ROBERTSON, Manager.

Jan. 13, 1846.

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A REDUCTION OF 25 PER CENT.

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Thus, a person aged 40, who opened a policy for 1,000*l.* in February, 1841, at an annual premium of £32 10 0
Is called upon to pay this year only 24 7 6
And if this abatement be applied to pay the first year's premium of an additional policy, the party will be further assured to the extent of..... 215 9 4

Proportionate benefits accrue to policies on all ages.

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ROYAL POLYTECHNIC INSTITUTION.—The Lectures selected for this period of the year, by Dr. Ryan as Professor Bachhoffner, in Chemistry and Natural Philosophy will be illustrated by interesting and beautiful experiments. A Lecture on the Prevalent Disease in Potatoes will be delivered by Dr. Ryan, and also on the Atmospheric Railway, by Professor Bachhoffner, a working Model of which, carrying several persons, is exhibited daily. John Atkins, Esq. Dissolving Views, and Chromatrope are very effective. The Physioscope. Submarine Experiments by means of the Diver and Diving Bell. Among the various additions to the Working Models is Coleman's new American Locomotive Engine, for ascending and descending Inclined Planes. A magnificent Collection of Tropical Fruits. Mr. Downe, the celebrated Flute-player, will take part in the Music, conducted by Dr. Wallis. Open from Eleven to half-past Five, and from Seven to half-past Ten in the Evening.—Admission, One Shilling. Schools, Half-price.

LONDON: Printed by CHARLES WYMAN, of 49, Cumming-street, Pentonville, in the County of Middlesex, Printer, at the Printing-office of J. & H. COX, *Brothers*, 74 & 75, Great Queen-street, Lincoln's-Inn Fields, in the Parish of St. Giles-in-the-Fields, in the same County; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," 2, York-street, Covent-Garden, in the Parish of Saint Paul, Covent-garden, in the said County.—Saturday, January 17, 1846.

The Builder,

A JOURNAL FOR

The Architect, Engineer, Operative & Artist.

VOL. IV.—No. 155. JANUARY 24, 1846. Price ..... 3d. Stamped ..... 4d.

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WANTED an Engagement as FOREMAN of JOINERS, or superintending of Buildings, by a person of experience.—Apply to T. T., at Mr. Gladows, Grocer, 49, Ebury-street, Pimlico.

WANTED, a Man of Business Habits and well-acquainted with the Marble Trade, to Manage the Out-door Department, Take Orders, &c.—Apply by letter only to P. R., office of "The Builder."—A Vacancy for an Apprentice.

WANTED, a Grainer, Writer, and Ornamental Painter, in Hull, Yorkshire. Liberal wages and constant work may be depended upon. None need apply but those fully competent to execute work in the above line in a masterly style. Letters, post-paid, address C. A., Packet Office, Hull.

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WANTED a permanent situation by the Advertiser as FOREMAN in the above line, who is thoroughly acquainted with stairs and handrails, and the superior branches of joiner, and likewise getting out working drawings. Apply personally, or by letter, post-paid, to J. D., at No. 24, Nelson-street, Greenwich.

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A GENTLEMAN who has had considerable practice for some years in the above professions, and who is now retiring from the same in consequence of having received an advantageous appointment, is willing to treat with any party desirous of establishing himself, or of extending his connection for the disposal of the business, together with the lease of an excellent house, most eligibly situate at the West-end of the town, having extensive offices.—For terms and particulars apply to Mr. THOS. WILLIAMS, Builder, King-street, Park-street, Grosvenor-square.

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THE ADVERTISER wishes to obtain a SITUATION in a three-branch business, as Plumber, Painter, Glazier. Good reference to be had.—Apply by letter to J. M., 16, West-street, Commercial-road, Pimlico.

TO CARPENTERS AND BUILDERS.

THE ADVERTISER, a Young Man, is desirous of engaging himself as CLERK in an office, thoroughly understanding the routine of such duties. He would make himself generally useful, possessing a good practical knowledge of the business.—Address, post-paid, J. H., care of G. Warburton and Co., general ironmongers, 146, Tottenham Court-road.

TO CIVIL ENGINEERS, ARCHITECTS, &c.

THE Advertiser, an experienced and respectable man, wishes for a re-engagement as Superintendent, or otherwise, in the construction of a line of Railway. He can produce testimonials of character and ability, as having been engaged for several years in Surveying, Levelling, and the erection of buildings and bridges connected with Railways. He has no objection to going abroad. Address B.C., No. 6, Union Road, Clapham Rise, Surrey.

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THE Advertiser is desirous of obtaining some rentals to collect. The utmost diligence would be used in obtaining payment; and also, if required, he would devote his attention to the letting of houses, and if so employed would use strict caution in his inquiries as to the respectability of tenants. The most unexceptionable references will be given, and security if necessary. A letter addressed to A.B., care of Mr. Weller, 8, Crown-street, Walworth, will meet with due attention.

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METROPOLITAN BUILDINGS ACT.—NOTICE TO CANDIDATES FOR DISTRICT SURVEYORSHIPS.

Office of Metropolitan Buildings, 3, Trafalgar Square, 20th January, 1846.

NOTICE IS HEREBY GIVEN, that the Examiners appointed by and in pursuance of the Metropolitan Buildings Act, will hold their next examination of persons desirous to obtain a certificate of qualification for the Office of District Surveyor on Wednesday, the 28th day of January, instant.

Persons desirous to be examined must apply on or before the 26th inst. and their applications must be accompanied by a preliminary statement according to the course of examination prescribed in the rules for that purpose, copies of which, and any information on the subject, may be had at this Office, or at Mr. WEALE'S, Architectural Bookseller, 59, High Holborn.

Subsequent examinations will be held in the months of April, July, and October, or at such other periods as shall be appointed, of which due notice will be given.

ARTHUR SYMONDS,
Registrar of Metropolitan Buildings.

PUBLICATIONS.

In 12mo. price 4*s.* 6*d.*, bound.

PROCEEDINGS under the METROPOLITAN BUILDINGS ACT: containing a collection of Awards made by the Official Referees; the Modifications sanctioned by the Commissioners of Works, &c.; and some account of the Office established under that Act. Digested and arranged by EDWARD LAWES, Esq., of the Middle Temple, barrister-at-law.

JOHN WEALE, 59, High Holborn, 1845.

NEW BUILDING ACT AND BUILDER'S PRICES CORRECTED TO THE PRESENT TIME.

This day is published, price 4*s.* a new edition of

CROSBY'S BUILDERS' PRICE BOOK for 1846. Containing a correct account of all the present prices allowed by the most eminent Surveyors; the alterations and additions in this new edition will be found to be most important, including the New Building Act, a new Plate, shewing the sections of Walls for Dwelling-houses, Warehouses, &c. also a complete list of surveyors. London: Sold by WM. JOY, 44, Paternoster-row, and all Booksellers.

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MR. SIBSON, who has been engaged in the establishment of the Messrs. GARRARD'S, Panton-street, Haymarket, London, for the last eleven years, wishes to offer his services as a General Designer and Modeller, to persons engaged in the architectural and decorative arts, in all materials.—Address, Aloe-cottage, 18, Wellington-road, St. John's-wood, London.

RAIN WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from ½ in. to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, and No. 6, Bankside, Southwark.

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A. DE MORGAN, Dean of Faculty of Arts.
CHARLES C. ATKINSON, Secretary to the Council.
January 17th, 1845.

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CHAS. C. ATKINSON, Secretary to the Council,
January 17th, 1846.

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GREAT Reduction in the Prices of Zinc and Galvanized Iron at J. DORE'S Manufactory, 17, Exmouth-street, Clerkenwell.

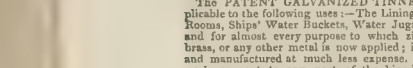
Chimney Fires, round bottom ..... 1s. per foot.
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Day's Patent Wind-guard, and Kite's Patent Ventilator.

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THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

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ORNAMENTAL WIRE-WORK, FLOWER-POT STANDS, &c.

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BUNNETT and CORPE also manufacture

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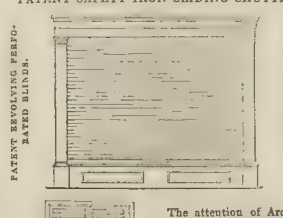
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Shop Fronts fitted in a superior manner with Iron Shutters, Patent Brass or Zinc Sashes, Moulded Engraved Stall Board Plates, best Plate Glass, and internal Brass Fittings of all kinds, on the most advantageous terms. Estimates given and contracts taken in Town or Country.—All kinds of metal works executed to any design. Metal Drawing, Rolling, and Stamping for the Trade. OFFICE, 26, LOMBARD-STREET, LONDON. WORKS, at DEPTFORD, KENT.

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The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 115, Old Street, London; or at the Licensees.

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Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft. 3 ft. 3 in. 3 ft. 6 in. 3 ft. 9 in. 4 ft.
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3 ft. 3 ft. 3 in. 3 ft. 6 in. 3 ft. 9 in. 4 ft.
5/. 5/. 15s. 6/. 5s. 6/. 10s. 7/.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 8½d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

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Tiles form in winter a warmer and in summer a cooler covering than slates or metal, and may be burnt of any desired colour. Address ROBERT BROWN, Tile Works, Surbiton Hill, near Kingston, Surrey.

HIP TILES to suit slate roofs in colour; Ridges, with plain or rebated joints, roll tops, and vertical ornaments; drains, many sizes, with plain or socket joints; paving in squares, hexagons, octagons, &c., different colours; roofing, in Grecian or Italian styles, other devices also, or plain; conduits, which do not injure pure water; fire-bricks and tiles; clinkers, and out-door paving; sundry wall-coping, garden-borders, chimney-tops; also tubular and other flues of peculiar material. No agent, but a depôt at 22, WHITEFRIARS-STREET, FLEET-STREET, LONDON, under Mr. PEAKE'S personal care, to supply genuine TERRO-METALLIC goods at fair prices as per quality; also, additional Stock at No. 4 Wharf, Macclesfield-street, South, City Basin.

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N.B.—This Cement being of a light colour, requires no artificial colouring or painting, and may be used for stucco with three parts its own quantity of sand.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.

2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.

3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given.

To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

Mann and Co. beg to call the attention of the Trade to the following spontaneous letter, just received:—

"Newcastle, Staffordshire, 17 Dec., 1845.

"Messrs. Mann and Co.

GENTLEMEN,—I am returning to you three empty casks (two cement and one paint). When you receive them, please to forward me a statement of my account, and I will remit you the amount. I have every reason to believe the cement will answer. The front of my building has now been finished some months, and stands in an elevated situation, very much exposed to the weather. I have not painted the exterior walls with the stucco paint, but have used it in the lobbies, and it seems to answer well. I finished all my principal rooms with the cement, laid on thin as a lath coat, and although the house was only commenced last April (the exterior walls only being built), it is now papered and painted, and I am residing in it, feeling confident that from finishing the inner walls with the cement the paper will keep dry, and not injure, as other walls do. The front looks well and has been much admired, and I think many will adopt it, all other cements used about here having failed in one way or other.

I am, your obedient servant,

JOHN LAMB, Mayor of Newcastle-under-Lyne.

P.S. You are at liberty to make what use you like of this information, if it will be of any service to the patentees.

PORTLAND CEMENT, which does not vegetate, and requires no colouring, is perfectly hydraulic, and resists the action of Frost. The cost of the material and of working it is about the same as Atkinson's Cement, Manufactured by J. B. WHITE and SONS, Millbank-street, Westminster, and sold at their Warehouses:—

Druce's Wharf, Chelsea,
Bell's Wharf, Paddington,
Earl-street, Blackfriars,
Albion Wharf, Deptford-bridge,
by Salmon and Co., Dublin,
and at 36, Seel-street, Liverpool.

WALKER'S WHITE and CLOUDED LIAS LIME STONE, adapted for chimney-pieces, hall and kitchen floors, hearth-stones, steps, and staircase work, and every other purpose to which Portland stone is applicable. It has the advantage of being less porous, more durable, more easily worked, and of a more delicate and beautiful colour, than the lias lime stones at present in use, and consequently far superior also to Portland stone and others of a similar nature; in confirmation of which, references of great respectability can be given. It has also the advantage of being procurable in blocks or slabs of larger dimensions than those usually brought to this market, and "at exceedingly low prices."

Specimens to be seen and further information obtained at the "METALLIC SAND CEMENT WHARF" (opposite Pratt-street) Kings-road, Camden New Town, London.

KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Millbank-street, Westminster,

NOTICE TO INVENTORS.

OFFICE for PATENTS of INVENTIONS and REGISTRATIONS of DESIGNS, 14, LINCOLN'S-INN-FIELDS.—The printed Instructions gratis, and every information upon the subject of PROTECTION for INVENTIONS, either by Letters Patent or the Designs Act, may be had by applying personally, or by letter (prepaid) to Mr. Alexander Prince, at the office, 14, Lincoln's-inn-fields. Where may be had, price 12s., or, through any bookseller in the United Kingdom, of Wm. BENNING and Co., law booksellers, 43, Fleet-street, the LAW of PATENTS and REGISTRATIONS, with all Forms and Cases up to the present time, by SIDNEY BILLING, Esq., barrister-at-law, and ALEXANDER PRINCE, of the Office for Patents, 14, Lincoln's-inn-fields.

CAEN STONE.

LUARD and BEEDHAM have a quantity of the above stone, of the best quality, direct from their Quarries at Allemange, which may be inspected at the Norway Sufferance Wharf, Greenwich.—Further particulars at Mrs. G. GATES', 18, SOUTHWARK-SQUARE, SOUTHWARK.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

SAMUEL CUNDY begs to inform Architects, &c., that every description of Stone, Marble, and Granite work is executed at the cheapest possible rate.

Estimates given for Mason's Work in all its branches. Gothic Work, Tombs, Monuments, &c.

MARBLE WORK for Halls, Dairies, Tables, Columns, Vases, at most reasonable prices.

A large collection of Designs for Mural and other Monuments.

CHIMNEY PIECES from Twelve Shillings upwards.

Depôt for CAEN STONE, &c.

POLONCEAU'S BITUMEN PAVEMENT for paving Foot walks, Terraces, Garden walks, Stables, Coach Houses, Granaries, Corn Stores, and Salt Warehouses. For the exclusion of Damp and Vermin in Basements it is particularly adapted, and for Roofing Dwelling Houses, Porticos, Balconies, and Sheds.

Price 3s. 6d. per square yard.

BITUMEN for covering the Arches of Bridges, Culverts, &c. &c. on Railways and other places (with instructions for laying it down), may be had at the rate of 45s. per ton, by applying to JOHN PILKINGTON, 15, Wharf-road, City-road.

TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorized CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced. I. FARRELL, Secretary.

Stangate, near Westminster Bridge, Jan., 1845. Seyssel Asphalte Company.

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

BED FEATHERS

MIXED, 1s. per lb.
Grey Goose, 1s. 4d. per lb.
Foreign, ditto, ditto, 1s. 8d. per lb.

Best Foreign Grey Goose, 2s. per lb.
Best Irish White, ditto, 2s. 6d. per lb.
Best Dantzic, ditto, ditto, 3s. per lb.

Warranted sweet and free from dust.

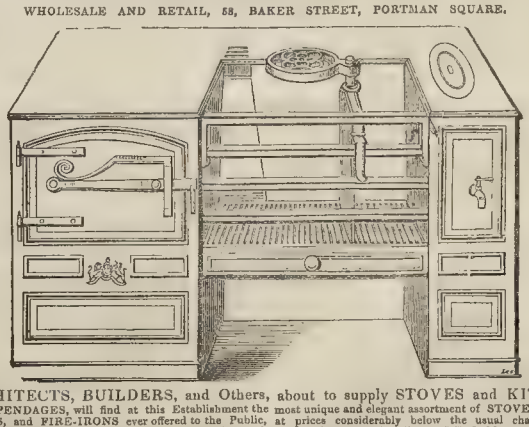
A List of every description of Bedding, containing weights, sizes, and prices, sent free by post, on application to HEAL and SON, Feather-dressers and Bedding manufacturers, 196, opposite the Chapel, Tottenham Court-road.

BUILDERS' AND CARPENTERS' IRONMONGERY WAREHOUSE.

THE Proprietor of this Establishment has, by his connections with the most extensive Manufactories, selected the largest and best-suited Stock of Builders' Ironmongery yet offered to notice. It includes every article in Ironmongery suited to Building purposes, such as Locks, Nails, Screws, and every requisite for internal fittings, finishing, and decoration; also Rain Water Pipe, Sash Weights, and all kinds of Castings, and combines (being entirely new) all modern improvements in principle and design. The Prices throughout, even in the most minute article, have been the object of the strictest economical consideration, the profit of the undertaking being anticipated only by a large return. From this Stock every article may be selected, exactly adapted for its intended use, of any required quality or quantity, at a moment's notice, and Catalogues of Prices had, per post (on prepaid application, enclosing posting-stamp), at 18, BLANDFORD STREET, MANCHESTER SQUARE, LONDON, leading from BAKER STREET, PORTMAN SQUARE. JOHN YOUNG, Jun., Proprietor.

THE PANKLIBANON IRON WORKS,

WHOLESALE AND RETAIL, 58, BAKER STREET, PORTMAN SQUARE.



ARCHITECTS, BUILDERS, and Others, about to supply STOVES and KITCHEN APPENDAGES, will find at this Establishment the most unique and elegant assortment of STOVE-GRATES, FENDERS, and FIRE-IRONS ever offered to the Public, at prices considerably below the usual charges. The Proprietors at the same time beg to invite attention to their extensive Stock of FURNISHING IRONMONGERY, Tinned Copper, Tin and Iron Cooking Vessels, Block Tin Dish-Covers, Japanned Ware, Table Cutlery, and especially their Sheffield Plate and German Silver Wares, embracing every Article suitable for the Table, comprising Dish and Plate Covers, Liquor Frames, Epergnes, &c. &c. The plan adopted by the Proprietors of affixing the price to each article for cash, enables all purchasers to have the same advantage. The Patent Thermio Stove is in daily operation. THORPE, FALLOWS & COMPANY, 58, Baker-street, Portman-square, London.

PREPARED FLOORING BOARDS.

AT REDUCED PRICES.

ALWAYS ON SALE, a LARGE ASSORTMENT of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¼ inch to 1¼ inch thick. Rough Boarding for Flats.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Smith-street, Westminster.

PREPARED FLOORING BOARDS.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, and Old-Barge-Wharf, Upper Ground-street, Blackfriars, a very large stock of well-seasoned Floor Boards of every variety.

A. R., in calling the attention of builders and consumers, confidently presumes on his being able to supply them on such advantageous terms, as will ensure and merit their favours and approbation.

MUIR'S PATENT PLANING MACHINERY.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

THE GENERAL WOOD CUTTING COMPANY, TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.—SAWING in all its branches executed with the greatest precision and despatch. PLANING by the most approved Machinery, reducing the Boards to a parallel width and thickness, and grooving or matching with undeviating accuracy. The operation economizes time, money, and material.

SIR WILLIAM BURNETT'S PATENT for the Preservation of Timber, Canvas, Cordage, Cotton, Woollen, &c., from Decay.

TESTIMONIALS.

From THOMAS GRAHAM, Esq., M.A., F.R.S., L. and E., Professor of Chemistry, University College, London.

"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.

"The wood appears to be fully and deeply penetrated by the metallic salt; I have found it in the centre of a large prepared paving block.

"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface in the state of efflorescence, like the crystallizable salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.

"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Teplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azoized principles it contains, by entering into chemical combination with them.

(Signed) "THOMAS GRAHAM."

"University College, 25th October, 1845.

From Professors BRANDE and COOPER.

"London, 4th November, 1845.

"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.

"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.

"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1843, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.

"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.—(Signed) "WILLIAM THOMAS BRANDE,
"JOHN THOMAS COOPER."

"To Sir William Burnett, K.C.H., F.R.S., &c. &c."

Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 63, King William-street, London-bridge.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above.

N.B.—A weighbridge on the premises.

WESTBOURNE SAW MILLS.
50½, WESTBOURNE STREET, EATON SQUARE, PIMLICO.

J. NEWSON, having now completed his improved STEAM MACHINERY, begs to inform the Public that he is enabled to execute Sawing in all its branches with the greatest dispatch, and at such charges as he trusts will ensure to him a share of their patronage.

PAYNE'S PATENT PROCESS FOR THE PRESERVATION AND IMPROVEMENT OF TIMBER, &c.

PAYNE and LODER beg to invite the attention of Engineers, Railway Companies, Architects, and others to the above process, and to state that they are prepared to erect the necessary apparatus in any part of the United Kingdom where the quantity is sufficiently large to cover the outlay of its removal.

Further particulars can be obtained at Whitehall-Wharf Cannon-row, Westminster, or at their other stations, Fleetwood-on-Wyre, Lancashire; Wisbeach, Cambridgeshire; Union-Wharf, Southampton; and Guildford, Surrey.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.

JOHNSON & PASK,
1, AMWELL STREET,
Clerkenwell,



Beg to state that they continue to make Sashes, glazed complete, at 11½d. per foot; also, Shop Fronts to any design, and with the best British plate-glass. Every description of joinery on the lowest terms, and of the best materials and workmanship.



SASHES primed, glazed, and sent to any part of London at 9d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.

FOREIGN SHEET 5d. per foot.
BRITISH CROWN 5d. per foot.

Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Shew-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.

Dry and Good Colours of the best quality; Brushes Dryers, and every article used in the Trade Warranted.

VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.

For complete lists priced.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

FOREIGN WINDOW GLASS.

THOS. MILLINGTON begs to inform his friends, that he continues to receive weekly large consignments of FOREIGN GLASS, which he is determined to offer upon the very lowest terms. Address, 87, Bishopsgate-street Without.

PLUMBERS' BRASS WORK, WATER-CLOSET PUMPS, &c.—These articles require the greatest attention and care in the manufacture, and will be found superior and cheaper than at any other manufactory. Best Pan Water Closets, 32s.; 2¼ Lift Pumps and Planks, 4l. 10s. 0d.; 3-inch Pumps, 5l. 10s. 0d.; 2-inch Bib Ball and Stop Cocks, 2s. 4d. each, and every article in this branch equally low. Every article warranted.—Address, THOS. MILLINGTON, 87, Bishopsgate-street Without.

VARNISH.

THOS. MILLINGTON begs to inform the Trade, Builders, Painters, and others, that this article can be had at his Manufactory, of the best quality and at the very lowest price. T. M. has long been a manufacturer, and has devoted much time and attention to it, using only the best of gums, and sparing no expense in the manufacture. Fine Pale Oak or Wainscoat Varnish, per imperial gallon. 10s.; Fine Carriage Varnish, 12s.; Copal, 18s.; Body Copal, 24s.; Gold Size, 10s; White Hard, 18s.; Brown Hard, 18s.; French Polish, 18s. per gallon. Paint, Dryers, Colours, ready and ground, and every article in the trade. If quality is taken into consideration, this will be found the cheapest house in London. Address, 87, Bishopsgate-street Without.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; a boy can use it as well and effectually as the best workmen: it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 20s. per gallon.

TO BUILDERS, PAPER-HANGERS, FAMILIES, AND OTHERS.

MR. BRAY, Jun., will SELL at his rooms, No. 259, High Holborn, on Wednesday, Jan. 28, at twelve o'clock, the SECOND PORTION of Mr. A. M. Cohen's extensive stock of Paper-hangings, removed from Fenchurch-street; comprising upwards of 5,000 pieces of elegant flocks on crimson and oak grounds, rich gold and satins, varnished papers, Elizabethan and other library patterns, chintz; blended ground parlour, bed-room, marble, Gothic staircase, and other papers of various descriptions. The whole of this stock is of excellent workmanship and modern design. May be viewed the day prior and morning of sale, and catalogues had at No. 100, Fenchurch-street, and at Mr. BRAY'S Rooms, No. 259, High Holborn.

BRICKS.

FOR SALE, at SUFFOLK WHARF, James-street, Camden Town, a quantity of white and brimstone-coloured facing bricks, paving bricks, coping tiles, &c. Also, Moon's patent chimney bricks for circular flues. N.B. The Wharf to be let.

BRICK FIELD.

TO BE LET, situate about seven miles from London, a snug BRICK FIELD, capable of making about a million of bricks per annum. There are two close kilns on the premises, and the whole may be procured on most favourable terms. Apply to Mr. WILLIAM THOMAS WOODS, Bedford New-road, Clapham-rise, Surrey.

TO BUILDERS.

SEVERAL Excellent Lots of BUILDING GROUND in the neighbourhood of London, TO BE LET on Building Leases on most advantageous terms.—For further particulars apply to Mr. FRANCIS E. H. FOWLER, Architect, 28, Sackville-street, Piccadilly. Money advanced as the work proceeds.

Further Letting of Building Ground, belonging to the Clothworkers' Company.

TO BE LET, by PUBLIC TENDER, for 80 years (land-tax redeemed), about 3¾ Acres of Land, well adapted in all respects for building purposes, situate on the east side of the New North-road, Islington, near the bridge over the Regent's Canal. For particulars and plans, inquire between the hours of ten and four, at Clothworkers' Hall, Mincing-lane; or at Mr. ANGELL'S, the surveyor to the estate, 18, Gower-street, Bedford-square.

ROBERT BECKWITH TOWSE, Clerk.

January, 1846.

STEPHENS'S LIQUID OAK, MAHOGANY, ROSE, and SATIN WOOD STAINS, for Staining various sorts of Inferior Woods, so as to give them the appearance and character of the more costly and ornamental kinds; also for reviving the natural colour of Wood Carvings and Panellings, and other ornamental Wood Work, when such has become faded from age or other causes.

IN THE BUILDING AND DECORATING NEW CHURCHES, where it is desirable to give to the cheaper kind of Woods the appearance of Antique Oak, or to make Deal assume the character of Oak Panelling, whereby the effect of the more costly may be produced by the use of a cheaper material, these Stains will be found more effective than any means hitherto employed.

IN OLD MANSIONS AND HALLS, where the Wood Carvings and Panellings have faded, the application of these Stains will be found to revive and bring back the rich natural colour, and which colour may be varied from the lighter to the deeper shades of the most Antique Oak.

The BIRCH WOOD, which has a fine natural grain, with little colour, is particularly suited to the application of these Stains; and the appearance which it assumes after Staining is so near that of the natural wood, that is is only when the grain and colour of the latter is particularly fine that it is preferred. Beech, Birch, Elm, Ash, and other Woods, English and Foreign, receive the Stains and produce various imitations.

For the exposed Timbers of the inside of the ROOFS of CHURCHES, for which north country Timbers and Deals are generally used, by brushing them over with the Stain, which operation is very rapidly, and of course economically, effected, the appearance of an Oaken Roof will be produced. For colouring the backs of the Seats, Pews, the fronts of Galleries, the Pulpit, &c., it is equally advantageous.

Prepared by HENRY STEPHENS, and may be obtained at 54, Stamford-street; of Mrs. ROWLAND, Painter and Glazier, 3, Broad-street, Golden-square; and at the Office of "THE BUILDER," 2, York-street, Covent-garden, at which places specimens of their application may be seen.

WESTBOURNE TERRACE TONTINE. In 3,700 Shares of 100l. each. Deposit, 10l.

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George William Anderson, Esq., 69, Harley-street
Samuel Scott, Esq., 1, Cavendish-square
Charles Wardell, Esq., 43, Westbourne-terrace.

BANKERS.

Sir Claude Scott, Bart., and Co., 1, Cavendish-square

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The Builder.

A JOURNAL FOR

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January, 1846.

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Ryde, 22nd January, 1846.

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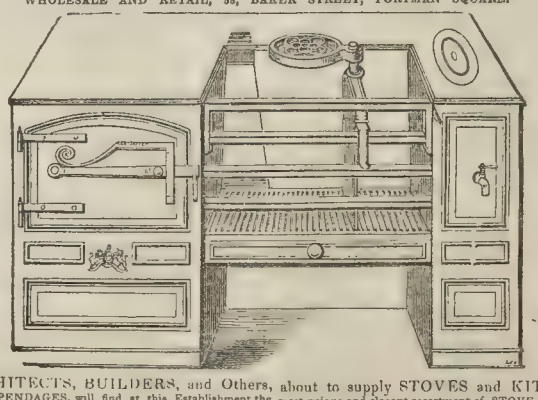
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TO ARCHITECTS AND BUILDERS.

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WILSON'S PATENT VENTILATING SPIRAL CHIMNEY POT, for the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success. This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance. The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory, Southwark-bridge Iron Roofing Works.

DAY'S PATENT WINDGUARD, for ventilating churches, hospitals, factories, theatres, breweries, malt-houses, club-houses, shops, bed-rooms, smoking-rooms, school-rooms, nurseries, stables, larders, kitchens, offices, ships, mines, vaults, tunnels, &c. Also for preventing down draft; and is guaranteed to cure all smoky chimneys caused by wind; and entirely supersedes the use of revolving cowls, or any thing moveable or unsightly on the tops of chimneys or ventilators.

The object of this invention is to create a draft where otherwise it would not exist, by the spontaneous action of the external air. The Windguard forms a pleasing octagonal pillar, and by its peculiar construction to carry out the principle on which it is based, which consists of the wind giving a disposition for a vacuum within, thereby causing a continual upward current about equal to the velocity of the wind at the time acting upon it, which averages about six feet per second thirty days out of thirty-one; therefore, will nearly at all times ensure a continual change of air, being no impediment to spontaneous ventilation, even on a perfectly calm day. One five feet square will ventilate a building containing upwards of 1,000 persons. The Windguard applied to ships and steam vessels, in the form of a sky-light, prevents rain or the sea entering within, however boisterous the weather may be, thereby affording excellent ventilation as well as light. The Windguard is simply applied for effectually ventilating bed-rooms, nurseries, smoking-rooms, offices, &c., causing the air of the apartment to be at all times as pleasant as can be desired. It is fixed at the top of the chimney, in addition to which a cast-iron frame and valve (about one foot area), made to open and shut at pleasure, is let into the flue, near the ceiling of the room, to allow the constant ascending vitiated air being immediately carried off. The opening is guarded by a neat venetian blind or grating; and so powerful is the effect on a windy day that if a handkerchief be thrown up to the grating, it will remain there—i. e. if the valve be open. In winter the valve would be only partially open, to allow the smoke to ascend, but if the room be found too cold can be entirely closed. The Windguard applied to the tops of chimneys prevents all annoyance from smoke (caused by wind); indeed, where it does not, nothing else applied at top will (of the same size); care, therefore should be taken to have the proper size applied. It is simple in its application, reasonable in price, ornamental in appearance; no machinery or anything movable in it, therefore, cannot get out of order; free from noise or any unpleasantness whatever; not liable to choke up with soot; no obstacle to the machines used for sweeping chimneys. May be had of all respectable ironmongers in town and country; and may be seen daily in operation, where its powers and usefulness are established by the severest tests, at THE PATENT VENTILATING WORKS, COMMERCIAL-ROAD, PIMLICO, LONDON; where also may be seen Mr. G. T. DAY's plans (illustrating the different applications of his Patent Archimedian Ventilator and his Portable Water Apparatus) for effectually Ventilating, Warming, and Cooling the Air of Buildings, Ships, Mines, &c. &c. By the use of these inventions many thousand cubic feet, or any quantity of pure warm or cold air, can be guaranteed to be continually exchanged per minute, day and night, winter and summer; thereby insuring at all times, free ventilation to the rooms and passages of buildings, &c. from the basement to the roof, at the same time in such a manner as shall not be inconveniently perceptible. The size of the apparatus depends on the nature and use of the building and its occupants. The Patentee has been honoured by his inventions being applied at the following places:—

Windsor Castle, Buckingham Palace, St. James's Palace, Claremont Palace, Walmer Castle, the Houses of Parliament, New Conservative Club, White's Club, Travellers' Club, Oxford and Cambridge, Parthenon, Wyndham, Army and Navy, Senior United Service, Junior United Service, Admiralty, British Museum, Somerset House, Custom House, Mint, Hon. Artillery Company, H. M. Salamander, Trinity House, Ordnance, Greenwich Hospital, Christ's Hospital, Westminster Hospital, Bethlehem Hospital, Surrey Lunatic Asylum, New Royal Exchange, Mansion House, Goldsmiths' Hall, Fishmongers' Hall, Haberdashers' Hall, Dyers' Hall, Grocers' Hall, Armourers' Hall, Weigh House Meeting-house, Hanover-square Rooms, Theatre of the Westminster Literary and Scientific Institution, Grand Cigar Divan, Strand, City Club, and many other Public Buildings in Town and Country, as well as to the Mansions of many Noblemen and Gentlemen. Licenses granted for Manufacturing the above. Drawings and Plans made for Ventilating and Warming Buildings of every description.

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Wrought Bars and Bright Fittings.

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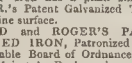
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By Her Majesty's  Royal Letters Patent.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED METAL.—This article was at first sold under the name of Galvanised Tin Plates, but the Patentees finding that the public, in some instances, overlooking the word Tin, confounded the article with Galvanised Iron, and that the character of their metal has thereby sustained injury, are desirous of giving it a name so distinctive as to prevent such mistakes, and consequent disappointment to purchasers in future. They therefore respectfully request purchasers to inquire for MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON. In order to enable the public readily and at first sight to distinguish between the two metals, it may be well to inform them, that Galvanised Iron has a plain zinc-like appearance, while M. and R.'s Patent Galvanized Tinned Iron has a smooth crystalline surface.

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It has been found by experience that this article is beyond all comparison superior to zinc; possessing, as it does, all the advantages arising from the strength and firmness of iron, combined with perfect immunity from rust; whilst it is free from the very serious objection which applies to zinc, viz. its contraction and expansion, consequent upon every change of temperature, and from which circumstance leakage must of course result.

This material is not likely to be destroyed by fire, as is the case with zinc and lead, which melt and run down, thus freely admitting fresh air to the fire, and causing it to burn more fiercely. It is, therefore, obviously well adapted for all the purposes above-named, and most importantly so, when there is the possibility of fire. It is also peculiarly suitable for chimney-tops, gutters, spouting, and out-door work generally, possessing the strength of iron, without its liability to corrosion. It is by far the most economical metal roofing that can be obtained, in consequence of its strength, as it may be laid without boards, and upon the lightest rafters.

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Day's Patent Wind-guard, and Kite's Patent Ventilator.

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Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

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LEWIS C. HERTSLET, Clerk.

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Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producesable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

ATKINSON'S CEMENT.—The public is respectfully informed, that the price of this very excellent Cement, which has now been in use for Architectural and Engineering works upwards of thirty years, is reduced to 2s. 3d. per bushel, and may be had in any quantity at Wyatt, Parker, and Co.'s Wharf, Holland-street, Surrey side of Blackfriars-bridge.

N.B.—This Cement being of a light colour, requires no artificial colouring or painting, and may be used for stucco with three parts its own quantity of sand.

PORTER'S CORRUGATED, and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanizing Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway, and other Iron and Smith's work Manufactured of the best quality. Iron Fence and Hurdles as usual.—The Trade Supplied.

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GREAT Reduction in the Prices of Zinc and Galvanized Iron at J. DORE'S Manufactory, 17, Exmouth-street, Clerkenwell.

Chimney Flues, round bottom ..... 1s. per foot.
Square, ditto, ditto ..... 1s. 3d. „
Malt-house Cowls, 4s. each.
Rain-water Pipes and Gutters, 2 in., 4d. per foot; 2½ in., 4½d.; 3 in., 5d.
Flats and Cisterns, 4½ per foot, super.
Day's Patent Wind-guard, and Kite's Patent Ventilator.

MOREWOOD AND ROGERS' PATENT GALVANIZED TINNED IRON.

T. W. BEALE begs to acquaint the public that he is prepared to lay roofing, plain or corrugated, fix pipes, gutters, &c. Also chimney-tops and ventilating cowls of every description; also water and oil cisterns, of this incorrodible and fireproof metal. He manufactures all kinds of baths, as hip, shower, Roman, open, slipper, sponging, foot, children's, and self-heating baths; also toilet-cans and pails, slop-pails, coal-scuttles, cash and deed-boxes, and fire-proof safes of every description, 10 per cent. cheaper than any house in London.

The PATENT GALVANIZED TINNED IRON is applicable to the following uses:—The Lining of Ships' Store Rooms, Ships' Water Buckets, Water Jugs and Receivers, and for almost every purpose to which zinc, tin, copper, brass, or any other metal is now applied; is more durable, and manufactured at much less expense. An experienced workman sent to any part of the kingdom. All orders punctually attended to. For particulars, apply to T. W. BEALE, 46, Bridge House-place, Newington Causeway.



PATENT GALVANISED TINNED IRON.
(MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and water-closets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 6oz. to any required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quicksett-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

RAIN WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from ¼ in. to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, and No. 6, Bankside, Southwark.

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A LARGE ASSORTMENT OF R. W. PIPES, GUTTERING, SASH-WEIGHTS, &c.,

which they are disposing of at very low prices. Castings of every description done to order.—BALLUSTERS.

ROYAL ADELAIDE GALLERY, Lowther Arcade, West Strand.—During the week, the magnificent Tableaux Vivans of Professor Keller, after the works of the greatest Masters both Ancient and Modern, will be continued every Morning and Evening: The New Model of Nickell's Compressed Air Railway, and Pilbrow's Atmospheric Railway, will also be continually exhibited daily; an entirely new entertainment by Mr. J. Russell, entitled an Hour of Table-talk, enlivened with Songs and Anecdotes, will be given every Tuesday, Thursday, and Saturday, during the week; the Concert and Singing every evening, with various other Attractive and Instructive Exhibitions.—Admission One Shilling, Schools Half-price.

ROYAL POLYTECHNIC INSTITUTION.—Lectures on Chemistry, with brilliant experiments, by Dr. Ryan, daily, at half-past-three, and on the evenings of Mondays, Wednesdays, and Fridays at nine o'clock. A Lecture on the Atmospheric Railway, by Professor Bachhoffner, a working Model of which, carrying several persons, is exhibiting daily. The additions to the Opaque Microscope, Dissolving Views, and Chromatrope are very effective. The Physioscope. Submarine Experiments by means of the Diver and Diving Bell. Among the various additions to the Working Models is Coleman's new American Locomotive Engine, for ascending and descending Inclined Planes. A magnificent Collection of Tropical Fruits. Mr. Downe, the celebrated Flute-player, will take part in the Music, conducted by Dr. Wallis. Open from Eleven to half-past Five, and from Seven to half-past Ten in the Evening.—Admittance, One Shilling. Schools, Half-price.

PREPARED FLOORING BOARDS.

AT REDUCED PRICES.

ALWAYS ON SALE, a LARGE ASSORTMENT of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ½ inch to 1¼ inch thick. Rough Boarding for Flats.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS

SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Smith-street, Westminster.

PREPARED FLOORING BOARDS.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, and Old-Barge-Wharf, Upper Ground-street, Blackfriars, a very large stock of well-seasoned Floor Boards of every variety.

A. R., in calling the attention of builders and consumers, confidently presumes on his being able to supply them on such advantageous terms, as will ensure and merit their favours and approbation.

MUIR'S PATENT PLANING MACHINERY.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

THE GENERAL WOOD CUTTING COMPANY, TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.—SAWING in all its branches executed with the greatest precision and despatch. PLANING by the most approved Machinery, reducing the Boards to a parallel width and thickness, and grooving or matching with undeviating accuracy. The operation economizes time, money, and material.

SIR WILLIAM BURNETT'S PATENT for the Preservation of Timber, Canvas, Cordage, Cotton, Woollen, &c., from Decay.

TESTIMONIALS.

From THOMAS GRAHAM, Esq., M.A.,F.R.S., L. and E., Professor of Chemistry, University College, London.

"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.

"The wood appears to be fully and deeply penetrated by the metallic salt; I have found it in the centre of a large prepared paving block.

"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the crystallizable salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.

"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Teplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotised principles it contains, by entering into chemical combination with them.

(Signed) "THOMAS GRAHAM."

"University College, 25th October, 1845.

From Professors BRANDE and COOPER.

"London, 4th November, 1845.

"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.

"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.

"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.

"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.—(Signed) "WILLIAM THOMAS BRANDE,
"JOHN THOMAS COOPER."

"To Sir William Burnett, K.C.H., F.R.S., &c. &c."

Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 53, King William-street, London-bridge.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above.

N.B.—A weighbridge on the premises.

PAYNE'S PATENT PROCESS FOR THE PRESERVATION AND IMPROVEMENT OF TIMBER, &c.

PAYNE and LODER beg to invite the attention of Engineers, Railway Companies, Architects, and others to the above process, and to state that they are prepared to erect the necessary apparatus in any part of the United Kingdom where the quantity is sufficiently large to cover the outlay of its removal.

Further particulars can be obtained at Whitehall-Wharf Cannon-row, Westminster, or at their other stations, Fleetwood-on-Wyre, Lancashire; Wisbeach, Cambridgeshire; Union-Wharf, Southampton; and Guildford, Surrey.

HOWARD'S TRACING PAPERS have now very generally gained the character of superiority; every possible attention is given to its manufacture, and the utmost confidence may be placed in its quality. Sample books, containing the various kinds from the substance of drawing-paper to the thinest, with sizes and prices, sent per post free.

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PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Roads, Gardens, and for Liquid Manure. BRICKMAKERS' PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to 12-inch bore, kept for Hire.

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Begs to inform the Trade that he has removed to 8, LAWRENCE POUNTNEY-HILL and THREE CRANES WHARF, 69, Upper Thames-street.

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NOTICE TO INVENTORS.

OFFICE for PATENTS of INVENTIONS and REGISTRATIONS of DESIGNS, 14, LINCOLN'S-INN-FIELDS.—The printed Instructions gratis, and every information upon the subject of PROTECTION for INVENTIONS, either by Letters Patent or the Designs Act, may be had by applying personally, or by letter (prepaid) to Mr. Alexander Prince, at the office, 14, Lincoln's-inn-fields. Where may be had, price 12s., or, through any bookseller in the United Kingdom, of Wm. BENNING and Co., law booksellers, 43, Fleet-street, the LAW of PATENTS and REGISTRATIONS, with all Forms and Cases up to the present time, by SIDNEY BILLING, Esq., barrister-at-law, and ALEXANDER PRINCE, of the Office for Patents, 14, Lincoln's-inn-fields.

CALIGRAPHIC BLACK LEAD PENCIL.

Manufactured by E. WOLFF and SON, 23, Church-street, Spitalfields, London.

THE CALIGRAPHIC PENCILS have been invented by E. WOLFF and SON, after the expenditure of much time and labour. They are the result of many experiments; and every effort that ingenuity and experience could suggest has been made to ensure the highest degree of excellence, and the profession may rely upon their being all that can be desired. They are perfectly free from grit; and for richness of tone, depth of colour, delicacy of tint, and evenness of texture, they are not to be equalled by the best Cumberland Lead that can be obtained at the present time, and are infinitely superior to every other description of pencil now in use.

The Caligraphic Pencils will also recommend themselves to all who use the Black Lead Pencil as an instrument of professional importance or recreation, by their being little more than half the price of other pencils—

H, HH, HHH, HB, B, BB, F, FF, W* .... 4s. per doz.
BBB, EHB ..... 8s. ,,
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* This pencil is particularly recommended for writing and counting-house use.

An Allowance on every Gross purchased by Artists or Teachers.

May be had of all Artists' Colourmen, Stationers, Booksellers, &c.

A single Pencil will be forwarded as a sample, upon the receipt of postage stamps to the amount.

CAUTION.—To prevent imposition a highly finished and embossed protection wrapper, difficult of imitation, is put round each dozen of Pencils. Each Pencil will be stamped on both sides, "Caligraphic Black Lead, E. Wolff and Son, London."

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By Her Majesty's Royal Letters Patent.

CROGGON'S PATENT ASPHALTE ROOFING FELT,

With which the Committee Rooms of the Houses of Parliament are entirely Covered.

THE above Material has been used and highly approved by the Nobility, Gentry, and Agriculturists generally, and Patronized by many Members of the Royal Agricultural Societies of England, Scotland, and Ireland. It has been used for several Years at the Royal Horticultural Society's Gardens, Chiswick; the Swiss Gardens, Shoreham, Sussex; on the Duke of Buccleuch's, and the Marquis of Anglesea's Property, &c.,* &c., and (under slate) at the Royal Agricultural Society's House, Hanover-square; its advantages are—CHEAPNESS, LIGHTNESS, DURABILITY, and ECONOMY. Being a Non-Conductor, it has been proved an efficient "Protective Material" to Plants.

PRICE ONE PENNY PER SQUARE FOOT.

By Her Majesty's Royal Letters Patent.

SEALED 7th OCTOBER, 1845.

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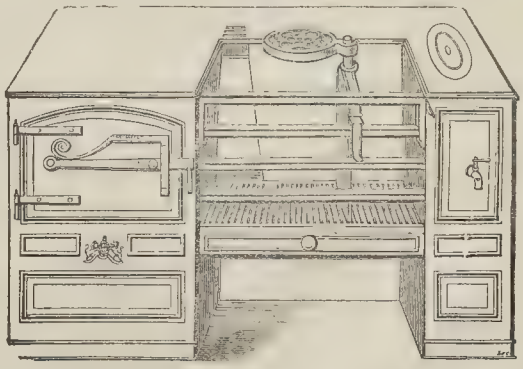
THE above is Manufactured by the most Accurate Machinery, for Depositing a DOUBLE COAT of ASPHALTE between Two Sheets of Paper, ensuring an evenness of distribution of the Waterproof Materials, thus rendering every minute portion of the Paper entirely Impervious to Water. To prove that it perfectly resists water, it is only necessary to put it into such a form as to Hold Water, when, after filling it, the water will evaporate without appearing in the least degree on the other side.

For Roofs of Houses it will be found very advantageous, being very cheap, admitting a great saving of Timbers; it may be painted of all colours, thus rendering it peculiarly applicable to any description of Roof. It is also an effectual preventative against the effects of Damp from Walls if put under the usual paper, and Damp Floors, when under carpets.

It may be had in Rolls of any Length, to order, at 6d. per Square Yard, of
THOS. JNO. CROGGON,
8, Laurence Pountney Hill, Cannon-street.

THE PANKLIBANON IRON WORKS,

WHOLESALE AND RETAIL, 58, BAKER STREET, PORTMAN SQUARE.



ARCHITECTS, BUILDERS, and Others, about to supply STOVES and KITCHEN APPENDAGES, will find at this Establishment the most unique and elegant assortment of STOVE-GRATES, FENDERS, and FIRE-IRONS ever offered to the Public, at prices considerably below the usual charges. The Proprietors at the same time beg to invite attention to their extensive Stock of FURNISHING IRONMONGERY, Tinned Copper, Tin and Iron Cooking Vessels, Block Tin Dish-Covers, Japanned Ware, Table Cutlery, and especially their Sheffield Plate and German Silver Wares, embracing every Article suitable for the Table, comprising Dish and Plate Covers, Liquor Frames, Epergnes, &c. &c. The plan adopted by the Proprietors of affixing the price to each article for cash, enables all purchasers to have the same advantage. The Patent Thermio Stove is in daily operation. THORPE, FALLOWS & COMPANY, 58, Baker-street, Portman-square, London.

BRICK FIELD.

TO BE LET, situate about seven miles from London, a snug BRICK FIELD, capable of making about a million of bricks per annum. There are two close kilns on the premises, and the whole may be procured on most favourable terms. Apply to Mr. WILLIAM THOMAS WOODS, Bedford New-road, Clapham-rise, Surrey.

BRICKS.

FOR SALE, at SUFFOLK WHARF, James-street, Camden Town, a quantity of white and brimstone-coloured facing bricks, paving bricks, coping tiles, &c. Also, Moon's patent chimney bricks for circular flues. N.B. Part of the Wharf to be let.

BRICKS FOR SALE.

A FEW HUNDRED THOUSANDS of good full-sized STOCKS, at Bell Green, Sydenham, about a mile from the Dartmouth Arms and Sydenham Stations on the Croydon Railway. To a purchaser of the whole, or a large quantity, a liberal discount will be allowed, as the proprietor is about to dispose of the field.—Apply on the premises, or to Mr. Mitchell, 13, Charles-street, Grosvenor-square.

REGENT-STREET.—Extensive Premises TO LET, suitable for a Carpenter, Cabinet-maker, Upholsterer, Builder, or any business requiring great space, situated within two or three doors of this first-rate thoroughfare. These premises consist of several tiers of workshops, which are warmed with hot water, and gas laid on, two large yards with cart entrance, saw-pits, hot room for drying wood, dwelling-house, &c. &c., to be let together or a part thereof.—For particulars inquire of Messrs. DRUCE and Co., 4, King-street, Portman-square.

BRICK EARTH.—HESTON, MIDDLESEX, CLOSE TO THE DEPOT AND GRAND JUNCTION CANALS.

TO BE LET, with immediate possession, a Field, containing four acres, more or less, called North Hyde Close, consisting of superior brick earth, with malm, calculated to make the best description of grey stock bricks; access from the field to the canal can be given, where barges may deliver ashes and breeze, and receive the bricks, by means of wheelbarrows only, without the aid of carts and horses.—For further particulars apply personally at No. 60, Euston-square.

TO BUILDERS.—MATERIALS AND MONEY ADVANCED

TO BE LET, on BUILDING LEASES, for ninety-six years, several very eligible plots of Freehold Building Ground, land-tax redeemed, situated in the Shrubland-road, leading from the Queen's-road, Dalston, to Landown-place. This is one of the most rapidly improving neighbourhoods near London, and will be the principal thoroughfare from all parts westward to the new Victoria Park, from which it is only a quarter of a mile distant.—Apply to Mr. PALMER, on the premises.

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TO BE LET, on long Leases, at Low Ground Rents, Freehold Land, for the purpose of building Marine Villas of the First Class, in a fashionable and highly improving resort on the South Coast of England, where families of the first distinction are, even during the Winter season, obliged to leave for want of sufficient residences. Great facilities will be given to Builders by the Proprietor. Splendid Bricks are made on the Estate.—For Particulars, apply to ROBERT FURNISS LONG, Esq., Solicitor, 27, King-street, Cheapside, London.

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BUILDING PLOTS TO BE LET in this most desirable and salubrious situation!! commanding picturesque views of the surrounding beautiful neighbourhood, and elevated within a few feet of the summit of the monument, with the best approaches of any suburban district near the metropolis, and greatest facilities of access to all the fashionable resorts and promenades of the West End and the City!—For particulars and plans, apply to W. H. TWENTYMAN, Esq., 41, Regent's-villas, Avenue-road, Regent's-park.

TO PAPER-STAINERS, BUILDERS, PRIVATE FAMILIES, AND OTHERS.

MR. BRAY, junior, will SELL at his ROOMS, No. 259, High Holborn, on Wednesday, February 11th, at 12 o'clock, 6,000 pieces of Modern Paper-hangings, including elegant crimson flock and satins, rich dining-room, library, bed-room, and staircase patterns in great variety. Mr. B. particularly begs to call the attention of the trade and builders generally to an inspection of this stock as well worthy of their notice, and which must be positively sold to repay a heavy advance.—May be viewed one day prior and morning of sale, and catalogues had at the rooms as above.

TO TIMBER MERCHANTS, BUILDERS, AND OTHERS.

Extensive and important sale of English Oak Timber, in the round, Scantlings, Coffin Boards, Spokes, Gates, Hurdles, Ash Felloes; Timber Carriage, Waggons, Carts, Hay, and numerous effects.

MESSRS. WALKER, PAGE, and LOVERIDGE beg to announce that they have been directed by Mr. Handle Walker, who is declining business, TO SELL BY AUCTION, without the least reserve, upon the premises, Berry-street, Canal-street, and Culwell, Wolverhampton, on Monday and Tuesday, the 16th and 17th days of February, 1846. The stock consists of about 6,000 feet of English oak in the round, about 1,500 feet of oak scantlings and planks, upwards of 6,500 feet of oak coffin boards, 1,000 feet of 1-inch dry Riga oak boards, 1,000 feet of 2 to 1-inch English oak ditto, 2,500 feet of elm coffin boards, 7,000 feet of 1-inch elm, poplar, and other boards, large quantity of elm, lime, and other planks, 90 trine of English oak spokes, 44 capital oak field gates, handsome entrance gate, 40 oak hurdles, 800 ash felloes, two 6-inch wheel waggons, with iron arms (one nearly new), three 6-inch wheel carts, excellent timber carriage, with 6-inch wheels and iron arms, rick and part of a rick of well got hay, and numerous other effects, particulars of which will be given in catalogues, which may be had ten days prior to the sale, at the offices of the AUCTIONEERS, Cleveland-street, Wolverhampton. The sale to commence each morning punctually at eleven o'clock.

*** The stock may be viewed any business day prior to the sale. ORDER OF SALE.

FIRST DAY, MONDAY, FEBRUARY 16.—The Stock in Berry-street, consisting of the scantlings, coffin boards, Riga boards, spokes, felloes, gates, &c.

SECOND DAY, TUESDAY, FEBRUARY 17.—Oak in round, at the yard, Canal-street; timber carriage, waggons, carts, hay, and hurdles, &c., at the Culwell.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

PAINTED GLASS.

THE Subscribers, who have been appointed to furnish the PAINTED GLASS for the WINDOWS of the HOUSE OF LORDS, are ready to prepare Designs adapted to every style of Ecclesiastical or Domestic Architecture, and to execute Work, to any extent, within the shortest possible period.
BALLANTINE and ALLAN, 42, George-street, Edinburgh.

TO THE PLATE GLASS TRADE.

THE BIRMINGHAM PLATE AND CROWN GLASS COMPANY, "Registered," beg to inform the Trade and Public, that the extension of their Works at Smethwick, near Birmingham, being now completed, their Warehouse 141, Fleet-street, is now open for the Sale of their Crystal Plate Glass, which will be found to stand unrivalled by that of any other manufactory. They are also in a position to supply Rough Plate of any substance for Skylights or Floorings on the shortest notice.—Orders addressed to B. MOSS, 141, Fleet-street, will be promptly attended to.

BELGIAN GLASS FOR HORTICULTURAL AND OTHER PURPOSES.

MESSRS. EDWARDS and PILL beg respectfully to call public attention to their list of prices for Foreign Glass, &c.

	A	B	C	D
Under 12 by 10	5d	5	4	3d
12 by 10—under 20 by 16..	6½	5½	4½	4
20 by 16 .. 25 by 30..	6d	5d	4½	4
25 by 20 .. 30 by 25..	7½	5d	4d	4½
30 by 25 .. 40 by 34 .	8	6½	5½	4d

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by Salmon and Co., Dublin,
and at 46, Seel-street, Liverpool.

ATKINSON'S CEMENT.—The public is respectfully informed, that the price of this very excellent Cement, which has now been in use for Architectural and Engineering works upwards of thirty years, is reduced to 2s. 3d. per bushel, and may be had in any quantity at Wyatt, Parker, and Co.'s Wharf, Holland-street, Surrey side of Blackfriars bridge.

N.B.—This Cement being of a light colour, requires no artificial colouring or painting, and may be used for stucco with three parts its own quantity of sand.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

MIXED, 1s. per lb.
Grey Goose, 1s. 4d. per lb.
Foreign, ditto, ditto, 1s. 8d. per lb.

Best Foreign Grey Goose, 2s. per lb.
Best Irish White, ditto, 2s. 6d. per lb.
Best Dantzic, ditto, ditto, 3s. per lb.

Warranted sweet and free from dust.

A List of every description of Bedding, containing weights, sizes, and prices, sent free by post, on application to HEAL and SON, Feather-dressers and Bedding manufacturers, 196, opposite the Chapel, Tottenham Court-road.

By Her Majesty's Royal Letters Patent.

SEALED 7th OCTOBER, 1845.

CROGGON'S PATENT WATERPROOF DOUBLE BITUMINOUS PAPER.

THE above is Manufactured by the most Accurate Machinery, for Depositing a DOUBLE COAT of ASPHALTE between Two Sheets of Paper, ensuring an evenness of distribution of the Waterproof Materials, thus rendering EVERY MINUTE PORTION OF THE PAPER ENTIRELY IMPERVIOUS TO WATER. To prove that it perfectly resists water, it is only necessary to put it into such a form as to Hold Water, when, after filling, it, the water will evaporate without appearing in the least degree on the other side.

For ROOFS OF HOUSES it will be found very advantageous, being very cheap, admitting A GREAT SAVING OF TIMBERS; it may be painted of all colours, thus rendering it peculiarly applicable to any description of Roof. It is also an EFFECTUAL PREVENTATIVE against the effects of DAMP FROM WALLS, if put under the usual paper, and DAMP FLOORS, when under carpets.

It may be had in Rolls of any Length, to order, AT SIXPENCE PER SQUARE YARD, of
THOS. JNO. CROGGON,
8, Laurence Pountney Hill, Cannon-street.

CHEAP AND DURABLE ROOFING.

By Her Majesty's Royal Letters Patent.

F. McNEILL and Co. of Lamb's Buildings, Bunhill Row, London, Manufacturers and ONLY Patentees of

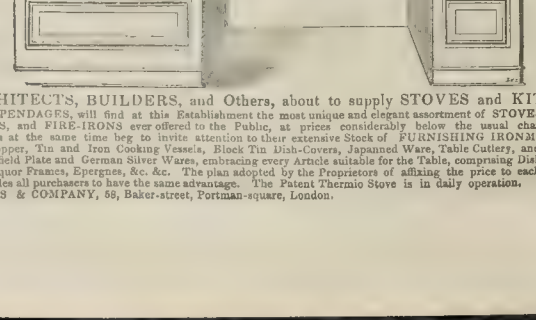
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Beg to call the attention of the Trade to their ROOFING FELT, which has been exhibited at the great Agricultural Shows of England, Scotland, and Ireland, and OBTAINED THE PRIZE, for being the best and cheapest article for Roofing. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only One Penny per Square Foot. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION.

THE ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW, LONDON. A Specimen Roof to be seen at the Factory. A liberal Discount allowed to the Trade.

THE PANKLIBANON IRON WORKS,

WHOLESALE AND RETAIL, 58, BAKER STREET, PORTMAN SQUARE.



ARCHITECTS, BUILDERS, and Others, about to supply STOVES and KITCHEN APPENDAGES, will find at this Establishment the most unique and elegant assortment of STOVE-GRATES, FENDERS, and FIRE-IRONS ever offered to the Public, at prices considerably below the usual charges. The Proprietors at the same time beg to invite attention to their extensive Stock of FURNISHING IRONMONGERY, Tinned Copper, Tin and Iron Cooking Vessels, Block Tin Dish-Covers, Japanned Ware, Table Cutlery, and especially their Sheffield Plate and German Silver Wares, embracing every Article suitable for the Table, comprising Dish and Plate Covers, Liquor Frames, Epergnes, &c. &c. The plan adopted by the Proprietors of affixing the price to each article for cash, enables all purchasers to have the same advantage. The Patent Thermio Stove is in daily operation. THORPE, FALLOWS & COMPANY, 58, Baker-street, Portman-square, London.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery.

Best Patent Cut Clasp.

3d.	4d.	6d.	8d.	10d.	20d.
6d.	7½d.	9d.	1s. 1d.	1s. 6d.	2s. 3d. per 1000.

Best Sheet Floor Brads 10s. 6d. per cwt.
Best Town Glue 44s. per cwt. Do. Scotch 54s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6d., 7d., 8d. per inch. Self-acting Kitchen Ranges with Oven and Back Boiler.

Wrought Bars and Bright Fittings.

3 ft., 3l. 3s. 5 ft. 6 in., 3l. 12s. 6d. 4 ft., 4l.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

PORTER'S CORRUGATED, and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanizing Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway, and other Iron and Smith's work Manufactured of the best quality. Iron Fence and Hurdles as usual.—The Trade Supplied.

MOREWOOD AND ROGERS' PATENT GALVANIZED TINNED IRON.

T. W. BEALE begs to acquaint the public that he is prepared to lay roofing, plain or corrugated, fix pipes, gutters, &c. Also chimney-tops and ventilating cowls of every description; also water and oil cisterns, of this incorrodible and fireproof metal. He manufactures all kinds of baths, as hip, shower, Roman, open, slipper, sponging, foot, children's, and self-heating baths; also toilet-cans and pails, slop-pails, coal-scuttles, cash and deed-boxes, and fire-proof safes of every description, 10 per cent. cheaper than any house in London.

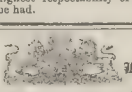
The PATENT GALVANIZED TINNED IRON is applicable to the following uses:—The Lining of Ships' Store Rooms, Ships' Water Buckets, Water Jugs and Receivers, and for almost every purpose to which zinc, tin, copper, brass, or any other metal is now applied; is more durable, and manufactured at much less expense. An experienced workman sent to any part of the kingdom. All orders punctually attended to. For particulars, apply to T. W. BEALE, 46, Bridge House-place, Newington Causeway.



PATENT GALVANISED TINNED IRON.
(MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and water-closets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 9oz. to any required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quick-set-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

By Her Majesty's  Royal Letters Patent

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED METAL.—This article was at first sold under the name of Galvanised Tin Plates, but the Patentees finding that the public, in some instances, overlooking the word Tin, confounded the article with Galvanised Iron, and that the character of their metal has thereby sustained injury, are desirous of giving it a name so distinctive as to prevent such mistakes, and consequent disappointment to purchasers in future. They therefore respectfully request purchasers to inquire for MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON. In order to enable the public readily and at first sight to distinguish between the two metals, it may be well to inform them, that Galvanised Iron has a plain zinc-like appearance, while M. and R.'s Patent Galvanized Tinned Iron has a smooth crystalline surface.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON, Patronized by the Admiralty and the Honourable Board of Ordnance, being extensively used in her Majesty's Dock-yards, at the Tower, and elsewhere, for every variety of Roofing, and other purposes, where a strong, light, cheap, and durable material is required.

It has been found by experience that this article is beyond all comparison superior to zinc; possessing, as it does, all the advantages arising from the strength and firmness of iron, combined with perfect immunity from rust; whilst it is free from the very serious objection which applies to zinc, viz. its contraction and expansion, consequent upon every change of temperature, and from which circumstance leakage must of course result.

This material is not likely to be destroyed by fire, as is the case with zinc and lead, which melt and run down, thus freely admitting fresh air to the fire, and causing it to burn more fiercely. It is, therefore, obviously well adapted for all the purposes above-named, and most importantly so, when there is the possibility of fire. It is also peculiarly suitable for chimney-tops, gutters, spouting, and out-door work generally, possessing the strength of iron, without its liability to corrosion. It is by far the most economical metal roofing that can be obtained, in consequence of its strength, as it may be laid without boards, and upon the lightest rafters.

This mode of preserving metal from rust does not only apply to sheet-iron, but also to manufactured iron in any form, as bolts, nuts, hinges, nails, &c. &c.

For full Particulars apply to S. HOLLAND, 34, Grace-church-street.

RAIN WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from ⅛ in. to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, and No. 6, Bankside, Southwark.

MESSRS. NEILSON AND MITCHELL BEG to inform Builders that they have always on hand, at their premises, 15, Wharf-road, City-road,

A LARGE ASSORTMENT OF R. W. PIPES, GUTTERING, SASH-WEIGHTS, &c.,

which they are disposing of at very low prices. Castings of every description done to order.—BALLUSTERS.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 108, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

TO ARCHITECTS AND BUILDERS.

DOOR SPRINGS AND HINGES.—GERISH'S PATENT DOOR SPRINGS, for CLOSING every description of DOOR, consists of Single and DOUBLE-ACTION BUTT HINGES in Brass and Iron for Doors to open one or both ways, and Rising Hinges for the convenience of Doors opening on uneven Floors. Likewise Swing Centres, which consist of a combination of power unequalled by any made at present. Manufactured by F. W. Gerish, East-road, City-road; and sold by all respectable Ironmongers in the United Kingdom.

TO ARCHITECTS AND BUILDERS.

COLLINGE'S PATENT HINGES.—Sole Manufactory, 64, BRIDGE-ROAD, LAMBETH, where a great variety are always on view, for Church, Park, Coach-house, and all other Doors and Gates, of large or small dimensions, a gate of a ton in weight moving with these hinges as easily as a wicket; they are also admirably adapted for drawing-rooms, being highly ornamental, and folding-doors fitted with them may be removed and replaced in an instant. Rising and spring Hinges, also double-action Butts on the most improved principle, and very superior Fastenings for exterior Gates, at moderate prices. To be seen at Charles Collinge and Co's Patent Axletree, Sugar-mill and Spherical-hinge Manufactory, 64, Bridge-road, Lambeth.

POLONCEAU'S BITUMEN PAVEMENT for paving Foot walks, Terraces, Garden walks, Stables, Coach Houses, Granaries, Corn Stores, and Salt Warehouses. For the exclusion of Damp and Vermin in Basements it is particularly adapted, and for Roofing Dwelling Houses, Porticos, Balconies, and Sheds.

Price 3s. 6d. per square yard.

BITUMEN for covering the Arches of Bridges, Culverts, &c. &c. on Railways and other places (with instructions for laying it down), may be had at the rate of 45s. per ton, by applying to JOHN PILKINGTON, 15, Wharf-road, City-road.

TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorized CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced. I. FARRELL, Secretary.

Stangate, near Westminster Bridge, Jan., 1845. Seyssel Asphalte Company,

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

TO CIVIL ENGINEERS, SURVEYORS, &c.

HENRY POPE, Wholesale Stationer, having had for some time a large stock of Drawing Paper on hand, which, from its age, is so superior for mounting, feels much confidence in recommending his Mounted Papers, lengths of which upon linen and cotton are kept always ready. Maker of the Patent Metallic Levelling and Surveying Field Books, Tracing Papers, and all kinds of Stationery. The Ordnance Maps supplied. 22, Budge-row, Watling-street.

FINE ARTS.

By Her Majesty's  Royal Letters Patent.

LORIMIER'S TRANSPARENT PLANES for Perspective Drawing; BENJAMIN WEST, Patentee.

"This Instrument will enable Artists and others to make any Drawing, whether from Nature or Models, in perfectly true perspective, so that a likeness or landscape may be taken in a few minutes absolutely perfect. It is used by her Majesty's Royal Sappers and Miners, Chatham. To Travellers it would be found serviceable, since it can be employed without the knowledge of drawing."—*Art Union.*

Price 18s. and 26s. Apply for Agents to BENJAMIN WEST, 2, St. James's-walk, Clerkenwell.—Sold by BARRITT and Co., 173, Fleet-street, London; GRIFFIN and Co., Glasgow, and by all Fancy Stationers, &c.

HOWARD'S TRACING PAPERS have now very generally gained the character of superiority; every possible attention is given to its manufacture, and the utmost confidence may be placed in its quality. Sample books, containing the various kinds from the substance of drawing-paper to the thinest, with sizes and prices, sent per post free.

No. 23, Great Russell-street, Bloomsbury, London.

NOTICE TO INVENTORS.

OFFICE for PATENTS of INVENTIONS and REGISTRATIONS of DESIGNS, 14, LINCOLN'S-INN-FIELDS.—The printed Instructions gratis, and every information upon the subject of PROTECTION for INVENTIONS, either by Letters Patent or the Designs Act, may be had by applying personally, or by letter (prepaid) to Mr. Alexander Prince, at the office, 14, Lincoln's-inn-fields. Where may be had, price 12s., or, through any bookseller in the United Kingdom, of Wm. BENNING and Co., law booksellers, 43, Fleet-street, the LAW of PATENTS and REGISTRATIONS, with all Forms and Cases up to the present time, by SIDNEY BILLING, Esq., barrister-at-law, and ALEXANDER PRINCE, of the Office for Patents, 14, Lincoln's-inn-fields.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

REDUCTION IN THE PRICE OF BUNNETT AND CORPE'S PATENT REVOLVING IRON SHUTTERS.

THE validity of this Patent being completely established, the Patentees have much pleasure in stating that the very extensive demand, and the employment of improved machinery in the manufacture, have given them an opportunity (of which they gratefully avail themselves) of making a considerable reduction in the price of this well-knownand tried invention, thereby rendering them the cheapest as well as the best iron shutters in use. Every improvement suggested by practical skill and most extensive application has been adopted, and no effective REVOLVING IRON SHUTTER can be constructed without infringing B. and C.'s patent. The worm and wheel, as patented by them, being the only safe, durable, and efficient mode of raising and lowering such shutters, these shutters can be applied horizontally, either above or below the window, or vertically, as introduced by BUNNETT and CORPE, in some of the largest establishments: they are made with bent or corrugated laths, if required.

BUNNETT and CORPE also manufacture

REVOLVING WOOD SHUTTERS,

with their patent raising machinery, or with counterbalance weights, and with proper metallic hinges, without which no shutters can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop Fronts fitted in a superior manner with Iron Shutters, Patent Brass or Zinc Sashes, Moulded Engraved Stall Board Plates, best Plate Glass, and internal Brass Fittings of all kinds, on the most advantageous terms. Estimates given and contracts taken in Town or Country.—All kinds of metal works executed to any design. Metal Drawing, Rolling, and Stamping for the Trade. OFFICE, 26, LOMBARD-STREET, LONDON. WORKS, at DEPTFORD, KENT.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.

PATENT SAFETY IRON SLIDING SHUTTERS.





The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 115, Old Street, London; or at the Licensees'.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shown by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using BENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licenses Granted.

GLAZED SASHES—TO BUILDERS AND OTHERS.

TO BE SOLD, Cheap, Twenty excellent new well-seasoned 2½ Yellow Deal, six square Sashes, 56 by 51.—Inquire at 53, Red Lion-street, Holborn.

FOR SALE, a Right Line dividing-engine, with three feet steel screw, made by the late Mr. T. Clements. Specimen scales may be seen at M. W. Clay's, mathematical instrument maker, Strand, or at the office of "The Builder."

BRICKS.

FOR SALE, at SUFFOLK WHARF, James-street, Camden Town, a quantity of white and brimstone-coloured facing bricks, paving bricks, coping tiles, &c. Also, Moon's patent chimney bricks for circular flues. N.B. Part of the Wharf to be let.

BRICK FIELD.

TO BE LET, situate about seven miles from London, a snug BRICK FIELD, capable of making about a million of bricks per annum. There are two close kilns on the premises, and the whole may be procured on most favourable terms. Apply to Mr. William Thomas Woods, Bedford New-road, Clapham-rise, Surrey.

BUILDING LAND.

TO BE LET, some eligible Plots, within 6d. omnibus ride of town, having a frontage to the high road, screened by beautiful timber trees. Advances may be had if required. Plans and Particulars may be seen, upon application to Mr. EALES, Architect, No. 4, Chapel-place, Cavendish-square.

TO BUILDERS.—MATERIALS AND MONEY ADVANCED.

TO BE LET, on BUILDING LEASES, for ninety-six years, several very eligible plots of Freehold Building Ground, land-tax redeemed, situated in the Shrubland-road, leading from the Queen's-road, Dalston, to Lansdown-place. This is one of the most rapidly improving neighbourhoods near London, and will be the principal thoroughfare from all parts westward to the new Victoria Park, from which it is only a quarter of a mile distant.—Apply to Mr. PALMER, on the premises.

ST. JOHN'S WOOD PARK!!! IMMEDIATE CONNECTION WITH REGENT'S PARK.

BUILDING PLOTS TO BE LET in this most desirable and salubrious situation!! commanding picturesque views of the surrounding beautiful neighbourhood, and elevated within a few feet of the summit of the monument, with the best approaches of any suburban district near the metropolis, and greatest facilities of access to all the fashionable resorts and promenades of the West End and the City!—For particulars and plans, apply to W. H. TWENTYMAN, Esq., 31, Regent's-villas, Avenue-road, Regent's-park.

THE old-established business of a Carpenter and Builder TO BE DISPOSED OF. This will afford an excellent opportunity for a young man desirous of commencing business, the connections being of the first respectability. About 1,000*l.* will be required for purchase of lease and fixtures, stock in trade and goodwill, &c.; or half the amount may remain at interest upon good security. Apply by letter only, pre-paid, addressed to Y. L., Mr. Pattie's Newspaper Office, St. Albans-place, Edgeware-road.

SALES BY AUCTION.

Fifty superior Marble Chimney-pieces, including three splendid Italian Chimney-pieces.

MR. EDMUND ROBINS is directed to SELL by AUCTION, at his rooms in Covent-garden, on Saturday, February 21st, at Twelve, three beautiful Italian Marble Chimney-pieces, richly sculptured, of elegant designs, and calculated for drawing-rooms of the first class. Also a great variety of superior Statuary Marble Chimney-pieces for drawing-rooms, noble dove, black and vein marble for dining-rooms and bed-chambers, presenting an excellent opportunity for builders.—May be viewed three days prior at the auction rooms in Covent-garden.

TO BUILDERS.

Extensive stock of superior PAPERHANGINGS, comprising an immense variety, and for peremptory sale.

MR. EDMUND ROBINS is directed to SELL by AUCTION, at his rooms in Covent-garden, Friday, February 20th, at Twelve—an extensive STOCK of very Capital PAPERHANGINGS, manufactured in a superior manner, and directed to be peremptorily sold, comprising 5,000 pieces in Rich Flocks, Satins, Watered Satins, Crimsons, Damasks, Chintzes, Gothics, Marbles, Oaks, and various other descriptions, calculated for every chamber, and arranged into lots to suit builders and private buyers, whose attention is especially invited to this excellent opportunity.—May be viewed the day prior at the auction rooms in Covent-garden.

TO TIMBER MERCHANTS, BUILDERS, AND OTHERS.

Extensive and important sale of English Oak Timber, in the round, Scantlings, Coffin Boards, Spokes, Gates, Hurdles, Ash Felloes; Timber Carriage, Waggons, Carts, Hay, and numerous effects.

MESSRS. WALKER, PAGE, and LOVERIDGE beg to announce that they have been directed by Mr. Randle Walker, who is declining business, TO SELL BY AUCTION, without the least reserve, upon the premises, Berry-street, Canal-street, and Culwell, Wolverhampton, on Monday and Tuesday, the 16th and 17th days of February, 1846. The stock consists of about 6,000 feet of English oak in the round, about 1,500 feet of oak scantlings and planks, upwards of 6,500 feet of oak coffin boards, 1,000 feet of 1-inch dry Riga oak boards, 1,000 feet of 2 to 1-inch English oak ditto, 2,500 feet of elm coffin boards, 7,000 feet of 1-inch elm, poplar, and other boards, large quantity of elm, lime, and other planks, 90 trine of English oak spokes, 44 capital oak field gates, handsome entrance gate, 40 oak hurdles, 800 ash felloes, two 6-inch wheel waggons, with iron arms (one nearly new), three 6-inch wheel carts, excellent timber carriage, with 6-inch wheels and iron arms, rick and part of a rick of well got hay, and numerous other effects, particulars of which will be given in catalogues, which may be had ten days prior to the sale, at the offices of the Auctioneers, Cleveland-street, Wolverhampton. The sale to commence each morning punctually at eleven o'clock.

*** The stock may be viewed any business day prior to the sale. ORDER OF SALE.

First Day, Monday, February 16.—The Stock in Berry-street, consisting of the scantlings, coffin boards, Riga boards, spokes, felloes, gates, &c.

Second Day, Tuesday, February 17.—Oak in round, at the yard, Canal-street; timber carriage, waggons, carts, hay, and hurdles, &c., at the Culwell.

SPACIOUS BUILDING GROUND, in the heart of the City, TO BE LET on a Building Lease. The site comprises old Founders' Hall, Lothbury, (extending from east to west 70 feet, and from north to south 30 feet), and a further space in connection with it, suitable for purposes of an additional entrance to the premises.—Particulars may be obtained by applying at the Company's Offices, Founders' Hall, or to J. B. Gardiner, Esq., Architect, 4, Bank-chambers, Lothbury, where a plan of the premises may be seen.



WILSON'S PATENT VENTILATING SPIRAL CHIMNEY POT, for the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success. This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance. The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory, Southwark-bridge Iron Roofing Works.

DAY'S PATENT WINDGUARD, for ventilating

Churches,	School-rooms,
Hospitals,	Nurseries,
Factories,	Stables,
Theatres,	Larders,
Breweries,	Kitchens,
Malt-houses,	Offices,
Club-houses,	Ships,
Shops,	Mines.
Bed-rooms,	Vaults,
Smoking-rooms,	Tunnels, &c.

Also for preventing down draft; and is guaranteed to cure all smoky chimneys caused by wind; and entirely supersedes the use of revolving cowls, or any thing moveable or unsightly on the tops of chimneys or ventilators.

The object of this invention is to create a draft where otherwise it would not exist, by the spontaneous action of the external air. The Windguard forms a pleasing octagonal pillar, and by its peculiar construction to carry out the principle on which it is based, which consists of the wind giving a disposition for a vacuum within, thereby causing a continual upward current about equal to the velocity of the wind at the time acting upon it, which averages about six feet per second thirty days out of thirty-one; therefore, will nearly at all times ensure a continual change of air, being no impediment to spontaneous ventilation, even on a perfectly calm day. One five feet square will ventilate a building containing upwards of 1,000 persons. The Windguard applied to ships and steam vessels, in the form of a sky-light, prevents rain or the sea entering within, however boisterous the weather may be, thereby affording excellent ventilation as well as light. The Windguard is simply applied for effectually ventilating bed-rooms, nurseries, smoking-rooms, offices, &c., causing the air of the apartment to be at all times as pleasant as can be desired. It is fixed at the top of the chimney, in addition to which a cast-iron frame and valve (about one foot area), made to open or shut at pleasure, is let into the flue, near the ceiling of the room, to allow the constant ascending vitiated air being immediately carried off. The opening is guarded by a neat venetian bird or grating; and so powerful is the effect on a windy day that if a handkerchief be thrown up to the grating, it will remain there—i. e. if the valve be open. In winter the valve would be only partially open, to allow the smoke from the fire to ascend, but if the room be found too cold, can be entirely closed. The Windguard applied to the tops of chimneys prevents all annoyance from smoke (caused by wind); indeed, where it does not, nothing else applied at top will (of the same size); care, therefore should be taken to have the proper size applied. It is simple in its application, reasonable in price, ornamental in appearance; no machinery or anything moveable in it, therefore, cannot get out of order; free from noise or any unpleasantness whatever; not liable to choke up with soot; no obstacle to the machines used for sweeping chimneys. May be had of all respectable ironmongers in town and country; and may be seen daily in operation, where its powers and usefulness are exhibited by the severest tests, at THE PATENT VENTILATING WORKS, COMMERCIAL-ROAD, PIMLICO, LONDON; where also may be seen Mr. G. T. Day's plans (illustrating the different applications of his Patent Archimedian Ventilator and his Portable Water Apparatus) for effectually Ventilating, Warming, and Cooling the Air of Buildings, Ships, Mines, &c. &c. By the use of these inventions many thousand cubic feet, or any quantity of pure warm or cold air, can be guaranteed to be continually exchanged per minute, day and night, winter and summer; thereby insuring, at all times, free ventilation to the rooms and passages of buildings, &c. from the basement to the roof, at the same time in such a manner as shall not be inconveniently perceptible. The size of the apparatus depends on the nature and use of the building and its occupants. The Patentee has been honoured by his inventions being applied at the following places:—

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Buckingham Palace,	Ordnance,
Saint James's Palace,	Greenwich Hospital,
Claremont Palace,	Christ's Hospital,
Walmer Castle	Westminster Hospital,
The Houses of Parliament,	Bethlehem Hospital,
New Conservative Club,	Surrey Lunatic Asylum,
White's Club,	New Royal Exchange,
Travellers' Club,	Mansion House,
Oxford and Cambridge,	Goldsmiths' Hall,
Parthenon,	Fishmongers' Hall,
Wyndham,	Haberdashers' Hall.
Army and Navy,	Dyers' Hall,
Senior United Service,	Grocers' Hall,
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Registrar of Metropolitan Buildings.

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Ryde, 12th February, 1846.

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THE DIRECTORS of the COMPANY will meet at the Board Room, 6, Spital-square, on Thursday, 26th of February, at three o'clock, to receive tenders for the foundations of a Tower and small Church, in Kentish Rag-stone. Plans and specifications may be seen at the office of Mr. A. ASHPITEL, Architect, 5, Crown-court, Old Broad-street, City, between eleven and three. The Directors do not pledge themselves to accept the lowest tender. JOHN HUMPHREYS, Registrar.

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Feb. 14, 1846. ROB. CUNNINGHAM.

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TESTIMONIALS.

From THOMAS GRAHAM, Esq., M.A., F.R.S., L. and E., Professor of Chemistry, University College, London.

"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.

"The wood appears to be fully and deeply penetrated by the metallic salt; I have found it in the centre of a large prepared paving block.

"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the crystallizable salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.

"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Toplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotised principles it contains, by entering into chemical combination with them.

(Signed) "THOMAS GRAHAM."

"University College, 25th October, 1845.

From Professors BRANDE and COOPER.

"London, 4th November, 1845.

"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.

"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.

"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.

"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.—(Signed) "WILLIAM THOMAS BRANDE,
"JOHN THOMAS COOPER."

"To Sir William Burnett, K.C.H., F.R.S., &c. &c."

Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 53, King William-street, London-bridge.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above.

N.B.—A weighbridge on the premises.

PAYNE'S PATENT PROCESS FOR THE PRESERVATION AND IMPROVEMENT OF TIMBER, &c.

PAYNE and LODER beg to invite the attention of Engineers, Railway Companies, Architects, and others to the above process, and to state that they are prepared to erect the necessary apparatus in any part of the United Kingdom where the quantity is sufficiently large to cover the outlay of its removal.

Further particulars can be obtained at Whitehall-Wharf Cannon-row, Westminster, or at their other stations, Fleet-wood-on-Wyre, Lancashire; Wisbeach, Cambridgeshire; Union-Wharf, Southampton; and Guildford, Surrey.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

Manufactory, 95, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

REDUCTION IN THE PRICE OF
BUNNETT AND CORPE'S
PATENT REVOLVING IRON SHUTTERS.

THE validity of this Patent being completely established, the Patentees have much pleasure in stating that the very extensive demand, and the employment of improved machinery in the manufacture, have given them an opportunity (of which they gratefully avail themselves) of making a considerable reduction in the price of this well-knownand tried invention, thereby rendering them the cheapest as well as the best iron shutters in use. Every improvement suggested by practical skill and most extensive application has been adopted, and no effective REVOLVING IRON SHUTTER can be constructed without infringing B. and C.'s patent. The worm and wheel, as patented by them, being the only safe, durable, and efficient mode of raising and lowering such shutters, these shutters can be applied horizontally, either above or below the window, or vertically, as introduced by BUNNETT and CORPE, in some of the largest establishments: they are made with bent or corrugated laths, if required.

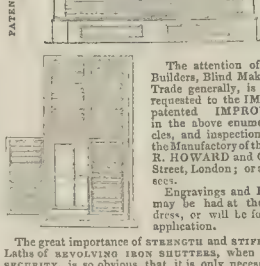
BUNNETT and CORPE also manufacture
REVOLVING WOOD SHUTTERS,

with their patent raising machinery, or with counterbalance weights, and with proper metallic hinges, without which no shutters can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop Fronts fitted in a superior manner with Iron Shutters, Patent Brass or Zinc Sashes, Moulded Engraved Stall Board Plates, best Plate Glass, and internal Brass Fittings of all kinds, on the most advantageous terms. Estimates given and contracts taken in Town or Country.—All kinds of metal works executed to any design. Metal Drawing, Rolling, and Stamping for the Trade. OFFICE, 26, LOMBARD-STREET, LONDON. WORKS, at DEPTFORD, KENT.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.
PATENT SAFETY IRON SLIDING SHUTTERS.



The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 115, Old Street, London; or at the Licencees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using BENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licenses Granted.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—Wyatt, Parker, and Co., Agents. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

ORNAMENTAL TILES FOR COVERING BUILDINGS.

ROBERT BROWNE'S newly-invented CURVED ITALIAN TILES, for which invention the Society of Arts and Sciences awarded a medal. The Gothic Grooved Ridge Tile, with vertical ornaments, invented by R. B. in 1840; also a variety of plain Gothic Ridge Tiles adapted for tile or slate coverings; ornamental Plain Tiles of various patterns.

Tiles form in winter a warmer and in summer a cooler covering than slates or metal, and may be burnt of any desired colour. Address ROBERT BROWN, Tile Works, Surbiton Hill, near Kingston, Surrey.

HIP TILES to suit slate roofs in colour; Ridges, with plain or rebated joints, roll tops, and vertical ornaments; drains, many sizes, with plain or socket joints; paving in squares, hexagons, octagons, &c., different colours; roofing, in Grecian or Italian styles, other devices also, or plain; conduits, which do not injure pure water; fire-bricks and tiles; clinkers, and out-door paving; sundry wall-coping, garden-borders, chimney-tops; also tubular and other flues of peculiar material. No agent, but a depôt at 22, WHITEFRIARS-STREET, FLEET-STREET, LONDON, under Mr. PEAKE'S personal care, to supply genuine TERRO-METALLIC goods at fair prices as per quality; also, additional Stock at No. 4 Wharf, Macclesfield-street, South, City Basin.

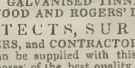
The TILERIES, TUNSTALL, STAFFORDSHIRE, are near the centre of England, whence boats are sent direct to any inland place; or to the Mersey for the coasts, the colonies, and elsewhere.

PORTER'S CORRUGATED, and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanizing Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway, and other Iron and Smith's work Manufactured of the best quality. Iron Fence and Hurdles as usual.—The Trade Supplied.

MOREWOOD AND ROGERS' PATENT GALVANIZED TINNED IRON.

T. W. BEALE begs to acquaint the public that he is prepared to lay roofing, plain or corrugated, fix pipes, gutters, &c. Also chimney-tops and ventilating cowls of every description; also water and oil cisterns, of this incorrodible and fireproof metal. He manufactures all kinds of baths, as hip, shower, Roman, open, slipper, sponging, foot, children's, and self-heating baths; also toilet-cans and pails, slop-pails, coal-scuttles, cash and dred-boxes, and fire-proof safes of every description, 10 per cent. cheaper than any house in London.

The PATENT GALVANIZED TINNED IRON is applicable to the following uses:—The Lining of Ships' Store Rooms, Ships' Water Buckets, Water Jugs and Receivers, and for almost every purpose to which zinc, tin, copper, brass, or any other metal is now applied; is more durable, and manufactured at much less expense. An experienced workman sent to any part of the kingdom. All orders punctually attended to. For particulars, apply to T. W. BEALE, 46, Bridge House-place, Newington Causeway.



PATENT GALVANISED TINNED IRON.
(MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and water-closets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 90z. to any required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quicksett-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

HOWARD'S TRACING PAPERS have now very generally gained the character of superiority; every possible attention is given to its manufacture, and the utmost confidence may be placed in its quality. Sample books, containing the various kinds from the substance of drawing-paper to the thinest, with sizes and prices, sent per post free.

No. 23, Great Russell-street, Bloomsbury, London.

FINE ARTS.

By Her Majesty's Royal Letters Patent.

LORIMIER'S TRANSPARENT PLANES for Perspective Drawing; BENJAMIN WEST, Patentee.

"This Instrument will enable Artists and others to make any Drawing, whether from Nature or Models, in perfectly true perspective, so that a likeness or landscape may be taken in a few minutes absolutely perfect. It is used by her Majesty's Royal Sappers and Miners, Chatham. To Travellers it would be found serviceable, since it can be employed without the knowledge of drawing."—*Ist Union.*

Price 18s. and 20s. Apply for Agents to BENJAMIN WEST, 2, St. James's-walk, Clerkenwell.—Sold by BARRITT and Co., 173, Fleet-street, London; GRIFFIN and Co., Glasgow, and by all Fancy Stationers, &c.

ATKINSON'S CEMENT.—The public is respectfully informed, that the price of this very excellent Cement, which has now been in use for Architectural and Engineering works upwards of thirty years, is reduced to 2s. 3d. per bushel, and may be had in any quantity at Wyatt, Parker, and Co.'s Wharf, Holland-street, Surrey side of Blackfriars-bridge.

N.B.—This Cement being of a light colour, requires no artificial colouring or painting, and may be used for stucco with three parts its own quantity of sand.

ROMAN CEMENT, &c.
REMOVAL.
THOMAS JOHN CROGGON
Begs to inform the Trade that he has removed to
8, LAWRENCE POUNTNEY-HILL and
THREE CRANES WHARF, 69, Upper Thames-street.
Orders addressed to either place for ROMAN CEMENT of genuine quality will be executed with promptitude and the strictest regard to quality and economy.

GREAVE'S LIAS CEMENT, stone-colour, free from vegetation, does not crack, and is well adapted for every description of modelling and casting.
GROUND LIAS LIME, for concrete, or as mortar for sewers, dock-walls, and hydraulic works generally; is superior to any other lime or cement.—Office, 2, South Wharf, Paddington, and Stratford-on-Avon.
Agent for Liverpool—Mr. Wylie, 56, Gloster-street.
Ditto, Manchester—Mr. J. Thompson, Back King-street.
Ditto, Chester—Mr. J. Harrison, Linen Hall-street.

PORTLAND CEMENT, which does not vegetate, and requires no colouring, is perfectly hydraulic, and resists the action of Frost. The cost of the material and of working it is about the same as Atkinson's Cement, Manufactured by J. B. WHITE and SONS, Millbank-street, Westminster, and sold at their Warehouses:—
Druce's Wharf, Chelsea,
Bell's Wharf, Paddington,
Earl-street, Blackfriars,
Albion Wharf, Deptford-bridge,
by Salmon and Co., Dublin,
and at 36, Seel-street, Liverpool.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producible by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Millbank-street, Westminster.

CAEN STONE.

LUARD and BEEDHAM have a quantity of the above stone, of the best quality, direct from their Quarries at Allemange, which may be inspected at the Norway Sufferance Wharf, Greenwich.—Further particulars at Mr. G. GATRS', 18, SOUTHWARK-SQUARE, SOUTHWARK.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

SAMUEL CUNDY begs to inform Architects, &c., that every description of Stone, Marble, and Granite work is executed at the cheapest possible rate.
Estimates given for Mason's Work in all its branches.
Gothic Work, Tombs, Monuments, &c.
MARBLE WORK for Halls, Dairies, Tables, Columns, Vases, at most reasonable prices.
A large collection of Designs for Mural and other Monuments.
CHIMNEY PIECES from Twelve Shillings upwards.
Depôt for CAEN STONE, &c.

TO ARCHITECTS, BUILDERS, AND THE PUBLIC IN GENERAL.

C. DEBAUFER and SON beg to call the attention of architects, builders, &c., to their general assortment of Gas Lamps, Pendants, Hydraulic sliding Pendants, Gas Brackets, Pillars, and every article connected with gas apparatus, at their Manufactory and their Rooms, 10 and 11, Creed-lane, Ludgate-street.—A liberal discount allowed to architects and builders.

FIRE BRICKS.

W. WARD, Honduras Wharf, Bankside, and St. Michael's-alley, Cornhill, has just landed a large quantity of his very superior manufactured Fire Bricks, of Stourbridge, Welsh, and Newcastle. Prices very low. Shipments made for the East and West Indies, &c., with the greatest promptness. Gas companies, engineers, builders, and all large consumers supplied from ships in the river at a much lower price. A very large stock on hand of Bricks, Lumps, Tiles, and Clays.
River sand and gravel by freight to any wharf and dock.

HEATING by WARM WATER.—An improved method of HEATING by the CIRCULATION of HOT WATER may be seen in operation daily at J. L. BENHAM and SONS, Stove Grate Manufactory, 19, Wigmore-street, Cavendish-square. Estimates given for warming churches and other public or private buildings in town or country. A great variety of warm-air stoves of every description, from fifteen shillings to twenty pounds.—19, Wigmore-street, Cavendish-square.

MR. ALLEN, Patentee and Manufacturer of the SELF-ACTING WORM STOVE, begs to inform scientific persons and the public generally, that having received the most gratifying encomiums on his invention, has now a variety ready for inspection, and he feels confident from their efficiency of action for all requisite purposes where heat and ventilation becomes a desideratum, they will recommend themselves to public patronage. It may be proper to observe, that the principles of the Worm Stove facilitates the method of heating by steam or hot water.—21 and 22, Worship-street, Finsbury.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3*l.* 6*s.*	3*l.* 13*s.*	3*l.* 16*s.*	4*l.*	4*l.* 10*s.*

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5*l.*	5*l.* 15*s.*	6*l.* 5*s.*	6*l.* 10*s.*	7*l.*

Best Register Stoves, at 7*d.*, 8*d.*, and 9*d.* per inch.
Do. Elliptic do., at 9½*d.*, and 4*d.* do.
Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.
Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.



WILSON'S PATENT VENTILATING SPIRAL CHIMNEY POT, for the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success. This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance. The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory, Southwark-bridge Iron Roofing Works.

[illegible]ATTRESSES.

MIXED, 1s. per lb.
Grey Goose, 1s. 4d. per lb.
Foreign, ditto, ditto, 1s. 8d. per lb.

Best Foreign Grey Goose, 2s. per lb.
Best Irish White, ditto, 2s. 6d. per lb.
Best Dantzic, ditto, ditto, 3s. per lb.

Warranted sweet and free from dust.

A List of every description of Bedding, containing weights, sizes, and prices, sent free by post, on application to HEAL and SON, Feather-dressers and Bedding manufacturers, 196, opposite the Chapel, Tottenham Court-road.

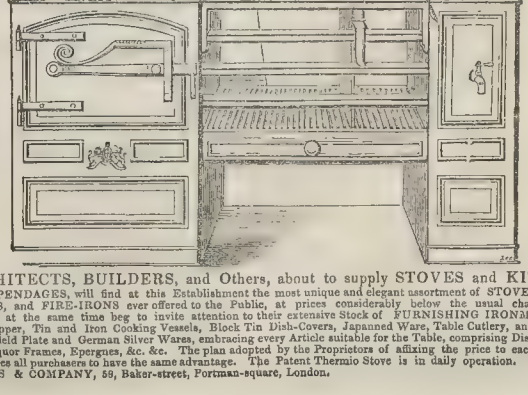
REMOVED TO LAWRENCE POUNTNEY HILL, CANNON STREET.

By Her Majesty's Royal Letters Patent.

CROGGON'S PATENT ASPHALTE ROOFING FELT,
With which the Committee Rooms of the Houses of Parliament are entirely Covered.

THE above Material has been used and highly approved by the Nobility, Gentry, and Agriculturists generally, and Patronized by many Members of the Royal Agricultural Societies of England, Scotland, and Ireland. It has been used for several Years at the Royal Horticultural Society's Gardens, Chiswick; the Swiss Gardens, Shoreham, Sussex; on the Duke of Buccleuch's, and the Marquis of Anglesea's Property, &c.; &c., and (under slate) at the Royal Agricultural Society's House, Hanover-square; its advantages are—CHEAPNESS, LIGHTNESS, DURABILITY, and ECONOMY. Being a Non-Conductor, it has been proved an efficient "Protective Material" to Plants.
PRICE ONE PENNY PER SQUARE FOOT.

THE PANKLIBANON IRON WORKS,
WHOLESALE AND RETAIL, 58, BAKER STREET, PORTMAN SQUARE.



ARCHITECTS, BUILDERS, and Others, about to supply STOVES and KITCHEN APPENDAGES, will find at this Establishment the most unique and elegant assortment of STOVE-GRATES, FENDERS, and FIRE-IRONS ever offered to the Public, at prices considerably below the usual charges. The Proprietors at the same time beg to invite attention to their extensive Stock of FURNISHING IRONMONGERY, Tinned Copper, Tin and Iron Cooking Vessels, Block Tin Dish-Covers, Japanned Ware, Table Cutlery, and especially their Sheffield Plate and German Silver Wares, embracing every Article suitable for the Table, comprising Dish and Plate Covers, Liquor Frames, Epergnes, &c. &c. The plan adopted by the Proprietors of affixing the price to each article for cash, enables all purchasers to have the same advantage. The Patent Thermio Stove is in daily operation. THORPE, FALLOWS & COMPANY, 59, Baker-street, Portman-square, London.

LAND.—Wanted to Purchase, within ten miles of the city of London, from 50 to 100 acres of Freehold Land (the north or south sides of London would be preferred), but it is absolutely necessary that the situation should be pleasant and healthy. A clay soil would not be approved. Letters, with price and particulars, will be received by Messrs. BEADEL and FOULKES, Auctioneers and Surveyors, Gresham-street, City.

SHOP FRONT to be SOLD a bargain. Double-front, Mahogany Sashes, Half Plate-glass, 24 by 18, Folding doors, Entablature Shutters, &c., complete, measuring 15 feet long; also some Sliding Sashes in Frames, Capital Desk, 7 feet 3 inches long with fittings, and a German Stove of the best kind. To be seen at No. 106, High-street, Marylebone.

TO BE SOLD CHEAP—A pair of excellent Cast-Iron Gate-Posts, 12 ft. 6 in. high, capable of sustaining any weight. Also a capital Kitchen Range, 63 in. wide, with large oven and boiler complete.

Apply or address to JAS. BRAGG, Sand, Gravel, Fire-Brick, and Tile Merchant, 153, Wapping, where builders can at all times be supplied in any quantity.

TO BUILDERS.

TO BE LET on Lease for 99 Years, in Plots or otherwise, the Sites of the Reservoirs belonging to the Grand Junction Water Company, situated on the Bishop of London's Estate at Paddington.—Apply to Mr. LEE, Architect, 20, Golden-square, St. James's.

COPENHAGEN ESTATE, ISLINGTON.—TO BUILDERS AND OTHERS.

TO BE LET, in Building Plots, on Lease for 99 Years, the whole of this Estate. The above Property is most eligible for Building purposes; it stands high and presents extensive views of the surrounding country; it has also the great advantage of being well drained.—Apply to Mr. LEE, Architect, 20, Golden-square, St. James's.

FREEHOLD BUILDING LAND.

TO BE LET, on long leases, a few Plots of Building Ground in the outer circle of the Regent's-park, between the proposed new park at Primrose-hill and the site for the new church. Advances made to builders if required.—For further particulars apply to Mr. LITTLE, 36, Northumberland-street, New-road.

BUILDING LAND.

TO be LET, some very Eligible Plots, for Detached or Semi-detached Villas, screened from the road by beautiful Timber Trees; advances may be had if required. Plans and Particulars may be seen upon application to Mr. EALES, Architect, No. 4, Chapel-place, Cavendish-square.

FORTY-TWO ACRES FREEHOLD, at PECKHAM, TO LET.—The Land has a frontage on the high road, and other famous frontages, advantages of excellent roads, and arched sewerage, &c. &c., and the situation is one of the most healthful and one of the most respectable and delightful spots round London. Leases of small or large portions, at low ground-rents, will be granted for 100 years, direct from the freeholder. Particulars may be obtained at the offices of Mr. SINGLE, 34, Coleman-street, City.

SPACIOUS BUILDING GROUND, in the heart of the City, TO BE LET on a Building Lease. The site comprises old Founders' Hall, Lothbury, (extending from east to west 70 feet, and from north to south 30 feet), and a further space in connection with it, suitable for purposes of an additional entrance to the premises.—Particulars may be obtained by applying at the Company's Offices, Founders' Hall, or to J. B. Gardiner, Esq., Architect, 4, Bank-chambers, Lothbury, where a plan of the premises may be seen.

TO BUILDERS.—MATERIALS AND MONEY ADVANCED.

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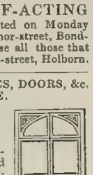
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Bath, Feb. 1846.

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TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorized CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced. I. FARRELL, Secretary.

Stangate, near Westminster Bridge, Jan., 1845. Seyssel Asphalte Company.

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

LONDON: Printed by CHARLES WYMAN, of 49, Cumming-street, Pentonville, in the County of Middlesex, Printer, at the Printing-office of J. & H. COX, *Brothers*, 74 & 75, Great Queen-street, Lincoln's-Inn Fields, in the Parish of St. Giles-in-the-Fields, in the same County; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," 2, York-street, Covent-Garden, in the Parish of Saint Paul, Covent-garden, in the said County.—Saturday, February 21, 1846.

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TO ARCHITECTS.

THE WALWORTH LITERARY AND SCIENTIFC INSTITUTION are desirous of obtaining Plans and Elevations for a building suited to the purposes of the Society. Particulars may be known on application to the Librarian, 21, Manor-place, Walworth, between the hours of 9 and 11 A.M., and 4 and 10 P.M. All Plans, &c., addressed to the Secretary of the Building Committee, to be sent in on or before the 16th of March next.

TO BUILDERS AND OTHERS.

ST. BARTHOLOMEW'S HOSPITAL. —A Committee of Governors will meet at this Hospital on Tuesday, the 10th day of March next, at Eleven o'clock in the forenoon, precisely, to RECEIVE PROPOSALS from such persons as may be willing to take on a BUILDING LEASE or Leases, for a term of Sixty-one Years, from Lady-day next, a valuable PLOT of GROUND, situate at Kingsland, and bounded by four roads; those on the East and North sides being respectively the Kingsland, and Balls Pond-roads.

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February, 1846. WILLIAM WIX, Clerk,

ALL SAINTS, POPLAR.

23rd February, 1846.

TO BUILDERS and OTHERS. — The Vestrymen of this parish will meet at the Town Hall, High-street, Poplar, on Monday, the 9th day of March next, at 7 o'clock in the evening, precisely, to receive tenders, and to contract for works to be done in making additions to the Rectory-house of this parish. The plans and specification may be seen at the offices of Mr. JOHN MORRIS, surveyor, Trinity-terrace, East India-road, Poplar, and 58, Fenchurch-street. Sureties will be required for the due performance of the contract.—Further particulars may be had on application at the Town Hall aforesaid.—By order,

THOS. HORNE, Vestry Clerk.

TO BUILDERS AND OTHERS.

NOTICE IS HEREBY GIVEN, that the Commissioners of Sewers for Holborn and Finsbury division, Middlesex, will meet at their office in Hatton-garden, on Friday, the 13th day of March next, at 2 o'clock in the afternoon, precisely, to receive tenders for building a sewer in George-street, Harwood-street, Hampstead-road, to the extent of 422 feet; and also for a sewer in Upper Southampton-street, Pentonville, for a length of 180 feet, conformably to plans and specifications, which may be inspected daily between the hours of ten and three. Separate tenders must be delivered for each of the above sewers, and marked with the name of the situation to which they apply. The parties offering must attend at the above time of meeting, with their tenders sealed up, which must contain the names and address of two sureties for the due execution of the works. The commissioners will not consider themselves bound to accept the lowest tenders.—By the Court,

STABLE and LUSH, Clerks.

Office of Sewers, Hatton-garden, Feb. 21st, 1846.

HOLBORN AND FINSBURY SEWERS, MIDDLESEX.

THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persons about to Purchase or Rent Houses or Property, or take Land for Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Persons to apply for at the above Office.

By the Court,

STABLE and LUSH, Clerks.

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TO BUILDERS and Others interested in buildings or in ground for building upon, within the district under the jurisdiction of this Court, drained by watercourses falling into the river Thames, between the city of London and the parish of Fulham.

The Commissioners hereby give notice, that by an Act of the 47th Geo. III. (chap. 7, local) it is required that, previously to the making of any new sewer in any street, lane, or public way, or in any part intended to become a street, lane, or public way, or to carry or drain off water from any house, building, yard, or ground, into any sewer under their management, or within their jurisdiction, a notice in writing shall be given to them, or to their clerk at their office, and that such new sewer or sewers shall be constructed and made in such manner and form as shall be directed by the said Commissioners, and not otherwise.

And, in order to prevent the serious evils and inconveniences that must arise from ground proposed to be built upon being excavated at too great a depth, the Commissioners have directed that, upon application being made at this office previously to the excavation of such ground, information shall be given as to the lowest depth at which the same can be drained.

And the Commissioners do also give notice that, whenever the lower floors or pavements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any sewers, or drains into sewers, to be made for the service of such buildings.

It is recommended to all persons about to purchase or take houses, or other premises, to ascertain whether such premises have separate and distinct drains into common sewers.

All petitions must be delivered at this office at least three clear days before they are presented to the Commissioners; and all such petitions will be called on in the order of their application, and the name of any party not present when called on to support the application will be struck out, and the proceedings must in consequence be commenced de novo.

All communications made with any sewer without leave of the Commissioners will be cut off, and the parties making the same will subject themselves to a fine.

The provisions of the Metropolitan Buildings Act (7 and 8 Victoria, c. 84) do not supersede the authority of the Commissioners of Sewers in the above respects, but their powers are expressly reserved, and their regulations made subservient to the purposes of that Act. The execution of such works, under the superintendence of the district surveyor alone, cannot therefore warrant the making of any sewers or drains within this commission, nor relieve the parties making them from the penalties above mentioned.

By order of the Court,

LEWIS C. HERTSLET, Clerk.

TO CIVIL ENGINEERS, SURVEYORS, &c.

HENRY POPE, Wholesale Stationer, having had for some time a large stock of Drawing Paper on hand, which, from its age, is so superior for mounting, feels much confidence in recommending his Mounted Papers, lengths of which upon linen and cotton are kept always ready. Maker of the Patent Metallic Levelling and Surveying Field Books, Tracing Papers, and all kinds of Stationery. The Ordnance Maps supplied. 22, Budge-row, Watling-street.



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Smoking-rooms,	Tunnels, &c.

Also for preventing down draft; and is guaranteed to cure all smoky chimneys caused by wind; and entirely supersedes the use of revolving cowls, or any thing moveable or unsightly on the tops of chimneys or ventilators.

The object of this invention is to create a draft where otherwise it would not exist, by the spontaneous action of the external air. The Windguard forms a pleasing octagonal pillar, and by its peculiar construction to carry out the principle on which it is based, which consists of the wind giving a disposition for a vacuum within, thereby causing a continual upward current about equal to the velocity of the wind at the time acting upon it, which averages about six feet per second thirty days out of thirty-one; therefore, will nearly at all times ensure a continual change of air, being no impediment to spontaneous ventilation, even on a perfectly calm day. One five feet square will ventilate a building containing upwards of 1,000 persons. The Windguard applied to ships and steam vessels, in the form of a sky-light, prevents rain or the sea entering within, however boisterous the weather may be, thereby affording excellent ventilation as well as light. The Windguard is simply applied for effectually ventilating bed-rooms, nurseries, smoking-rooms, offices, &c., causing the air of the apartment to be at all times as pleasant as can be desired. It is fixed at the top of the chimney, in addition to which a cast-iron frame and valve (about one foot area), made to open or shut at pleasure, is let into the flue, near the ceiling of the room, to allow the constant ascending vitiated air being immediately carried off. The opening is guarded by a neat venetian blind or grating; and so powerful is the effect on a windy day that if a handkerchief be thrown up to the grating, it will remain there—i. e. if the valve be open. In winter the valve would be only partially open, to allow the smoke from the fire to ascend, but if the room be found too cold, can be entirely closed. The Windguard applied to the tops of chimneys prevents all annoyance from smoke (caused by wind); indeed, where it does not, nothing else applied at top will (of the same size); care, therefore should be taken to have the proper size applied. It is simple in its application, reasonable in price, ornamental in appearance; no machinery or anything moveable in it, therefore, cannot get out of order; free from noise or any unpleasantness whatever; not liable to choke up with soot; no obstacle to the machines used for sweeping chimneys. May be had of all respectable ironmongers in town and country; and may be seen daily in operation, where its powers and usefulness are exhibited by the severest tests, at THE PATENT VENTILATING WORKS, COMMERCIAL-ROAD, PIMLICO, LONDON; where also may be seen Mr. G. T. DAY's plans (illustrating the different applications of his Patent Archimedian Ventilator and his Portable Water Apparatus) for effectually Ventilating, Warming, and Cooling the Air of Buildings, Ships, Mines, &c. &c. By the use of these inventions many thousand cubic feet, or any quantity of pure warm or cold air, can be guaranteed to be continually exchanged per minute, day and night, winter and summer; thereby insuring, at all times, free ventilation to the rooms and passages of buildings, &c. from the basement to the roof, at the same time in such a manner as shall not be inconveniently perceptible. The size of the apparatus depends on the nature and use of the building and its occupants. The Patentee has been honoured by his inventions being applied at the following places:—

Windsor Castle,	Trinity House,
Buckingham Palace,	Ordnance,
Saint James's Palace,	Greenwich Hospital,
Claremont Palace,	Christ's Hospital,
Walmer Castle	Westminster Hospital,
The Houses of Parliament,	Bethlehem Hospital,
New Conservative Club,	Surrey Lunatic Asylum,
White's Club,	New Royal Exchange,
Travellers' Club,	Mansion House,
Oxford and Cambridge,	Goldsmiths' Hall,
Parthenon,	Fishmongers' Hall,
Wyndham,	Haberdashers' Hall,
Army and Navy,	Dyers' Hall,
Senior United Service,	Grocers' Hall,
Junior United Service,	Armourers' Hall,
Admiralty,	Weigh-house Meeting-house
British Museum,	Hanover Square Rooms,
Somerset House,	Theatre of the Westminster Literary and Scientific Institution,
Custom House,	
Mint,	
Hon Artillery Company,	Grand Cigar Divan, Strand,
H. M S Salamander.	City Club,

And many other Public Buildings in Town and Country, as well as to the Mansions of many Noblemen and Gentlemen. Licenses granted for Manufacturing the above.

Drawings and Plans made for Ventilating and Warming Buildings of every description.

FINE ARTS.

By Her Majesty's — Royal Letters Patent.

LORIMIER'S TRANSPARENT PLANES for Perspective Drawing; BENJAMIN WEST, Patentee.

"This Instrument will enable Artists and others to make any Drawing, whether from Nature or Models, in perfectly true perspective, so that a likeness or landscape may be taken in a few minutes absolutely perfect. It is used by her Majesty's Royal Sappers and Miners, Chatham. To Travellers it would be found serviceable, since it can be employed without the knowledge of drawing."—*Art Union.*

Price 18s. and 25s. Apply for Agents to BENJAMIN WEST, 2, St. James's-walk, Clerkenwell.—Sold by BARRITT and Co., 173, Fleet-street, London; GRIFFIN and Co., Glasgow, and by all Fancy Stationers, &c.

GRAINING AND WRITING FOR THE TRADE.

MESSRS. WOOD AND COMPANY, Grainers and Writers to the Trade only, by contract, measure, or otherwise.

Offices, 11, St. Benet-place, Gracechurch-street, City, and 62, Waterloo Bridge-road. All letters post paid.

N.B. Workmen sent to any part of the kingdom.

TO ARCHITECTS, BUILDERS, AND THE PUBLIC IN GENERAL.

C. DEBAUFER and SON beg to call the attention of architects, builders, &c., to their general assortment of Gas Lamps, Pendants, Hydraulic sliding Pendants, Gas Brackets, Pillars, and every article connected with gas apparatus, at their Manufactory and their Rooms, 10 and 11, Creed-lane, Ludgate-street.—A liberal discount allowed to architects and builders.

BEDFEATHERS

MIXED, 1s. per lb.
Grey Goose, 1s. 4d. per lb.
Foreign, ditto, ditto, 1s. 8d. per lb.

Best Foreign Grey Goose, 2s. per lb.
Best Irish White, ditto, 2s. 6d. per lb.
Best Dantzic, ditto, ditto, 3s. per lb.

Warranted sweet and free from dust.

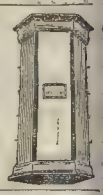
A List of every description of Bedding, containing weights, sizes, and prices, sent free by post, on application to HEAL and SON, Feather-dressers and Bedding manufacturers, 196, opposite the Chapel, Tottenham Court-road.



SMOKY CHIMNEYS CURED
BY COOPER'S PATENT DEFLECTING VENTILATOR.

THE cheapest, most ornamental, and most effective article of the kind yet presented to the public. It has a larger egress for the smoke than any similar invention, and no accumulation of soot can check its action; there being no machinery, it is free from noise, and cannot go out of repair; it offers no obstruction to sweeping-machines, and is warranted to cure all down-draft and smoky chimneys, of whatever nature, caused by wind; to draw off all obnoxious vapour from public buildings, churches, schools, club-houses, hospitals, sick chambers, ships, &c. Manufactured in iron, zinc, galvanized iron, and copper.

Wholesale Agents for London and its vicinity,
GEORGE and JOHN DEANE,
(Opening to the Monument),
45, KING WILLIAM-STREET, LONDON-BRIDGE.



By Her Majesty's — Royal Letters Patent.

SEALED 7th OCTOBER, 1845.

CROGGON'S PATENT WATERPROOF DOUBLE BITUMINOUS PAPER.

THE above is Manufactured by the most Accurate Machinery, for Depositing a DOUBLE COAT of ASPHALTE between Two Sheets of Paper, ensuring an evenness of distribution of the Waterproof Materials, thus rendering EVERY MINUTE PORTION OF THE PAPER ENTIRELY IMPERVIOUS TO WATER. To prove that it perfectly resists water, it is only necessary to put it into such a form as to Hold Water, when, after filling it, the water will evaporate without appearing in the least degree on the other side.

For ROOFS OF HOUSES it will be found very advantageous, being very cheap, admitting A GREAT SAVING OF TIMBERS; it may be painted of all colours, thus rendering it peculiarly applicable to any description of Roof. It is also an EFFECTUAL PREVENTATIVE against the effects of DAMP FROM WALLS, if put under the usual paper, and DAMP FLOORS, when under carpets.

It may be had in Rolls of any Length, to order, AT SIXPENCE PER SQUARE YARD, of
THOS. JNO. CROGGON,
8, Laurence Pountney Hill, Cannon-street.

CHEAP AND DURABLE ROOFING.

By Her Majesty's — Royal Letters Patent.

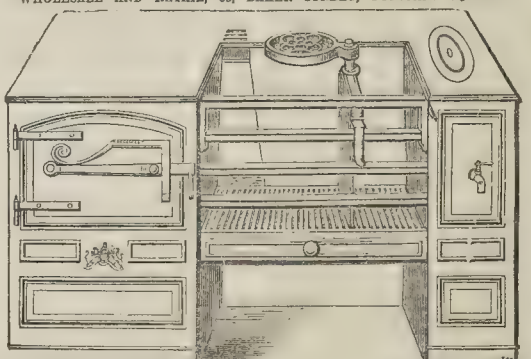
F. McNEILL and Co. of Lamb's Buildings, Bunhill Row, London, Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING
HOUSES, VERANDAHS, SHEDS, &c.

Beg to call the attention of the Trade to their ROOFING FELT, which has been exhibited at the great Agricultural Shows of England, Scotland, and Ireland, and OBTAINED THE PRIZE, for being the best and cheapest article for Roofing. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only One Penny per Square Foot. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION.

THE ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW, LONDON. A Specimen Roof to be seen at the Factory. A liberal Discount allowed to the Trade.

THE PANKLIBANON IRON WORKS,
WHOLESALE AND RETAIL, 58, BAKER STREET, PORTMAN SQUARE.



ARCHITECTS, BUILDERS, and Others, about to supply STOVES and KITCHEN APPENDAGES, will find at this Establishment the most unique and elegant assortment of STOVE-GRATES, FENDERS, and FIRE-IRONS ever offered to the Public, at prices considerably below the usual charges. The Proprietors at the same time beg to invite attention to their extensive Stock of FURNISHING IRONMONGERY, Tinned Copper, Tin and Iron Cooking Vessels, Block Tin Dish-Covers, Japanned Ware, Table Cutlery, and especially their Sheffield Plate and German Silver Wares, embracing every Article suitable for the Table, comprising Dish and Plate Covers, Liquor Frames, Epergnes, &c. &c. The plan adopted by the Proprietors of affixing the price to each article for cash, enables all purchasers to have the same advantage. The Patent Thermio Stove is in daily operation. THORPE, FALLOWS & COMPANY, 58, Baker-street, Portman-square, London.

THE BUILDER.

TO THE BUILDING PUBLIC.



SASHES AND FRAMES, DOORS, &c.

Manufactured for the Trade By C. W. WATERLOW, 121, Bunhill-row, Finsbury-sq.



Best Materials.—Lowest Prices. Terms: Cash.

Full lists of prices may be had on application at the counting-house; if by letter, pre-paid, inclosing postage-stamp.

A large stock of well-seasoned Doors always on hand.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

TO THE PLATE GLASS TRADE.

THE BIRMINGHAM PLATE AND CROWN GLASS COMPANY, "Registered," beg to inform the Trade and Public, that the extension of their Works at Smethwick, near Birmingham, being now completed, their Warehouse 141, Fleet-street, is now open for the Sale of their Crystal Plate Glass, which will be found to stand unrivalled by that of any other manufactory. They are also in a position to supply Rough Plate of any substance for Skylights or Floorings on the shortest notice.—Orders addressed to B. MOSS, 141, Fleet-street, will be promptly attended to.

SASHES primed, glazed, and sent to any part of London at 6d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.

FOREIGN SHEET 5d. per foot.
BRITISH CROWN 5d. per foot.

Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Shew-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.

Dry and Good Colours of the best quality; Brushes Dryers, and every article used in the Trade Warranted.

VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.

For complete lists priced.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

FOREIGN WINDOW GLASS.

THOS. MILLINGTON begs to inform his friends, that he continues to receive weekly large consignments of FOREIGN GLASS, which he is determined to offer upon the very lowest terms. Address, 87, Bishopsgate-street Without.

PLUMBERS' BRASS WORK, WATER-CLOSET PUMPS, &c.—These articles require the greatest attention and care in the manufacture, and will be found superior and cheaper than at any other manufactory. Best Pan Water Closets, 32s.; 24 Life Pumps and Planks, 4l. 10s. 0d.; 3-inch Pumps, 5l. 10s. 0d.; 2-inch Bib Ball and Stop Cocks, 2s. 4d. each, and every article in this branch equally low. Every article warranted.—Address, THOS. MILLINGTON, 87, Bishopsgate-street.

VARNISH.

THOS. MILLINGTON begs to inform the Trade, Builders, Painters, and others, that this article can be had at his Manufactory, of the best quality and at the very lowest price. T. M. has long been a manufacturer, and has devoted much time and attention to it, using only the best of gums, and sparing no expense in the manufacture. Fine Pale Oak or Wainscoat Varnish, per imperial gallon, 10s.; Fine Carriage Varnish, 12s.; Copal, 18s.; Body Copal, 24s.; Gold Size, 10s; White Hard, 18s.; Brown Hard, 18s.; French Polish, 18s. per gallon. Paint, Dryers, Colours, ready and ground, and every article in the trade. If quality is taken into consideration, this will be found the cheapest house in London. Address, 87, Bishopsgate-street Without.

POLONCEAU'S BITUMEN PAVEMENT for paving Foot walks, Terraces, Garden walks, Stables, Coach Houses, Granaries, Corn Stores, and Salt Warehouses. For the exclusion of Damp and Vermin in Basements it is particularly adapted, and for Roofing Dwelling Houses, Porticos, Balconies, and Sheds.

Price 3s. 6d. per square yard.

BITUMEN for covering the Arches of Bridges, Culverts, &c. &c. on Railways and other places (with instructions for laying it down), may be had at the rate of 45s. per ton, by applying to JOHN PILKINGTON, 15, Wharf-road, City-road.

TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorized CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced. I. FARRELL, Secretary,

Stangate, near Westminster Bridge, Jan., 1845. Seyssel Asphalte Company.

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

CAEN STONE.

LUARD and BEEDHAM have a quantity of the above stone, of the best quality, direct from their Quarries at Allemange, which may be inspected at the Norway Sufferance Wharf, Greenwich.—Further particulars at Mr. G. GATFS', 18, SOUTHWARK-SQUARE, SOUTHWARK.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

SAMUEL CUNDY begs to inform Architects, &c., that every description of Stone, Marble, and Granite work is executed at the cheapest possible rate.

Estimates given for Mason's Work in all its branches. Gothic Work, Tombs, Monuments, &c.

MARBLE WORK for Halls, Dairies, Tables, Columns, Vases, at most reasonable prices.

A large collection of Designs for Mural and other Monuments.

CHIMNEY PIECES from Twelve Shillings upwards.

Depôt for CAEN STONE, &c.

PORTER'S CORRUGATED, and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanizing Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway, and other Iron and Smith's work Manufactured of the best quality. Iron Fence and Hurdles as usual.—The Trade Supplied.

MOREWOOD AND ROGERS' PATENT GALVANIZED TINNED IRON.

T. W. BEALE begs to acquaint the public that he is prepared to lay roofing, plain or corrugated, fix pipes, gutters, &c. Also chimney-tops and ventilating cowls of every description; also water and oil cisterns, of this incorrodible and fireproof metal. He manufactures all kinds of baths, as hip, shower, Roman, open, slipper, sponging, foot, children's, and self-heating baths; also toilet-cans and pails, slop-pails, coal-scuttles, cash and deed-boxes, and fire-proof safes of every description, 10 per cent. cheaper than any house in London.

The PATENT GALVANIZED TINNED IRON is applicable to the following uses:—The Lining of Ships' Store Rooms, Ships' Water Buckets, Water Jugs and Receivers, and for almost every purpose to which zinc, tin, copper, brass, or any other metal is now applied; is more durable, and manufactured at much less expense. An experienced workman sent to any part of the kingdom. All orders punctually attended to. For particulars, apply to T. W. BEALE, 46, Bridge House-place, Newington Causeway.



PATENT GALVANISED TINNED IRON, (MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only. 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and water-closets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 90s. to any required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quickset-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

By Her Majesty's  Royal Letters Patent.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED METAL.— This article was at first sold under the name of Galvanised Tin Plates, but the Patentees finding that the public, in some instances, overlooking the word Tin, confounded the article with Galvanised Iron, and that the character of their metal has thereby sustained injury, are desirous of giving it a name so distinctive as to prevent such mistakes, and consequent disappointment to purchasers in future. They therefore respectfully request purchasers to inquire for MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON. In order to enable the public readily and at first sight to distinguish between the two metals, it may be well to inform them, that Galvanised Iron has a plain zinc-like appearance, while M. and R.'s Patent Galvanized Tinned Iron has a smooth crystalline surface.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON, Patronized by the Admiralty and the Honourable Board of Ordnance, being extensively used in her Majesty's Dock-yards, at the Tower, and elsewhere, for every variety of Roofing, and other purposes, where a strong, light, cheap, and durable material is required.

It has been found by experience that this article is beyond all comparison superior to zinc; possessing, as it does, all the advantages arising from the strength and firmness of iron, combined with perfect immunity from rust; whilst it is free from the very serious objection which applies to zinc, viz. its contraction and expansion, consequent upon every change of temperature, and from which circumstance leakage must of course result.

This material is not likely to be destroyed by fire, as is the case with zinc and lead, which melt and run down, thus freely admitting fresh air to the fire, and causing it to burn more fiercely. It is, therefore, obviously well adapted for all the purposes above-named, and most importantly so, when there is the possibility of fire. It is also peculiarly suitable for chimney-tops, gutters, spouting, and out-door work generally, possessing the strength of iron, without its liability to corrosion. It is by far the most economical metal roofing that can be obtained, in consequence of its strength, as it may be laid without boards, and upon the lightest rafters.

This mode of preserving metal from rust does not only apply to sheet-iron, but also to manufactured iron in any form, as bolts, nuts, hinges, nails, &c. &c.

For full Particulars apply to S. HOLLAND, 34, Gracechurch-street.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery.

Best Patent Cut Clasp.

3d.	4d.	6d.	8d.	10d.	20d.
6d.	7½d.	8½d.	1s. 1d.	1s. 6d.	2s. 3d. per 1000.

Best Sheet Floor Brads 16s. 6d. per cwt.
Best Town Glue 44s. per cwt. Do. Scotch 54s. per cwt.
Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6d., 7d., 8d. per inch.
Self-acting Kitchen Ranges with Oven and Back Boiler.
Wrought Bars and Bright Fittings.

3 ft., 3l. 3s.	3 ft. 6 in., 3l. 12s. 6d.	4 ft., 4l.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

HENDRY and GLOVER, IRONFOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 168, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

TO ARCHITECTS AND BUILDERS.

DOOR SPRINGS AND HINGES.—GERISH'S PATENT DOOR SPRINGS, for CLOSING every description of DOOR, consists of Single and DOUBLE-ACTION BUTT HINGES in Brass and Iron for Doors to open one or both ways, and Rising Hinges for the convenience of Doors opening on uneven Floors. Likewise Swing Centres, which consist of a combination of power unequalled by any made at present. Manufactured by F. W. Gerish, East-road, City-road; and sold by all respectable Ironmongers in the United Kingdom.

TO ARCHITECTS AND BUILDERS.

COLLINGE'S PATENT HINGES.—Sole Manufactory, 64, BRIDGE-ROAD, LAMBETH, where a great variety are always on view, for Church, Park, Coach-house, and all other Doors and Gates, of large or small dimensions, a gate of a ton in weight moving with these hinges as easily as a wicket; they are also admirably adapted for drawing-rooms, being highly ornamental, and folding-doors fitted with them may be removed and replaced in an instant. Rising and spring Hinges, also double-action Butts on the most improved principle, and very superior Fastenings for exterior Gates, at moderate prices. To be seen at Charles Collinge and Co's Patent Axletree, Sugar-mill and Spherical-hinge Manufactory, 64, Bridge-road, Lambeth.

NOTICE TO INVENTORS.

OFFICE for PATENTS of INVENTIONS and REGISTRATIONS of DESIGNS, 14, LINCOLN'S-INN-FIELDS.—The printed Instructions gratis, and every information upon the subject of PROTECTION for INVENTIONS, either by Letters Patent or the Designs Act, may be had by applying personally, or by letter (prepaid) to Mr. Alexander Prince, at the office, 14, Lincoln's-inn-fields. Where may be had, price 12s., or, through any bookseller in the United Kingdom, of Wm. BENNING and Co., law booksellers, 43, Fleet-street, the LAW of PATENTS and REGISTRATIONS, with all Forms and Cases up to the present time, by SIDNEY BILLING, Esq., barrister-at-law, and ALEXANDER PRINCE, of the Office for Patents, 14, Lincoln's-inn-fields.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 20s. per gallon.

STEPHENS'S LIQUID OAK, MAHOGANY, ROSE, and SATIN WOOD STAINS, for Staining various sorts of Inferior Woods, so as to give them the appearance and character of the more costly and ornamental kinds; also for reviving the natural colour of Wood Carvings and Panellings, and other ornamental Wood Work, when such has become faded from age or other causes.

IN THE BUILDING AND DECORATING NEW CHURCHES, where it is desirable to give to the cheaper kind of Woods the appearance of Antique Oak, or to make Deal assume the character of Oak Panelling, whereby the effect of the more costly may be produced by the use of a cheaper material, these Stains will be found more effective than any means hitherto employed.

IN OLD MANSIONS AND HALLS, where the Wood Carvings and Panellings have faded, the application of these Stains will be found to revive and bring back the rich natural colour, and which colour may be varied from the lighter to the deeper shades of the most Antique Oak.

The BIRCH WOOD, which has a fine natural grain, with little colour, is particularly suited to the application of these Stains; and the appearance which it assumes after Staining is so near that of the natural wood, that is only when the grain and colour of the latter is particularly fine that it is preferred. Beech, Birch, Elm, Ash, and other Woods, English and Foreign, receive the Stains and produce various imitations.

For the exposed Timbers of the inside of the ROOFS of CHURCHES, for which north country Timbers and Deals are generally used, by brushing them over with the Stain, which operation is very rapidly, and of course economically, effected, the appearance of an Oaken Roof will be produced. For colouring the backs of the Seats, Pews, the fronts of Galleries, the Pulpit, &c., it is equally advantageous.

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C. DEBAUFER and SON beg to call the attention of architects, builders, &c., to their general assortment of Gas Lamps, Pendants, Hydraulic sliding Pendants, Gas Brackets, Pillars, and every article connected with gas apparatus, at their Manufactory and their Rooms, 10 and 11, Creed-lane, Ludgate-street.—A liberal discount allowed to architects and builders.

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HEATING by WARM WATER.—An improved method of HEATING by the CIRCULATION of HOT WATER may be seen in operation daily at J. L. BENHAM and SONS, Stove Grate Manufactory, 19, Wigmore-street, Cavendish-square. Estimates given for warming churches and other public or private buildings in town or country. A great variety of warm-air stoves of every description, from fifteen shillings to twenty pounds.—19, Wigmore-street, Cavendish-square.

MR. ALLEN, Patentee and Manufacturer of the SELF-ACTING WORM STOVE, begs to inform scientific persons and the public generally, that having received the most gratifying encomiums on his invention, has now a variety ready for inspection, and he feels confident from their efficiency of action for all requisite purposes where heat and ventilation becomes a desideratum, they will recommend themselves to public patronage. It may be proper to observe, that the principles of the Worm Stove facilitates the method of heating by steam or hot water.—21 and 22, Worship-street, Finsbury.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3*l.* 5s.	3*l.* 13s.	3*l.* 16s.	4*l.*	4*l.* 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5*l.*	5*l.* 15s.	6*l.* 5s.	6*l.* 10s.	7*l.*

Best Register Stoves, at 7*d.*, 8*d.*, and 9*d.* per inch.

Do. Elliptic do., at 5½*d.*, and 6*d.* do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

PREPARED FLOORING BOARDS.

AT REDUCED PRICES.

ALWAYS ON SALE, a LARGE ASSORTMENT of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¾ inch to 1¼ inch thick. Rough Boarding for Flats.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Smith-street, Westminster.

PREPARED FLOORING BOARDS.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, and Old-Barge-Wharf, Upper Ground-street, Blackfriars, a very large stock of well-seasoned Floor Boards of every variety.

A. R., in calling the attention of builders and consumers, confidently presumes on his being able to supply them on such advantageous terms, as will ensure and merit their favours and approbation.

MUIR'S PATENT  PLANING MACHINERY.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM, Saw Mills, Gillingham-street, Pimlico.



THE GENERAL WOOD CUTTING COMPANY, TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.—SAWING in all its branches executed with the greatest precision and despatch. PLANING by the most approved Machinery, reducing the Boards to a parallel width and thickness, and grooving or matching with undeviating accuracy. The operation economizes time, money, and material.

SIR WILLIAM BURNETT'S PATENT for the Preservation of Timber, Canvas, Cordage, Cotton, Woollen, &c., from Decay.

TESTIMONIALS.

From THOMAS GRAHAM, Esq., M.A., F.R.S., L. and E., Professor of Chemistry, University College, London.

"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.

"The wood appears to be fully and deeply penetrated by the metallic salt; I have found it in the centre of a large prepared paving block.

"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the crystallizable salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.

"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Topin's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotized principles it contains, by entering into chemical combination with them.

(Signed) "THOMAS GRAHAM."

"University College, 25th October, 1845.

From Professors BRANDE and COOPER.

"London, 4th November, 1845.

"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.

"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.

"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.

"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound. Signed, "WILLIAM THOMAS BRANDE,

"JOHN THOMAS COOPER."

"To Sir William Burnett, K.C.H., F.R.S., &c. &c."

Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 53, King William-street, London-bridge.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above.

N.B.—A weighbridge on the premises.

PAYNE'S PATENT PROCESS FOR THE PRESERVATION AND IMPROVEMENT OF TIMBER, &c.

PAYNE and LODER beg to invite the attention of Engineers, Railway Companies, Architects, and others to the above process, and to state that they are prepared to erect the necessary apparatus in any part of the United Kingdom where the quantity is sufficiently large to cover the outlay of its removal.

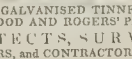
Further particulars can be obtained at Whitehall-Wharf Cannon-row, Westminster, or at their other stations, Fleetwood-on-Wyre, Lancashire; Wisbeach, Cambridgeshire; Union-Wharf, Southampton; and Guildford, Surrey.

PORTER'S CORRUGATED, and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanizing Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway, and other Iron and Smith's work Manufactured of the best quality. Iron Fence and Hurdles as usual.—The Trade Supplied.

MOREWOOD AND ROGERS' PATENT GALVANIZED TINNED IRON.

T. W. BEALE begs to acquaint the public that he is prepared to lay roofing, plain or corrugated, fix pipes, gutters, &c. Also chimney-tops and ventilating cowls of every description; also water and oil cisterns, of this incorrodible and fireproof metal. He manufactures all kinds of baths, as hip, shower, Roman, open, slipper, sponging, foot, children's, and self-heating baths; also toilet-cans and pails, slop-pails, coal-scuttles, cash and deed-boxes, and fire-proof safes of every description, 10 per cent. cheaper than any house in London.

The PATENT GALVANIZED TINNED IRON is applicable to the following uses:—The Lining of Ships' Store Rooms, Ships' Water Buckets, Water Jugs and Receivers, and for almost every purpose to which zinc, tin, copper, brass, or any other metal is now applied; is more durable, and manufactured at much less expense. An experienced workman sent to any part of the kingdom. All orders punctually attended to. For particulars, apply to T. W. BEALE, 46, Bridge House-place, Newington Causeway.



PATENT GALVANISED TINNED IRON. (MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and water-closets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 9oz. to any required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quick-set-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

REDUCTION IN THE PRICE OF BUNNETT AND CORPE'S PATENT REVOLVING IRON SHUTTERS.

THE validity of this Patent being completely established, the Patentees have much pleasure in stating that the very extensive demand, and the employment of improved machinery in the manufacture, have given them an opportunity (of which they gratefully avail themselves) of making a considerable reduction in the price of this well-knownand tried invention, thereby rendering them the cheapest as well as the best iron shutters in use. Every improvement suggested by practical skill and most extensive application has been adopted, and no effective REVOLVING IRON SHUTTER can be constructed without infringing B. and C.'s patent. The worm and wheel, as patented by them, being the only safe, durable, and efficient mode of raising and lowering such shutters, these shutters can be applied horizontally, either above or below the window, or vertically, as introduced by BUNNETT and CORPE, in some of the largest establishments: they are made with bent or corrugated laths, if required.

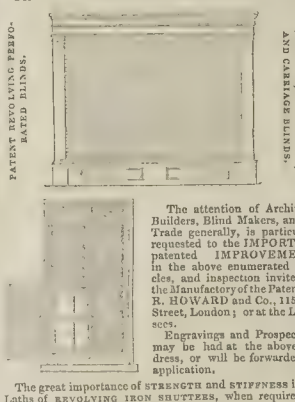
BUNNETT and CORPE also manufacture REVOLVING WOOD SHUTTERS, with their patent raising machinery, or with counterbalance weights, and with proper metallic hinges, without which no shutters can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop Fronts fitted in a superior manner with Iron Shutters, Patent Brass or Zinc Sashes, Moulded Engraved Stall Board Plates, best Plate Glass, and internal Brass Fittings of all kinds, on the most advantageous terms. Estimates given and contracts taken in Town or Country.—All kinds of metal works executed to any design. Metal Drawing, Rolling, and Stamping for the Trade. OFFICE, 26, LOMBARD-STREET, LONDON. WORKS, at DEPTFORD, KENT.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.

PATENT SAFETY IRON SLIDING SHUTTERS.



The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 115, Old Street, London; or at the Licensees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

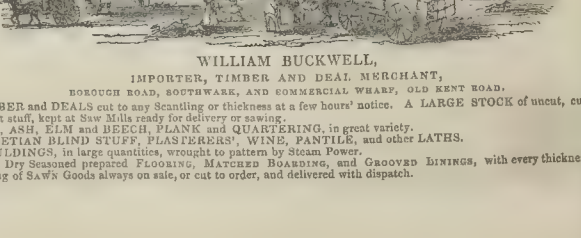
REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using BENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licenses Granted.

IRON-WORK FOR BAKERS' OVENS.

F. A. TIDDEMAN, Purfleet Wharf, Earl-Street, Blackfriars, keeps an assortment of Stocks, or Mouth-pieces; Plates, Furnace-bars, Top and Fall Pieces, Stoppers, Chimney-bars, Inside, Outside, and Ash-pit, Doors and Frames, Boilers and Frames, Lamps, &c. &c.; all of the best description, at very moderate prices.—CAST-IRON UPSETS.



WILLIAM BUCKWELL,

IMPORTER, TIMBER AND DEAL MERCHANT,

BOROUGH ROAD, SOUTHWARK, AND COMMERCIAL WHARF, OLD KENT ROAD.

TIMBER and DEALS cut to any Scantling or thickness at a few hours' notice. A LARGE STOCK of uncut, cut, and wrought stuff, kept at Saw Mills ready for delivery or sawing.

OAK, ASH, ELM and BEECH, PLANK and QUARTERING, in great variety.

VENETIAN BLIND STUFF, PLASTERERS', WINE, PANTILE, and other LATHS.

MOULDINGS, in large quantities, wrought to pattern by Steam Power.

N.B. Dry Seasoned prepared FLOORING, MATCHED BOARDING, and GROOVED LININGS, with every thickness and scantling of SAWN Goods always on sale, or cut to order, and delivered with dispatch.

THE BUILDER.

ATKINSON'S CEMENT.—The public is respectfully informed, that the price of this very excellent Cement, which has now been in use for Architectural and Engineering works upwards of thirty years, is reduced to 2s. 3d. per bushel, and may be had in any quantity at Wyatt, Parker, and Co.'s Wharf, Holland-street, Surrey side of Blackfriars-bridge.

N.B.—This Cement being of a light colour, requires no artificial colouring or painting, and may be used for stucco with three parts its own quantity of sand.

PORTLAND CEMENT, which does not vegetate, and requires no colouring, is perfectly hydraulic, and resists the action of Frost. The cost of the material and of working it is about the same as Atkinson's Cement, Manufactured by J. B. WHITE and SONS, Millbank-street, Westminster, and sold at their Warehouses:—

Druce's Wharf, Chelsea,
Bell's Wharf, Paddington,
Earl-street, Blackfriars,
Albion Wharf, Deptford-bridge,
by Salmon and Co., Dublin,
and at 36, Seel-street, Liverpool.

ROMAN CEMENT, &c.
REMOVAL.
THOMAS JOHN CROGGON
Begs to inform the Trade that he has removed to
8, LAWRENCE POUNTNEY-HILL and
THREE CRANES WHARF, 69, Upper Thames-street.
Orders addressed to either place for ROMAN CEMENT of genuine quality will be executed with promptitude and the strictest regard to quality and economy.

KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Milbank-street, Westminster,

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

POLONCEAU'S BITUMEN PAVEMENT for paving Foot walks, Terraces, Garden walks, Stables, Coach Houses, Granaries, Corn Stores, and Salt Warehouses. For the exclusion of Damp and Vermin in Basements it is particularly adapted, and for Roofing Dwelling Houses, Portico, Balconies, and Sheds.

Price 3s. 6d. per square yard.

BITUMEN for covering the Arches of Bridges, Culverts, &c. &c. on Railways and other places (with instructions for laying it down), may be had at the rate of 45s. per ton, by applying to JOHN PILKINGTON, 15, Wharf-road, City-road.

TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorized CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced.

1. FARRELL, Secretary.
Stangate, near Westminster Seyssel Asphalte Company.
Bridge, Jan., 1845.

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

RAIN WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from ½ in. to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, and No. 6, Bankside, Southwark.

MESSRS. NEILSON AND MITCHELL

BEG to inform Builders that they have always on hand, at their premises, 15, Wharf-road, City-road,

A LARGE ASSORTMENT OF R. W. PIPES, GUTTERING, SASH-WEIGHTS, &c.,

which they are disposing of at very low prices. Castings of every description done to order.—BALLUSTERS.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery.

Best Patent Cut Clasp.

3d.	4d.	6d.	8d.	10d.	20d.
6d.	7½d.	8½d.	1s. 1d.	1s. 6d.	2s. 3d. per 1000.

Best Sheet Floor Brads 10s. 6d. per cwt.
Best Town Glue 44s. per cwt. Do. Scotch 54s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6d., 7d., 8d. per inch.
Self-acting Kitchen Ranges with Oven and Back Boiler.
Wrought Bars and Bright Fittings.

3 ft., 3l. 3s.	3 ft. 6 in., 3l. 12s. 6d.	4 ft., 4l.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

HEAL & SON'S LIST OF BEDDING.

CONTAINING a full description of Weights, Sizes, and Prices, by which purchasers are enabled to judge the articles that are best suited to make a good set of bedding. Sent free by post, on application to their establishment, the largest in London, exclusively for the manufacture and sale of bedding (no bedsteads or other furniture being kept).

HEAL and SON, Feather Dressers and Bedding Manufacturers, 196 (opposite the Chapel), Tottenham Court Road.



SMOKY CHIMNEYS CURED
BY COOPER'S PATENT DEFLECTING VENTILATOR.

THE cheapest, most ornamental, and most effective article of the kind yet presented to the public. It has a larger egress for the smoke than any similar invention, and no accumulation of soot can check its action; there being no machinery, it is free from noise, and cannot go out of repair; it offers no obstruction to sweeping-machines, and is warranted to cure all down-draft and smoky chimneys, of whatever nature, caused by wind; to draw off all obnoxious vapour from public buildings, churches, schools, club-houses, hospitals, sick chambers, ships, &c. Manufactured in iron, zinc, galvanized iron, and copper.



Wholesale Agents for London and its vicinity,
GEORGE and JOHN DEANE,
(Opening to the Monument),
46, KING WILLIAM-STREET, LONDON-BRIDGE.

REMOVED TO LAWRENCE POUNTNEY HILL, CANNON STREET.

By Her Majesty's  Royal Letters Patent.

CROGGON'S PATENT ASPHALTE ROOFING FELT,
With which the Committee Rooms of the Houses of Parliament are entirely Covered.

THE above Material has been used and highly approved by the Nobility, Gentry, and Agriculturists generally, and Patronized by many Members of the Royal Agricultural Societies of England, Scotland and Ireland. It has been used for several Years at the Royal Horticultural Society's Gardens, Chiswick; the Swiss Gardens, Shoreham, Sussex; on the Duke of Buccleuch's, and the Marquis of Anglesea's Property, &c., &c., and (under slate) at the Royal Agricultural Society's House, Hanover-square; its advantages are—CHEAPNESS, LIGHTNESS, DURABILITY, and ECONOMY. Being a Non-Conductor, it has been proved an efficient "Protective Material" to Plants.

PRICE ONE PENNY PER SQUARE FOOT.

CHEAP AND DURABLE ROOFING.

By Her Majesty's  Royal Letters Patent.

F. McNEILL and Co. of Lamb's Buildings, Bunhill Row, London, Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING
HOUSES, VERANDAHS, SHEDS, &c.

Patronized by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE BOARD OF ORDNANCE,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

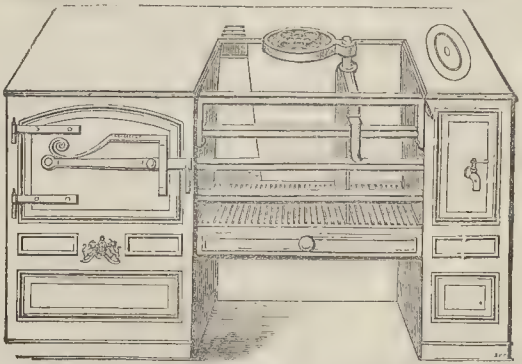
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ON the Premises, No. 89, John-street, Tottenham-court-road, by order of the Proprietor retiring from the retail trade. All the remaining Stock in Trade of Mr. A. V. Leaman, Mahogany and Timber Merchant, which WILL BE SOLD without reserve, by SKEEN and LEARY on Tuesday, March 10, at Eleven o'clock precisely. This very excellent and well-seasoned stock, consists of Spanish and Honduras Mahogany, in Logs, Planks, Boards and Veneers; Rosewood, Cedar, Wainscot, Deals, Beech, &c., &c.; Pit and Frame Saws, Screws, and Crowbars, and all Utensils in Trade. To be viewed two days previous to, and on the morning of sale. Catalogues to be had on the premises, and of SKEEN and LEARY, Brokers, 75, Old Broad-street.—The above eligible premises TO BE LET with immediate possession.

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TO BUILDERS AND OTHERS.

NOTICE IS HEREBY GIVEN, that the TIME for receiving TENDERS for the erection of a house for the above Club is EXTENDED to the 21st of March next; and that the plans and specifications can be seen on application to the secretary, G. C. DOWNS, Esq., at Ryde; at Mr. Henry Dixon's, Stationer, 194, Strand, London; or at the office of Mr. W. Huntley, Architect, Dover.
Ryde, March 2, 1846.

TO BUILDERS.—PADDINGTON.

The Guardians of the Poor of the Parish of Paddington HEREBY GIVE NOTICE, that the TIME appointed by public advertisement of the 13th and 14th of February last, for receiving Tenders for the erection of a Workhouse in the Harrow-road is EXTENDED from the 18th to the 25th March instant, on or before which last-named day, all tenders must be delivered, before 11 o'clock in the forenoon (after which hour no tender will be received), at the Board-room, Hermitage-street, Paddington. The tenders will be opened on the said 25th of March, and parties tendering are required to be present.—By order of the Board,
CHAS. BROWN, Jun., Clerk.
Hermitage-street, Paddington, 11th March, 1846.

Phœnix Gas-light and Coke Company,
Office, Bankside, March 6, 1846.

BREEZE FOR BRICK-MAKING.

THE PHŒNIX GAS-LIGHT and COKE COMPANY are ready to receive TENDERS for taking the breeze made at their Works at Bankside, during the next twelve months, in quantities of not less than 500 chaldrons.

The contractor will be required to enter into an agreement under a penalty not to leave more than 50 chaldrons on the Works at any one time, and to pay for the same quarterly. The tender is to state the price per chaldron of 40 bushels, delivered into craft or carts, and to be marked with the words "Tender for Breeze" on the cover, and to be delivered at their office at Bankside, on or before 12 o'clock on Wednesday, the 18th March.

Sewers' Office, Guildhall, 3rd March, 1846.

TO BRICKMAKERS, DEALERS IN BREEZE, ASHES, AND OTHERS.

THE COMMISSIONERS of SEWERS of the CITY of LONDON and Liberties thereof HEREBY GIVE NOTICE that they will meet in the Guildhall of the said city on Tuesday, the 24th day of March inst., at Eleven o'clock in the forenoon precisely, to receive proposals from such persons as desire to collect and remove all the dust and ashes, &c. from the houses of the inhabitants of this city for the term of one year, from 24th June, 1846, agreeably to the terms of a specification, copies of which may be had at this office. Payments will be required to be made quarterly, in advance, and security will be required for the due performance of the contract. No proposal received after Eleven o'clock on the day of treaty.

The commissioners do not bind themselves to accept the highest offer that may be made.
JOSEPH DAW, Prin. Clerk.

HARWICH and EASTERN COUNTIES JUNCTION RAILWAY and PIER COMPANY.—To Contractors.—The Directors of this Company having obtained the sanction of the proper authority, for the immediate construction of the pier in the harbour of Harwich, hereby give notice, that drawings and specifications for the proposed works will be ready for inspection on Monday, the 16th day of March instant, at the office of JOHN BRATHWAITE, Esq., C.E., 4, Trafalgar-square, Charing-cross, London. And notice is hereby further given, that TENDERS for the WORKS must be delivered at this office, on or before Friday, the 3rd day of April next, where the Directors will meet on Monday, the 6th of April next, at 12 o'clock, to decide upon such Tenders, and when and where the parties tendering must attend. The Directors reserve to themselves the right of accepting or rejecting the lowest tender, as they may consider advisable.
JAS. HY. ATTWOOD, Chairman.
GEORGE RUSK, Secretary.
19, Birchin-lane, March 4.

TO CLERKS OF THE WORKS.

HER MAJESTY'S JUSTICES and COMMISSIONERS of SEWERS for the City and Liberty of Westminster, and part of the County of Middlesex, do HEREBY GIVE NOTICE, that they are about to appoint a junior Clerk of the Works upon trial for six months, with a salary at the rate of 120l. per annum.

Further particulars, as to the testimonials and other evidences of ability which will be required, may be obtained on application at this office, from 9 to 4 o'clock.

The Commissioners will meet at this office on Tuesday, the 17th March inst., at 12 o'clock at noon precisely, to examine the several applicants, and to take such steps as may be deemed expedient for the selection of the most fit candidates for election to the office.

LEWIS C. HERTSLET, Clerk.
Sewers Office for Westminster, &c. 1, Greek-street, Soho-square, 7th March, 1846.

METROPOLITAN BUILDINGS BILL.

A Meeting of the Master Carpenters' Society was held at the Freemasons' Tavern, on Wednesday last, to take into consideration the present Bill, and also the Bill now before Parliament. Mr. H. BIERS, the President, in the chair, when the following resolutions were carried unanimously.

That the present Buildings Bill, 7 and 8 Vic., cap. 84, is a most decided failure; being uncertain as to its meanings, useless in many of its operations, and exceedingly complicated and expensive in its administration.

That the Bill now before Parliament will continue the most objectionable part of the Bill, inasmuch as, instead of an addition to the number of Referees, the Bill ought to abolish, or at all events, very materially alter the present arrangement, and most especially as to the office of Registrar, an office not at all necessary in the proper working of a Buildings Bill.

That Petitions to both Houses of Parliament, signed by the President, on behalf of the Society, be forthwith prepared and presented; and that the attention of the metropolitan members especially be called to this matter, with a request, they will use their best endeavours in procuring the amendment or repeal of the present Act.

PAPER-HANGINGS.

R. CHATER solicits the attention of Builders to his extensive assortment of Paper-hangings, which he is selling at very reduced prices, adapted to every purpose of decoration; also his painted marble-papers of superior description, as well as granite and oak papers for halls and stair-cases.—A liberal allowance on taking large quantities.—No. 45, Tottenham-court-road.

TO CIVIL ENGINEERS, SURVEYORS, &c.

HENRY POPE, Wholesale Stationer, having had for some time a large stock of Drawing Paper on hand, which, from its age, is so superior for mounting, feels much confidence in recommending his Mounted Papers, lengths of which upon linen and cotton are kept always ready. Maker of the Patent Metallic Levelling and Surveying Field Books, Tracing Papers, and all kinds of Stationery. The Ordnance Maps supplied. 22, Budge-row, Watling-street.

HORTICULTURAL IMPROVEMENTS.

J. READ begs to inform Ladies, Amateur and Practical Gardeners, that he has taken out a NEW PATENT for improvements in his Garden Engines, Machines, and years' practical experience, can safely warrant. The above are adapted for forcing-houses, conservatories, &c., surpassing any thing of the kind ever offered to the Public, inasmuch as they can be worked with half the labour of any other engines now in use.—Manufactured only by the patentee, 35, Regent-circus, Piccadilly, where they may be seen and proved.—N.B. None are genuine except stamped "Read's Patent."

PARQUETAGE.

THIS Manufacture, uniting elegance to comfort, has now become quite a necessity, particularly in Newly-constructed Buildings, also for the Saloons, Galleries, Corridors, and Libraries of the Town Mansions or Country Seats of the Nobility. Three of the principal apartments in Windsor Castle, namely, Saloon, Queen's Closet, and Prince Albert's Private Apartment, have been recently inlaid with oak and exotic woods.

In the wet or winter season, the Parquets admit of a Carpet, which being so placed as not to cover them entirely, allows the elegant border to be seen. The carpet is so fixed that it may be easily removed on the return of fine weather, or for any special occasions.—Specimens and Designs may be inspected and Prospectuses had at the office of the "Observateur Français," No. 67, in the Strand, or at the Manufactory, No. 10, Berner-street, Commercial-road, East.

Plain Wainscot Flooring Tongued and Grooved executed at 5l. per square of 100 feet, or 1s. per square foot, laid down at the above Manufactory.

PATENT WINDOW BLINDS.

TYLOR and PACE manufacture every description of WINDOW BLINDS entirely upon their own premises, by the aid of steam machinery, insuring the best materials and workmanship, at the lowest cost. Patent metallic gauze and perforated Zinc Blinds, in mahogany frames, at 1s. 8d. per square foot; ditto, in metal frames, 1s. 2d. per square foot. A large and choice assortment of Transparencies, mounted, from 19s.; Holland Blinds, on plain or spring rollers, Outside Shades, Venetian and Sun Blinds of every description.—TYLOR and PACE'S Show-rooms, 53, Cornhill, entrance St. Peter's-alley.

ST. JOHN'S WOOD PARK!!! IMMEDIATE CONNECTION WITH REGENT'S PARK.

BUILDING PLOTS TO BE LET in this most desirable and salubrious situation!! commanding picturesque views of the surrounding beautiful neighbourhood, and elevated within a few feet of the summit of the monument, with the best approaches of any suburban district near the metropolis, and greatest facilities of access to all the fashionable resorts and promenades of the West End and the City!—For particulars and plans, apply to W. H. TWENTYMAN, Esq., 11, Regent's-villas, Avenue-road, Regent's-park.

BED FEATHERS

MIXED, 1s. per lb.
Grey Goose, 1s. 4d. per lb.
Foreign, ditto, ditto, 1s. 8d. per lb.

Best Foreign Grey Goose, 2s. per lb.
Best Irish White, ditto, 2s. 6d. per lb.
Best Dantzic, ditto, ditto, 3s. per lb.
Warranted sweet and free from dust.

A List of every description of Bedding, containing weights, sizes, and prices, sent free by post, on application to HEAL and SON, Feather-dressers and Bedding manufacturers, 196, opposite the Chapel, Tottenham Court-road.



SMOKY CHIMNEYS CURED
BY COOPER'S PATENT DEFLECTING VENTILATOR.

THE cheapest, most ornamental, and most effective article of the kind yet presented to the public. It has a larger egress for the smoke than any similar invention, and no accumulation of soot can check its action; there being no machinery, it is free from noise, and cannot go out of repair; it offers no obstruction to sweeping-machines, and is warranted to cure all down-draft and smoky chimneys, of whatever nature, caused by wind; to draw off all obnoxious vapour from public buildings, churches, schools, club-houses, hospitals, sick chambers, ships, &c. Manufactured in iron, zinc, galvanized iron, and copper.

Wholesale Agents for London and its vicinity,
GEORGE and JOHN DEANE,
(Opening to the Monument),
45, KING WILLIAM-STREET, LONDON-BRIDGE.



By Her Majesty's Royal Letters Patent.

SEALED 7th OCTOBER, 1845.

CROGGON'S PATENT WATERPROOF DOUBLE BITUMINOUS PAPER.

THE above is Manufactured by the most Accurate Machinery, for Depositing a DOUBLE COAT of ASPHALTE between Two Sheets of Paper, ensuring an evenness of distribution of the Waterproof Materials, thus rendering EVERY MINUTE PORTION OF THE PAPER ENTIRELY IMPERVIOUS TO WATER. To prove that it perfectly resists water, it is only necessary to put it into such a form as to Hold Water, when, after filling, it, the water will evaporate without appearing in the least degree on the other side.

For ROOFS OF HOUSES it will be found very advantageous, being very cheap, admitting A GREAT SAVING OF TIMBERS; it may be painted of all colours, thus rendering it peculiarly applicable to any description of Roof. It is also an EFFECTUAL PREVENTATIVE against the effects of DAMP FROM WALLS, if put under the usual paper, and DAMP FLOORS, when under carpets.

It may be had in Rolls of any Length, to order, AT SIXPENCE PER SQUARE YARD, of
THOS. JNO. CROGGON,
8, Laurence Pountney Hill, Cannon-street.



WILLIAM BUCKWELL,
IMPORTER, TIMBER AND DEAL MERCHANT,
BOROUGH ROAD, SOUTHWARK, AND COMMERCIAL WHARF, OLD KENT ROAD.

TIMBER and DEALS cut to any Scantling or thickness at a few hours' notice. A LARGE STOCK of uncut, cut, and wrought stuff, kept at Saw Mills ready for delivery or sawing.

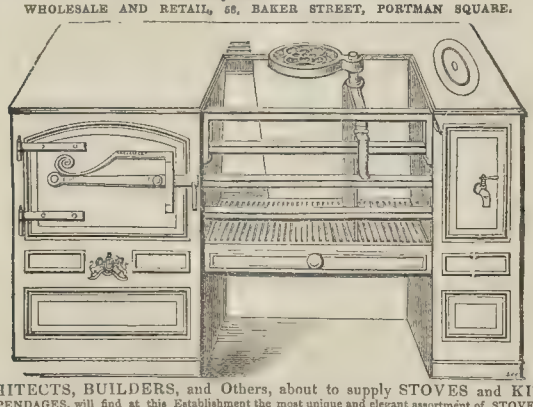
OAK, ASH, ELM and BEECH, PLANK and QUARTERING, in great variety.

VENETIAN BLIND STUFF, PLASTERERS', WINE, PANTILE, and other LATHS.

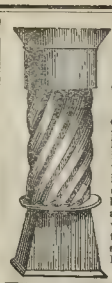
MOULDINGS, in large quantities, wrought to pattern by Steam Power.

N.B. Dry Seasoned prepared FLOORING, MATCHED BOARDING, and GROOVED LININGS, with every thickness and scantling of SAWN Goods always on sale, or cut to order, and delivered with dispatch.

THE PANKLIBANON IRON WORKS,
WHOLESALE AND RETAIL, 56, BAKER STREET, PORTMAN SQUARE.



ARCHITECTS, BUILDERS, and Others, about to supply STOVES and KITCHEN APPENDAGES, will find at this Establishment the most unique and elegant assortment of STOVE-GRATES, FENDERS, and FIRE-IRONS ever offered to the Public, at prices considerably below the usual charges. The Proprietors at the same time beg to invite attention to their extensive Stock of FURNISHING IRONMONGERY, Tinned Copper, Tin and Iron Cooking Vessels, Block Tin Dish-Covers, Japanned Ware, Table Cutlery, and especially their Sheffield Plate and German Silver Wares, embracing every Article suitable for the Table, comprising Dish and Plate Covers, Liquor Frames, Epergnes, &c. &c. The plan adopted by the Proprietors of affixing the price to each article for cash, enables all purchasers to have the same advantage. The Patent Thermio Stove is in daily operation. THORPE, FALLOWS & COMPANY, 56, Baker-street, Portman-square, London.



WILSON'S PATENT VENTILATING SPIRAL CHIMNEY POT, for the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success. This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance. The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory, Southwark-bridge Iron Roofing Works.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

FOREIGN SHEET GLASS AND GLASS TILES.

C. JARVIS, continuing to import large quantities of the above articles, in quality and substance hitherto unequalled, can offer them at a lower price than any other house in the trade, for ready money only, at his old-established WINDOW GLASS WAREHOUSE, 38, Great Castle-street, a few doors from Regent-street.—Every other description of Window Glass in crates and squares equally low in price.

THE ARTICLE GLASS.

MESSRS. DAINES and BRADDOCK have made arrangements to supply the Public with Glass for Sashes and Horticultural purposes of superior quality and substance, and at much lower prices than that which may have been obtained through the medium of any previous advertisements as the size therein quoted at 1d. per foot may be obtained at 3s. per 112 lbs. upon application 6, Farringdon-street.—London, March, 1846.

N.B. A Stock of Patent Plate and Stained Glass constantly on hand.

TO THE PLATE GLASS TRADE.

THE BIRMINGHAM PLATE AND CROWN GLASS COMPANY, "Registered," beg to inform the Trade and Public, that the extension of their Works at Smethwick, near Birmingham, being now completed, their Warehouse 141, Fleet-street, is now open for the Sale of their Crystal Plate Glass, which will be found to stand unrivalled by that of any other manufactory. They are also in a position to supply Rough Plate of any substance for Skylights or Floorings on the shortest notice.—Orders addressed to B. MOSS, 141, Fleet-street, will be promptly attended to.

SASHES primed, glazed, and sent to any part of London at 6d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, snpplied with every article used in the trade upon the best wholesale terms.

FOREIGN SHEET 5d. per foot.
BRITISH CROWN 5d. per foot.

Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Shew-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.

Dry and Good Colours of the best quality; Brushes Dryers, and every article used in the Trade Warranted.

VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.

For complete lists priced.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

FOREIGN WINDOW GLASS.

THOS. MILLINGTON begs to inform his friends, that he continues to receive weekly large consignments of FOREIGN GLASS, which he is determined to offer upon the very lowest terms. Address, 87, Bishopsgate-street Without.

PLUMBERS' BRASS WORK, WATER-CLOSET PUMPS, &c.—These articles require the greatest attention and care in the manufacture, and will be found superior and cheaper than at any other manufactory. Best Pan Water Closets, 32s.; 2¼ Lift Pumps and Planks, 4l. 10s. 0d.; 3-inch Pumps, 5l. 10s. 0d.; 2-inch Bib Ball and Stop Cocks, 2s. 4d. each, and every article in this branch equally low. Every article warranted.—Address, THOS. MILLINGTON, 87, Bishopsgate-street.

VARNISH.

THOS. MILLINGTON begs to inform the Trade, Builders, Painters, and others, that this article can be had at his Manufactory, of the best quality and at the very lowest price. T. M. has long been a manufacturer, and has devoted much time and attention to it, using only the best of gums, and sparing no expense in the manufacture. Fine Pale Oak or Wainscot Varnish, per imperial gallon, 10s.; Fine Carriage Varnish, 12s.; Copal, 16s.; Body Copal, 24s.; Gold Size, 10s; White Hard, 16s.; Brown Hard, 16s.; French Polish, 12s. per gallon. Paint, Dryers, Colours, ready and ground, and every article in the trade. If quality is taken into consideration, this will be found the cheapest house in London. Address, 87, Bishopsgate-street Without.

NOTICE TO INVENTORS.

OFFICE for PATENTS of INVENTIONS and REGISTRATIONS of DESIGNS, 14, LINCOLN'S-INN-FIELDS.—The printed Instructions gratis, and every information upon the subject of PROTECTION for INVENTIONS, either by Letters Patent or the Designs Act, may be had by applying personally, or by letter (prepaid) to Mr. Alexander Prince, at the office, 14, Lincoln's-inn-fields. Where may be had, price 12s., or, through any bookseller in the United Kingdom, of Wm. BENNING and Co., law booksellers, 43, Fleet-street, the LAW of PATENTS and REGISTRATIONS, with all Forms and Cases up to the present time, by SIDNEY BILLING, Esq., barrister-at-law, and ALEXANDER PRINCE, of the Office for Patents, 14, Lincoln's-inn-fields.

THE BUILDER.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above.

N.B.—A weigbridge on the premises.

MUIR'S PATENT  PLANING MACHINERY.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.



THE GENERAL WOOD CUTTING COMPANY, TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.—SAWING in all its branches executed with the greatest precision and despatch. PLANING by the most approved Machinery, reducing the Boards to a parallel width and thickness, and grooving or matching with undeviating accuracy. The operation economizes time, money, and material.

PAYNE'S PATENT PROCESS FOR THE PRESERVATION AND IMPROVEMENT OF TIMBER, &c.

PAYNE and LODER beg to invite the attention of Engineers, Railway Companies, Architects, and others to the above process, and to state that they are prepared to erect the necessary apparatus in any part of the United Kingdom where the quantity is sufficiently large to cover the outlay of its removal.

Further particulars can be obtained at Whitehall-Wharf Cannon-row, Westminster, or at their other stations, Fleetwood-on-Wyre, Lancashire; Wisbeach, Cambridgeshire; Union-Wharf, Southampton; and Guildford, Surrey.

HEATING by WARM WATER.—An improved method of HEATING by the CIRCULATION of HOT WATER may be seen in operation daily at J. L. BENHAM and SONS, Stove Grate Manufactory, 19, Wigmore-street, Cavendish-square. Estimates given for warming churches and other public or private buildings in town or country. A great variety of warm-air stoves of every description, from fifteen shillings to twenty pounds.—19, Wigmore-street, Cavendish-square.

HOT WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories, and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises. BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3l. 6s.	3l. 13s.	3l. 16s.	4l.	4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5l.	5l. 15s.	6l. 5s.	6l. 10s.	7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.

Do. Elliptic do., at 8½d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

GRAINING AND WRITING FOR THE TRADE.

MESSRS. WOOD AND COMPANY, Grainers and Writers to the Trade only, by contract, measure, or otherwise.

Offices, 11, St. Benet-place, Gracechurch-street, City, and 63, Waterloo Bridge-road. All letters post paid.

N.B. Workmen sent to any part of the kingdom.

TO ARCHITECTS, BUILDERS, AND THE PUBLIC IN GENERAL.

C. DEBAUFER and SON beg to call the attention of architects, builders, &c., to their general assortment of Gas Lamps, Pendants, Hydraulic sliding Pendants, Gas Brackets, Pillars, and every article connected with gas apparatus, at their Manufactory and their Rooms, 10 and 11, Creed-lane, Ludgate-street.—A liberal discount allowed to architects and builders.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 20s. per gallon.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—Wyatt, Parker, and Co., Agents. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

HIP TILES to suit slate roofs in colour; Ridges, with plain or rebated joints, roll tops, and vertical ornaments; drains, many sizes, with plain or socket joints; paving in squares, hexagons, octagons, &c., different colours; roofing, in Grecian or Italian styles, other devices also, or plain; conduits, which do not injure pure water; fire-bricks and tiles; clinkers, and out-door paving; sundry wall-coping, garden-borders, chimney-tops; also tubular and other flues of peculiar material. No agent, but a depôt at 22, WHITEFRIARS-STREET, FLEET-STREET, LONDON, under Mr. PEAKE'S personal care, to supply genuine TERRO-METALLIC goods at fair prices as per quality; also, additional Stock at No. 4 Wharf, Macclesfield-street, South, City Basin.

The TILERIES, TUNSTALL, STAFFORDSHIRE, are near the centre of England, whence boats are sent direct to any inland place; or to the Mersey for the coasts, the colonies, and elsewhere.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

REDUCTION IN THE PRICE OF BUNNETT AND CORPE'S PATENT REVOLVING IRON SHUTTERS.

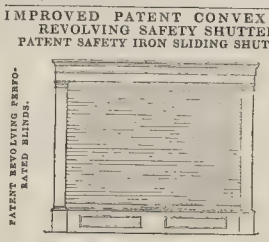
THE validity of this Patent being completely established, the Patentees have much pleasure in stating that the very extensive demand, and the employment of improved machinery in the manufacture, have given them an opportunity (of which they gratefully avail themselves) of making a considerable reduction in the price of this well-knowned tried invention, thereby rendering them the cheapest as well as the best iron shutters in use. Every improvement suggested by practical skill and most extensive application has been adopted, and no effective REVOLVING IRON SHUTTER can be constructed without infringing B. and C.'s patent. The worm and wheel, as patented by them, being the only safe, durable, and efficient mode of raising and lowering such shutters, these shutters can be applied horizontally, either above or below the window, or vertically, as introduced by BUNNETT and CORPE, in some of the largest establishments: they are made with bent or corrugated laths, if required.

BUNNETT and CORPE also manufacture REVOLVING WOOD SHUTTERS, with their patent raising machinery, or with counterbalance weights, and with proper metallic hinges, without which no shutters can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop Fronts fitted in a superior manner with Iron Shutters, Patent Brass or Zinc Sashes, Moulded Engraved Stall Board Plates, best Plate Glass, and internal Brass Fittings of all kinds, on the most advantageous terms. Estimates given and contracts taken in Town or Country.—All kinds of metal works executed to any design. Metal Drawing, Rolling, and Stamping for the Trade. OFFICE, 26, LOMBARD-STREET, LONDON. WORKS, at DEPTFORD, KENT.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.
PATENT SAFETY IRON SLIDING SHUTTERS.





The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 118, Old Street, London; or at the Licensees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using BENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licences Granted.

HOUSE-PAINTING, Interior Decorations, &c., executed in the best style, and on the lowest terms, by BENHAM and Co. (late Saunders), 170, Regent-street.—Estimates given if required.

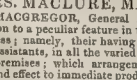
LITHOGRAPHY.

MESSRS. MACLURE, MACDONALD, and MACGREGOR, General Lithographers, beg to call attention to a peculiar feature in their system of conducting business; namely, their having a large and permanent staff of Assistants, in all the varied departments of the Art, on the premises; which arrangement, they submit, gives a force and effect to immediate production unattainable by other means, and which is obviously of great advantage to those who may require their services, independent altogether of the excellency of their work.

London Establishment, Saville House, 6, Leicester-square; Liverpool Establishment, 18, Fenwick-street; Glasgow Establishment, 57, Buchanan-street.

Vacancies for two Pupils; one in the Writing, the other in the Artistical Department.

FINE ARTS.

By Her Majesty's  Royal Letters Patent.

LORIMIER'S TRANSPARENT PLANES for Perspective Drawing; BENJAMIN WEST, Patentee.

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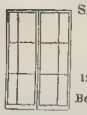
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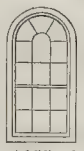
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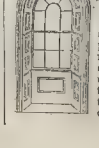
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CONTRACTS.

TO BUILDERS.—SOUTH STAFFORDSHIRE GENERAL HOSPITAL.

THE Committee are desirous of receiving TENDERS for the erection of the above institution. The Drawings and Specifications thereof may be inspected during office hours, from Monday, the 23rd inst., till Monday the 20th day of April, at the office of Mr. BANKS, Architect, Wolverhampton. Sealed tenders, endorsed, "Tenders for Building the South Staffordshire General Hospital," are to be delivered, free of expense, to Mr. PINCHARD, Solicitor, Wolverhampton, on or before the 20th day of April, 1846. The Committee do not pledge themselves to accept the Lowest tender, and sufficient sureties for the due performance of the works will be required.

Wolverhampton, 17th March, 1846.

Sewers' Office, Guildhall, 3rd March, 1846.

TO BRICKMAKERS, DEALERS IN BREEZE, ASHES, AND OTHERS.

THE COMMISSIONERS of SEWERS of the CITY of LONDON and Liberties thereof, HEREBY GIVE NOTICE that they will meet in the Guildhall of the said city on Tuesday, the 24th day of March inst., at Eleven o'clock in the forenoon precisely, to receive proposals from such persons as desire to collect and remove all the dust and ashes, &c. from the houses of the inhabitants of this city for the term of one year, from 24th June, 1846, agreeably to the terms of a specification, copies of which may be had at this office. Payments will be required to be made quarterly, in advance, and security will be required for the due performance of the contract. No proposal received after Eleven o'clock on the day of treaty.

The commissioners do not bind themselves to accept the highest offer that may be made.

JOSEPH DAW, Prin. Clerk.

TO ARCHITECTS AND SURVEYORS.

THE Directors of the Gravesend and Milton Water Works Company are desirous of appropriating for Sale for Building Purposes about Sixteen Acres of Land, forming the whole of the south-side of Windmill-hill, Milton, next Gravesend. Any Architect or Surveyor who may, on or before Wednesday, the 8th day of April next, send to our office (sealed up) a Plan, laying out the said ground for such purposes, accompanied with such suggestions as to the class and description of the houses to be erected, and the extent of ground to be allotted to each, as the locality may appear to require, will receive, on such Plan being approved by the Directors, Thirty Pounds for the same; and the party sending in a Plan which the Directors may consider as the next best Plan to that approved, will receive Ten Pounds, but no payment is to be required for any other Plan. All further information required may be had on application at our Office, in Milton, next Gravesend.

SOUTHGATE and SON, Solicitors.

13th March, 1846.

DECORATIVE ART SOCIETY.—Wednesday, 25th March, Conversazione—"Considerations, having reference to ornament, upon Religious Symbolism; Historical Records of Manners, Ceremonies, &c.; Archetypes discoverable in Nature,—the initiatory Treatment, and the Genius evinced, in subsequent applications to Decorative Art."

E. C. LAUGHER, Hon. Sec.
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Patentees and manufacturers, J. B. WHITE & SONS, Millbank-street, Westminster,

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1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.
It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.
For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.
For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.
Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

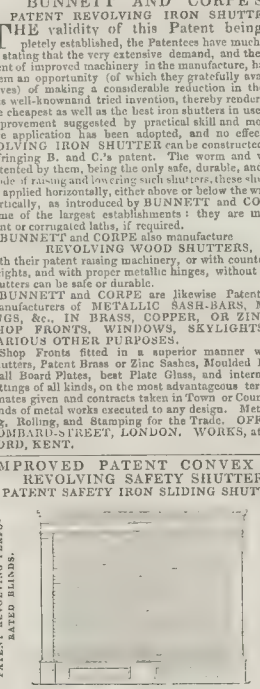
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"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.

"The wood appears to be fully and deeply penetrated by the metallic salt; I have found it in the centre of a large prepared paving block.

"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the crystallizable salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.

"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Teplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotised principles it contains, by entering into chemical combination with them.

(Signed) "THOMAS GRAHAM."

"University College, 25th October, 1845.

From Professors BRANDE and COOPER.

"London, 4th November, 1845.

"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.

"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.

"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.

"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.—(Signed) "WILLIAM THOMAS BRANDE,
"JOHN THOMAS COOPER."

"To Sir William Burnett, K.C.H., F.R.S., &c. &c."

Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 53, King William-street, London-bridge.

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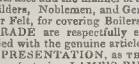
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ADVERTISEMENTS.

TO ARCHITECTS AND BUILDERS.

WANTED, by a respectable Person, a Situation as Clerk of Works or Foreman, or like capacity; no objection to town or country; can have good testimonials from his last employer.—Apply by letter, post-paid, to A. Z. A., office of "The Builder," 2, York-street, Covent-Garden.

WANTED, by an active Middle-aged Man, who has had the sole management of an Iron Foundry (were twelve moulders were kept), for several years past, a Situation as Foreman, Clerk, or in any branch (having a practical knowledge of the business), in which he can make himself generally useful.—Address A. B., Post-office, Diss, Norfolk.

TO MASONS.

WANTED a steady, active, sober Man, as Working Foreman; he must perfectly understand every branch of the masonry business, and have a good character from where he has last held a similar situation. No one need apply who is not fully competent.—Apply personally, or by letter, post-paid, to Mr. GEO. HAMLEN, 121, Bunhill-row, Finsbury-square.

TO BUILDERS AND OTHERS.

WANTED, by a Chemist and Druggist (with a view to open), a House and Shop, in a highly respectable neighbourhood; a new one, if improving, would be preferred. Rent and taxes not to exceed 120*l.* per annum. Builders or landlords who are better able to judge where there is a fair opening may hear of a tenant by applying to H. W., post-office, Bruton-street, Berkeley-square.

TO BUILDERS' CLERKS.

WANTED immediately, in a Builders' office in London, an experienced person competent to keep accounts, measure, and estimate. It is important that he should be a good draught-man; one educated as a surveyor would be preferred.—Apply by letter, to Mr. W. TREGO, 5, Coleman-street, stating the salary expected. Good reference is required, and strict inquiry will be made as to character and ability.

TO ENGINEERS, ARCHITECTS, SURVEYORS, CONTRACTORS AND BUILDERS.

WANTED, by a Young Man, a Situation as Clerk or Inspector on a Railway or other Works, or as Head Foreman to a Contractor or Builder; he perfectly understands railway surveying, levelling, plotting, &c., making out working drawings for cuttings, embankments, viaducts, bridges, culverts, &c., has a thorough knowledge of the oblique arch on the true spiral principle, both in theory and practice, having had several years' experience on the London and Birmingham, and Derby and Birmingham Railways; also the setting out of all sorts of Gothic work, having had several years' experience, both in theory and practice, in all sorts of Gothic and other Masonry. Specimens as to ability, also unexceptionable references as to character, can be given.—Direct A. M. Z., office of "The Builder."

WANTED a PARTNER, with a Capital from 800*l.* to 1,000*l.*, in a prosperous business.—Apply at the office of "The Builder."

WANTED, a Clever Working Foreman to undertake the Management of a Factory in which Thirty Joiners and Cabinet-makers are employed.—Apply by letter with references, to A. B., Mr. Thomas's Newspaper and Advertising Office, Finch-lane, Cornhill.

TO PLUMBERS AND BUILDERS.

WANTED (either in Town or Country), by a person of 30 years' experience, a Situation as Foreman, or to superintend the business of Plumber, Painter, and Glazier. Has a thorough practical knowledge of the business, and can give satisfactory testimonials if required. Apply by letter, prepaid, to X. Y., office of "The Builder."

TO BUILDERS AND OTHERS.

WANTED by a Respectable Young Man, a Situation in a Builder's or other Office; writes a good hand, understands book-keeping, and is a first rate arithmetician: he is also acquainted with mensuration, estimating, and a little of architectural drawing; is a good mechanic, and if engaged to a small builder, would have no objection to work part of his time at the bench.—Address, A. M. C., office of "The Builder."

TO BUILDERS.

WANTED, by a Young Man of respectability, who has served his apprenticeship to a carpenter and joiner, a situation in a Builder's office. He would make himself generally useful. He has a moderate income, therefore in a respectable situation would require but a small remuneration. Respectable references if required.—Address A. B. Z., office of "The Builder," 2, York-street, Covent-garden.

WANTED, by Mr. C. S. RICHARDSON, Architect, and Practical Surveyor, an Out-Door Articled Pupil.—Premium nominal.

WANTED, a Builders' Foreman; one that can undertake the entire management of the Joiners' Shop and the Building; he must be capable of executing detail drawings, staircase-work, and the measurement of carpenters' work generally. Situation, constant; salary, liberal.—Apply, 5, Whitefriars'-street, Fleet-street, City.

THE Parents of a Respectable Youth are desirous of Apprenticing him to a Carpenter and Builder, where he will gain a thorough knowledge of the business.—Apply by letter, prepaid, to A. B., at Mr. F. Wilson's, 8, Carpenters-buildings, London-wall.

TO BUILDERS, &c.

THE Advertiser, who has just completed his Engagement as Clerk of Works to an eminent architect, is open to a similar appointment. He understands practically various branches connected with building, and would be happy to treat with any gentleman requiring the assistance of a man of experience, as estimator, measurer, and accountant. References unexceptionable. — Address Y. Z., at Mr. CANNON, Baker, &c., Elizabeth-street, Pimlico.

TO ARCHITECTS AND BUILDERS.

A GENTLEMAN having some leisure time, would be glad to make working and finished drawings, specifications, and estimates on moderate terms. He has been a successful competitor, possesses a sound and practical knowledge of every department, and has superintended several public works.—Address, G. A., 6, Chenies-street, Bedford-square.

TO ARCHITECTS, CIVIL ENGINEERS, AND PUBLIC COMPANIES.

A GENTLEMAN who has been regularly educated in London as an Architect and Civil Engineer under eminent masters in both professions, has for upwards of five years had the entire management of an Architect's business, and understands land surveying and levelling, wishes to obtain employment in London in either of the above professions, at a fair remuneration. Satisfactory testimonials as to character and ability, and references to parties for whom the Advertiser has erected buildings and made surveys, will be given.—Address, H. N., care of Thos. Compton, Esq., Estate Agent, 51, Moorgate-street, City.

Railway Surveying, Levelling, Plotting, Drawing Sections, Use of Theodolite and other first-rate instruments, practically taught.

A SURVEYOR of long experience (has surveyed several, and has one line to survey this season), is now (until 1st June, proceeding then to the country with a staff of assistants), devoting his attention to the instruction of gentlemen for surveyors, &c., undertaking to make them thoroughly competent. Present terms, Three Guineas (reference to pupils).—Apply, if personally 'twixt 4 and 10 P.M., or 8 and 10 A.M., to Mr. G. T., 117, Park-street, Camden Town.

ART-UNION of LONDON, 4, Trafalgar-square, Charing-cross: by Authority of Parliament.

President—H. R. H. the Duke of CAMBRIDGE.

The list for the current year will close on the 31st instant. Subscribers will receive for each guinea paid, besides the chance of obtaining a valuable work of art, an impression of a line engraving by Mr. P. Lightfoot, from the picture by Mr. H. O'Neil, "Jeptha's Daughter;" and, in addition to this, a series of designs in outline, made expressly for the Society, by Mr. G. E. Hicks, illustrative of Campbell's "Gertrude of Wyoming."

GEORGE GODWIN, } Hon. Secs.
LEWIS POCOCK, }

TOWN HALL, LUTON, BEDFORDSHIRE.
TO ARCHITECTS.

IT is proposed to BUILD a TOWN HALL at LUTON, BEDFORDSHIRE, with Dwelling-houses and Shops adjoining. The architect whose plan is adopted will be required to superintend the work, if an arrangement can be made to that effect. Further particulars may be had, and a plan of the ground seen, by applying to Mr. WILLIAMSON, Solicitor, Luton, Beds, to whom plans, elevations, specifications, and an estimate of the expense are to be sent, on or before the 11th day of April next.

Luton, 18th March, 1846.

CONTRACTS.

TO BRICKMAKERS, &c.

THE Subscriber is ready to CONTRACT for the supply of North Country Ashes, suitable for brickmaking, at 3*s.* per Newcastle chaldron (about 1*s.* per ton), free on board in the Tyne.—JAMES TURNER, 3, Indian King's-court, Quayside, Newcastle-upon-Tyne.

BUILDERS and others desirous of TENDERING for the Erection of the Blackheath Trinity District Schools, can see the Plans and Specification by application at the office of Mr. E. P. BROWNE, the Architect, Royal-place, Royal-hill, Greenwich, between the hours of 10 and 4. The quantities are taken off by a Competent Surveyor and will be ready for delivery at the office of the Architect on Tuesday, the 31st instant, and each party taking a copy will have to pay 1*l.* 1*s.* Sealed Tenders to be delivered at the Vestry-room of the Parish Church of St. Alphage, on or before 7 o'clock on Monday, the 20th of April.

TO BUILDERS.—SOUTH STAFFORDSHIRE GENERAL HOSPITAL.

THE Committee are desirous of receiving TENDERS for the erection of the above institution. The Drawings and Specifications thereof may be inspected during office hours, from Monday, the 23rd inst., till Monday the 30th day of April, at the office of Mr. BANKS, Architect, Wolverhampton. Sealed tenders, endorsed, "Tenders for Building the South Staffordshire General Hospital," are to be delivered, free of expense, to Mr. PINCHARD, Solicitor, Wolverhampton, on or before the 20th day of April, 1846. The Committee do not pledge themselves to accept the Lowest tender, and sufficient sureties for the due performance of the works will be required.

Wolverhampton, 17th March, 1846.

TO CARPENTERS AND BUILDERS.

THE JUSTICES of the PEACE for the County of Middlesex will receive TENDERS for the EXECUTION of the several WORKS necessary to be done in the RE-ERECTION of a TIMBER BRIDGE, called Poyle Mill-bridge, near Colnbrook, agreeably to the plans, specification, and draft, to be seen any day after Thursday next, between the hours of ten and three o'clock, at the Sessions-house, Clerkenwell-green, or at Mr. Moseley's Office, 32 A, Upper Albany-street, and from whom, upon a written application, traced copies may be obtained by post. Sealed tenders, endorsed in the usual way, and containing the names and addresses of two sureties in 100*l.* each, are to be delivered at the Sessions-house, aforesaid, on Wednesday, the 8th of April next, by two o'clock, at which place and hour the party making the tender must attend personally. The Justices will not bind themselves to accept the lowest or either of the tenders. No charges are to be made or will be allowed to the persons tendering for the preparation of the estimates or tenders.—Dated the 20th March, 1846.

CHARLES WRIGHT, Clerk.

ARCHITECTS, SURVEYORS, AND BUILDERS, are respectfully informed, that CHAS. GOODWIN, of 67, Great Guildford-street, Borough, is enabled to supply Plaster, Hair, &c., at the following reduced prices:—Coarse Plaster per ton 2*l.* 10*s.*, Fine 3*l.* 10*s.*, Hair 8*l.* to 10*l.* cash, at Manufactory. C. G. can also supply Architectural Ornaments of every description in a most superior style.

WM. BANGHAM,

FURNISHING UNDERTAKER, No. 7, Stockbridge-terrace, corner of Vauxhall and Pimlico roads, begs to inform the Trade they can be supplied with every article requisite for funerals at the lowest furnishing prices, and a liberal credit if required.

For the convenience of the trade every facility is studied. LEADEN COFFINS may be obtained full trimmed in an hour, and every other article on the shortest notice. Cambric and Satin Shrouds, Winding Sheets, &c. Horses, Coaches, Feathers, Velvets, Heraldry, &c. Country orders punctually attended. No extra charge for delivering large coffins within ten miles.



WILSON'S PATENT VENTILATING SPIRAL CHIMNEY POT, for the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success. This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance. The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory, Southwark-bridge Iron Roofing Works.

DAY'S PATENT WINDGUARD, for ventilating

Churches,	Shops,	Kitchens,
Hospitals,	Bed-rooms,	Offices,
Factories,	Smoking-rooms,	Ships,
Theatres,	School-rooms,	Mines,
Breweries,	Nurseries,	Vaults,
Malt-houses,	Stables,	Tunnels,
Club-houses,	Larders,	&c. &c.

Also for preventing down draft; and is guaranteed to cure all smoky chimneys caused by wind; and entirely supersedes the use of revolving cowls, or any thing moveable or unsightly on the tops of chimneys or ventilators.

The object of this invention is to create a draft where otherwise it would not exist, by the spontaneous action of the external air. The Windguard forms a pleasing octagonal pillar, and by its peculiar construction to carry out the principle on which it is based, which consists of the wind giving a disposition for a vacuum within, thereby causing a continual upward current about equal to the velocity of the wind at the time acting upon it, which averages about six feet per second thirty days out of thirty-one; therefore, will nearly at all times ensure a continual change of air, being no impediment to spontaneous ventilation, even on a perfectly calm day. One five feet square will ventilate a building containing upwards of 1,000 persons. The Windguard applied to ships and steam vessels, in the form of a sky-light, prevents rain or the sea entering within, however boisterous the weather may be, thereby affording excellent ventilation as well as light. The Windguard is simply applied for effectually ventilating bed-rooms, nurseries, smoking-rooms, offices, &c., causing the air of the apartment to be at all times as pleasant as can be desired. It is fixed at the top of the chimney, in addition to which a cast-iron frame and valve (about one foot area), made to open or shut at pleasure, is let into the flue, near the ceiling of the room, to allow the constant ascending vitiated air being immediately carried off. The opening is guarded by a neat venetian blind or grating; and so powerful is the effect on a windy day that if a handkerchief be thrown up to the grating, it will remain there—i. e. if the valve be open. In winter the valve would be only partially open, to allow the smoke from the fire to ascend, but if the room be found too cold, can be entirely closed. The Windguard applied to the tops of chimneys prevents all annoyance from smoke (caused by wind); indeed, where it does not, nothing else applied at top will (of the same size); care, therefore should be taken to have the proper size applied. It is simple in its application, reasonable in price, ornamental in appearance; no machinery or anything moveable in it, therefore, cannot get out of order: free from noise or any unpleasantness whatever; not liable to choke up with soot; no obstacle to the machines used for sweeping chimneys. May be had of all respectable ironmongers in town and country; and may be seen daily in operation, where its powers and usefulness are exhibited by the severest tests, at THE PATENT VENTILATING WORKS, COMMERCIAL-ROAD, PIMLICO, LONDON; where also may be seen Mr. G. T. DAY's plans (illustrating the different applications of his Patent Archimedian Ventilator and his Portable Water Apparatus) for effectually Ventilating, Warming, and Cooling the Air of Buildings, Ships, Mines, &c. &c. By the use of these inventions many thousand cubic feet, or any quantity of pure warm or cold air, can be guaranteed to be continually exchanged per minute, day and night, winter and summer; thereby insuring, at all times, free ventilation to the rooms and passages of buildings, &c. from the basement to the roof, at the same time in such a manner as shall not be inconveniently perceptible. The size of the apparatus depends on the nature and use of the building and its occupants. The Patentee has been honoured by his inventions being applied at the following places:—

Windsor Castle,	Trinity House,
Buckingham Palace,	Ordnance,
Saint James's Palace,	Greenwich Hospital,
Claremont Palace,	Christ's Hospital,
Walmer Castle	Westminster Hospital,
The Houses of Parliament,	Bethlehem Hospital,
New Conservative Club,	Surrey Lunatic Asylum,
White's Club,	New Royal Exchange,
Travellers' Club,	Mansion House,
Oxford and Cambridge,	Goldsmiths' Hall,
Parthenon,	Fishmongers' Hall,
Wyndham,	Haberdashers' Hall,
Army and Navy,	Dyers' Hall,
Senior United Service,	Grocers' Hall,
Junior United Service,	Armourers' Hall,
Admiralty,	Weigh-house Meeting-house
British Museum,	Hanover Square Rooms,
Somerset House,	Theatre of the Westminster
Custom House,	Literary and Scientific Institution,
Mint,	Grand Cigar Divan, Strand,
Hon. Artillery Company,	City Club,
H. M. S. Salamander,	

And many other Public Buildings in Town and Country, as well as in the Mansions of many Noblemen and Gentlemen. Licenses granted for Manufacturing the above.

Drawings and Plans made for Ventilating and Warming Buildings of every description.

TO ARCHITECTS, BUILDERS, AND THE PUBLIC IN GENERAL.

C. DEBAUFER and SON beg to call the attention of architects, builders, &c., to their general assortment of Gas Lamps, Pendants, Hydraulic sliding Pendants, Gas Brackets, Pillars, and every article connected with gas apparatus, at their Manufactory and their Rooms, 10 and 11, Creed-lane, Ludgate-street.—A liberal discount allowed to architects and builders.

PLUMBERS' BRASS WORK, WATER-CLOSET PUMPS, &c.—These articles require the greatest attention and care in the manufacture, and will be found superior and cheaper than at any other manufactory. Best Pan Water Closets, 32s.; 2¼ Lift Pumps and Planks, 4l. 10s. 0d.; 3-inch Pumps, 5l. 10s. 0d.; 3-inch Bib Ball and Stop Cocks, 2s. 4d. each, and every article in this branch equally low. Every article warranted.—Address, THOS. MILLINGTON, 87, Bishopsgate-street.

BED FEATHERS

MIXED, 1s. per lb.
Grey Goose, 1s. 4d. per lb.
Foreign, ditto, ditto, 1s. 8d. per lb.

Best Foreign Grey Goose, 2s. per lb.
Best Irish White, ditto, 2s. 6d. per lb.
Best Dantzic, ditto, ditto, 3s. per lb.

Warranted sweet and free from dust.

A List of every description of Bedding, containing weights, sizes, and prices, sent free by post, on application to HEAL and SON, Feather-dressers and Bedding manufacturers, 196, opposite the Chapel, Tottenham Court-road.

By Her Majesty's Royal Letters Patent.

SEALED 7th OCTOBER, 1845.

CROGGON'S PATENT WATERPROOF DOUBLE BITUMINOUS PAPER.

THE above is Manufactured by the most Accurate Machinery, for Depositing a DOUBLE COAT of ASPHALTE between Two Sheets of Paper, ensuring an evenness of distribution of the Waterproof Materials, thus rendering EVERY MINUTE PORTION OF THE PAPER ENTIRELY IMPERVIOUS TO WATER. To prove that it perfectly resists water, it is only necessary to put it into such a form as to Hold Water, when, after filling, it, the water will evaporate without appearing in the least degree on the other side.

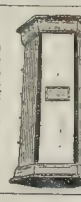
For ROOFS OF HOUSES it will be found very advantageous, being very cheap, admitting A GREAT SAVING OF TIMBERS; it may be painted of all colours, thus rendering it peculiarly applicable to any description of Roof. It is also an EFFECTUAL PREVENTATIVE against the effects of DAMP FROM WALLS, if put under the usual paper, and DAMP FLOORS, when under carpets.

It may be had in Rolls of any Length, to order, AT SIXPENCE PER SQUARE YARD, of
THOS. JNO. CROGGON,
8, Laurence Pountney Hill, Cannon-street.

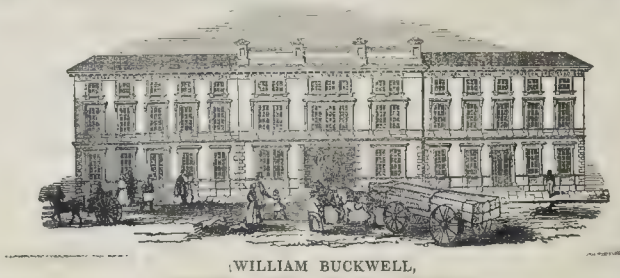


SMOKY CHIMNEYS CURED
BY COOPER'S PATENT DEFLECTING VENTILATOR.

THE cheapest, most ornamental, and most effective article of the kind yet presented to the public. It has a larger egress for the smoke than any similar invention, and no accumulation of soot can check its action; there being no machinery, it is free from noise, and cannot go out of repair; it offers no obstruction to sweeping-machines, and is warranted to cure all down-draft and smoky chimneys, of whatever nature, caused by wind; to draw off all obnoxious vapour from public buildings, churches, schools, club-houses, hospitals, sick chambers, ships, &c. Manufactured in iron, zinc, galvanized iron, and copper.



Wholesale Agents for London and its vicinity,
GEORGE and JOHN DEANE,
(Opening to the Monument),
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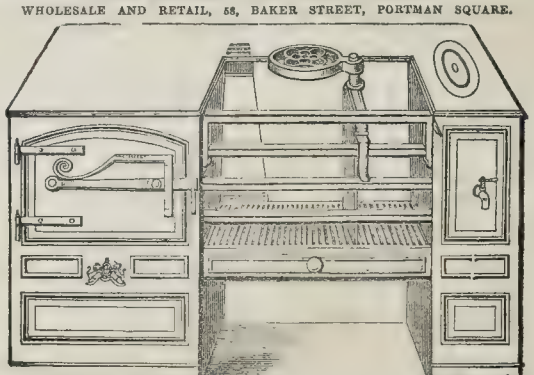


WILLIAM BUCKWELL,
IMPORTER, TIMBER AND DEAL MERCHANT,
BOROUGH ROAD, SOUTHWARK, AND COMMERCIAL WHARF, OLD KENT ROAD.

TIMBER and DEALS cut to any Scantling or thickness at a few hours' notice. A LARGE STOCK of uncut, cut, and wrought stuff, kept at Saw Mills ready for delivery or sawing.

OAK, ASH, ELM and BEECH, PLANK and QUARTERING, in great variety.
VENETIAN BLIND STUFF, PLASTERERS', WINE, PANTILE, and other LATHS.
MOULDINGS, in large quantities, wrought to pattern by Steam Power.
N.B. Dry Seasoned prepared FLOORING, MATCHED BOARDING, and GROOVED LININGS, with every thickness and scantling of SAWN Goods always on sale, or cut to order, and delivered with dispatch.

THE PANKLIBANON IRON WORKS,
WHOLESALE AND RETAIL, 58, BAKER STREET, PORTMAN SQUARE.



ARCHITECTS, BUILDERS, and Others, about to supply STOVES and KITCHEN APPENDAGES, will find at this Establishment the most unique and elegant assortment of STOVE-GRATES, FENDERS, and FIRE-IRONS ever offered to the Public, at prices considerably below the usual charges. The Proprietors at the same time beg to invite attention to their extensive Stock of FURNISHING IRONMONGERY, Tinned Copper, Tin and Iron Cooking Vessels, Block Tin Dish-Covers, Japanned Ware, Table Cutlery, and especially their Sheffield Plate and German Silver Wares, embracing every Article suitable for the Table, comprising Dish and Plate Covers, Liquor Frames, Epergnes, &c. &c. The plan adopted by the Proprietors of affixing the price to each article for cash, enables all purchasers to have the same advantage. The Patent Thermio Stove is in daily operation. THORPE, FALLOWS & COMPANY, 58, Baker-street, Portman-square, London.

THE BUILDER.

CAEN STONE.

LUARD and BEEDHAM have a quantity of the above stone, of the best quality, direct from their Quarries at Allemange, which may be inspected at the Norway Sufferance Wharf, Greenwich.—Further particulars at Mr. G. GATES', 18, SOUTHWARK-SQUARE, SOUTHWARK.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

SAMUEL CUNDY begs to inform Architects, &c., that every description of Stone, Marble, and Granite work is executed at the cheapest possible rate.

Estimates given for Mason's Work in all its branches. Gothic Work, Tombs, Monuments, &c.

MARBLE WORK for Halls, Dairies, Tables, Columns, Vases, at most reasonable prices.

A large collection of Designs for Mural and other Monuments.

CHIMNEY PIECES from Twelve Shillings upwards.

Depôt for CAEN STONE, &c.

PORTER'S CORRUGATED, and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanizing Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway, and other Iron and Smith's work Manufactured of the best quality. Iron Fence and Hurdles as usual.—The Trade Supplied.

MOREWOOD AND ROGERS' PATENT GALVANIZED TINNED IRON.

T. W. BEALE begs to acquaint the public that he is prepared to lay roofing, plain or corrugated, fix pipes, gutters, &c. Also chimney-tops and ventilating cowls of every description; also water and oil cisterns, of this incorrodible and fireproof metal. He manufactures all kinds of baths, as hip, shower, Roman, open, slipper, sponging, foot, children's, and self-heating baths; also toilet-cans and pails, slop-pails, coal-scuttles, cash and deed-boxes, and fire-proof safes of every description, 10 per cent. cheaper than any house in London.

The PATENT GALVANIZED TINNED IRON is applicable to the following uses:—The Lining of Ships' Store Rooms, Ships' Water Buckets, Water Jugs and Receivers, and for almost every purpose to which zinc, tin, copper, brass, or any other metal is now applied; is more durable, and manufactured at much less expense. An experienced workman sent to any part of the kingdom. All orders punctually attended to. For particulars, apply to T. W. BEALE, 46, Bridge House-place, Newington Causeway.

PATENT GALVANISED TINNED IRON. (MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and water-closets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 90s. to any required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quicksect-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

By Her Majesty's Royal Letters Patent.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED METAL.—This article was at first sold under the name of Galvanised Tin Plates, but the Patentees finding that the public, in some instances, overlooking the word Tin, confounded the article with Galvanised Iron, and that the character of their metal has thereby sustained injury, are desirous of giving it a name so distinctive as to prevent such mistakes, and consequent disappointment to purchasers in future. They therefore respectfully request purchasers to inquire for MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON. In order to enable the public readily and at first sight to distinguish between the two metals, it may be well to inform them, that Galvanised Iron has a plain zinc-like appearance, while M. and R.'s Patent Galvanized Tinned Iron has a smooth crystalline surface.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON, Patronized by the Admiralty and the Honourable Board of Ordnance, being extensively used in her Majesty's Dock-yards, at the Tower, and elsewhere, for every variety of Roofing, and other purposes, where a strong, light, cheap, and durable material is required.

It has been found by experience that this article is beyond all comparison superior to zinc; possessing, as it does, all the advantages arising from the strength and firmness of iron, combined with perfect immunity from rust; whilst it is free from the very serious objection which applies to zinc, viz. its contraction and expansion, consequent upon every change of temperature, and from which circumstance leakage must of course result.

This material is not likely to be destroyed by fire, as is the case with zinc and lead, which melt and run down, thus freely admitting fresh air to the fire, and causing it to burn more fiercely. It is, therefore, obviously well adapted for all the purposes above-named, and most importantly so, when there is the possibility of fire. It is also peculiarly suitable for chimney-tops, gutters, spouting, and out-door work generally, possessing the strength of iron, without its liability to corrosion. It is by far the most economical metal roofing that can be obtained, in consequence of its strength, as it may be laid without boards, and upon the lightest rafters.

This mode of preserving metal from rust does not only apply to sheet-iron, but also to manufactured iron in any form, as bolts, nuts, hinges, nails, &c. &c.

For full Particulars apply to S. HOLLAND, 34, Gracechurch-street.

PREPARED FLOORING BOARDS.

AT REDUCED PRICES.

ALWAYS ON SALE, a LARGE ASSORTMENT of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¼ inch to 1¼ inch thick. Rough Boarding for Flats.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

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TESTIMONIALS.

From THOMAS GRAHAM, Esq., M.A., F.R.S., L. and E., Professor of Chemistry, University College, London.

"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.

"The wood appears to be fully and deeply penetrated by the metallic salt; I have found it in the centre of a large prepared paving block.

"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the crystalliasable salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.

"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Toplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azoised principles it contains, by entering into chemical combination with them.

(Signed) "THOMAS GRAHAM."

"University College, 25th October, 1845.

From Professors BRANDE and COOPER.

"London, 4th November, 1845.

"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.

"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.

"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.

"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.—(Signed) "WILLIAM THOMAS BRANDE,

"JOHN THOMAS COOPER."

"To Sir William Burnett, K.C.H., F.R.S., &c. &c."

Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 53, King William-street, London-bridge.

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Further particulars can be obtained at Whitehall-Wharf Cannon-row, Westminster, or at their other stations, Fleetwood-on-Wyre, Lancashire; Wisbeach, Cambridgeshire; Union-Wharf, Southampton; and Guildford, Surrey.

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CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

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SEYSSEL ASPHALTE

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I. FARRELLI, Secretary.

Stangate, near Westminster Bridge, Jan., 1845. Seyssel Asphalte Company,

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Best Register Stoves, at 7*d.*, 8*d.*, and 9*d.* per inch.

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The Builder,

A JOURNAL FOR

The Architect, Engineer, Operative & Artist.

VOL. IV.—No. 165. APRIL 4, 1846. Price ..... 3d. Stamped 4d

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ADVERTISEMENTS.

TO CARPENTERS AND BUILDERS.

WANTED to APPRENTICE a respectable Youth, between 15 and 16, where he will be treated as one of the family.—Apply to Mrs. Woolard, Newsagent, 10, Winchester-place, Southwark Bridge-road.

WANTED in a Manufacturing Business an active Town Traveller, who has a connection with respectable builders. He will be required occasionally to assist at the books.—Apply by letter to T. F., at Mr. Firth, lithographic printer, St. Michael's-alley, Cornhill.

TO BUILDERS.

WANTED, by a person aged eighteen, a SITUATION in a Builder's Office. Is a good Draughtsman, and understands Book-keeping, &c. Good reference can be given.—Please to address to A. C., 11, Bridge-road, Battersea. Has no objection to the country.

TO ENGINEERS, &c., IN THE COUNTRY.

WANTED by a respectable Young Man (who was engaged five years in the General Work, Book-keeping, &c., of an Engineer and Smith in London), a similar situation in the country; preference to the country is the reason for wishing to leave London; undeniable references can be given.—Address P. P., to J. B., at C. Hawgood's, 13, Park-street, Southwark.

TO ARCHITECTS AND BUILDERS.

THE Advertiser, possessing considerable experience as a builder, is desirous of an Engagement with an Architect or Builder, as Clerk of Works. Any gentlemen requiring the assistance of a respectable person of business habits will please to address A. B., office of "The Builder," York-street, Covent Garden.

TO ARCHITECTS, BUILDERS, &c.

THE Advertiser having concluded an Engagement, is desirous of a Situation as Foreman of Bricklayers or Clerk of Works. Having for many years had the experience of conducting and superintending works on a large scale, would be useful in a Builder's office to take out quantities, making working drawings, &c. Unexceptionable reference can be given.—Address, X. A. Z., office of "The Builder."

TO ARCHITECTS, BUILDERS, AND CONTRACTORS.

A PERSON who has been several years engaged upon public works, and for the last five years with two of the principal builders in the City, is desirous of an Engagement as Clerk of Works or Foreman, or would undertake any quantity of brickwork or earthwork. Satisfactory references as to capability, &c., can be given.—Address, p.p., to A. B., 96, Leadenhall-street.

TOWN HALL, LUTON, BEDFORDSHIRE.
TO ARCHITECTS.

IT is proposed to BUILD a TOWN HALL at LUTON, BEDFORDSHIRE, with Dwelling-houses and Shops adjoining. The architect whose plan is adopted will be required to superintend the work, if an arrangement can be made to that effect. Further particulars may be had, and a plan of the ground seen, by applying to Mr. WILLIAMSON, Solicitor, Luton, Beds, to whom plans, elevations, specifications, and an estimate of the expense are to be sent, on or before the 11th day of April next.

Luton, 18th March, 1846.

CONTRACTS.

BUILDING LEASES—KENT ROAD.

THE Committee for letting the Bridge House Estates will meet at Guildhall on Friday, the 17th day of April instant, at One o'clock precisely, to receive proposals for building leases of a large plot of ground situate on the west side of a new road recently formed, leading from the Lord Nelson Tavern, on the south side of the Kent-road, towards Peckham, in the county of Surrey. Plans of the ground and conditions for letting may be seen at the Office of Works, Guildhall.—Dated the 3rd day of April, 1846.

FERDINAND BRAND,
Comptroller of the Bridge House Estates.

NEW WORKHOUSE—ASHBOURNE UNION.
TO BUILDERS.

PERSONS desirous of CONTRACTING with the Guardians of the Ashbourne Poor-Law Union for the BUILDING of a NEW WORKHOUSE at Ashbourne, in the county of Derby, may see the drawings and specifications, and obtain every information, upon applying to Mr. HENRY I. STEVENS, Architect, Friar-gate, Derby, on and after the 18th day of April next. The tenders to be delivered, sealed up, and indorsed "Tender for the Building of the Workhouse," to the Clerk of the Guardians, on or before Saturday, the 9th day of May next. The contractors will be required to find two sufficient securities for the performance of the contract.

RICHARD HOLLAND, Clerk to the Union.
Ashbourne, March 28, 1846.

TO BUILDERS AND OTHERS.

SAINT BARTHOLOMEW'S HOSPITAL.—A Committee of Governors will meet at this Hospital on Tuesday, the 14th instant, at 11 o'clock in the Forenoon precisely, to receive proposals from such persons as may be willing to take on a Building Lease or Leases, for a term of 61 Years from Midsummer next, a valuable PLOT OF GROUND, situate at Kingsland, and bounded by four roads; those on the East and North sides being respectively the Kingsland and Balls Pond-roads. Also to receive proposals for a PLOT OF GROUND on the South side of Kent-street, in the Borough, to be Let on a Building Lease or Leases, for a term of 61 Years from Midsummer next; the plans of the ground may be seen, and further particulars ascertained at Mr. HARDWICK'S office, Southampton-row, Russell-square. WILLIAM WIX, Clerk.

TO CARPENTERS AND BUILDERS.

THE JUSTICES of the PEACE for the County of Middlesex will receive TENDERS for the EXECUTION of the several WORKS necessary to be done in the RE-ERECTION of a TIMBER BRIDGE, called Poyle Mill-bridge, near Colnbrook, agreeably to the plans, specification, and draft, to be seen any day after Thursday next, between the hours of ten and three o'clock, at the Sessions-house, Clerkenwell-green, or at Mr. Moseley's Office, 32 A, Upper Albany-street, and from whom, upon a written application, traced copies may be obtained by post. Sealed tenders, endorsed in the usual way, and containing the names and addresses of two sureties in 100l. each, are to be delivered at the Sessions-house, aforesaid, on Wednesday, the 8th of April next, by two o'clock, at which place and hour the party making the tender must attend personally. The Justices will not bind themselves to accept the lowest or either of the tenders. No charges are to be made or will be allowed to the persons tendering for the preparation of the estimates or tenders.—Dated the 20th March, 1846.

CHARLES WRIGHT, Clerk.

DESIGNS FOR THE FISHMONGERS AND POULTERERS' ASYLUM.

THE Committee having been requested to afford the Subscribers and Friends of the Institution an opportunity of inspecting the very numerous and interesting drawings which have been submitted for their choice, beg to state that the same will be open for public inspection at the London Coffee House, Ludgate-hill, this day from 11 to 6.

D. S. RECKNELL, Sec.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge. — Wyatt, Parker, and Co., Agents. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

ORNAMENTAL TILES FOR COVERING BUILDINGS.

ROBERT BROWNE'S newly-invented CURVED ITALIAN TILES, for which invention the Society of Arts and Sciences awarded a medal. The Gothic Grooved Ridge Tile, with vertical ornaments, invented by R. B. in 1840; also a variety of plain Gothic Ridge Tiles adapted for tile or slate coverings; ornamental Plain Tiles of various patterns.

Tiles form in winter a warmer and in summer a cooler covering than slates or metal, and may be burnt of any desired colour. Address ROBERT BROWN, Tile Works, Surbiton Hill, near Kingston, Surrey.

HIP TILES to suit slate roofs in colour; Ridges, with plain or rebated joints, roll tops, and vertical ornaments; drains, many sizes, with plain or socket joints; paving in squares, hexagons, octagons, &c., different colours; roofing, in Grecian or Italian styles, other devices also, or plain; conduits, which do not injure pure water; fire-bricks and tiles; clinkers, and out-door paving; sundry wall-coping, garden-borders, chimney-tops; also tubular and other flues of peculiar material. No agent, but a depôt at 22, WHITEFRIARS-STREET, FLEET-STREET, LONDON, under Mr. PEAKE'S personal care, to supply genuine TERRO-METALLIC goods at fair prices as per quality; also, additional Stock at No. 4 Wharf, Macclesfield-street, South, City Basin.

The TILERIES, TUNSTALL, STAFFORDSHIRE, are near the centre of England, whence boats are sent direct to any inland place; or to the Mersey for the coasts, the colonies, and elsewhere.

GRAINING AND WRITING FOR THE TRADE.

MESSRS. WOOD AND COMPANY, Grainers and Writers to the Trade only, by contract, measure, or otherwise.

Offices, 11, St. Benet-place, Gracechurch-street, City, and 62, Waterloo Bridge-road. All letters post paid.

N.B. Workmen sent to any part of the kingdom.

PAPER HANGINGS. — A Stock of 50,000 Pieces always ready, in Satins, Flocks, Gold, Damasks, Oaks, Granite, Hand Marbles, &c. &c., at extraordinary prices. Terms, Cash.—Paper Stainers supplied with long Elephant at Mill Prices—Cash.—LESCHALLAS, 32, Budge-row, City, corner of Size-lane.

PAPER-HANGINGS.

R. CHATER solicits the attention of Builders to his extensive assortment of Paper-hangings, which he is selling at very reduced prices, adapted to every purpose of decoration; also his painted marble-papers of superior description, as well as granite and oak papers for halls and staircases. — A liberal allowance on taking large quantities.—No. 45, Tottenham-court-road.

PAPIER MACHÉ.

HASELDEN and Co., Manufacturers of PAPIER MACHÉ, beg to call the attention of Architects, Builders, and House-decorators to their Ornaments, which far exceed plaster or putty, both in lightness and durability. Every kind of architectural decoration, also glass and picture-frames, mouldings, &c., made in Papier Maché, drawings of which may be had free of expense on application.—Warehouse, 26, Wardour-street, Soho.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3l. 6s.	3l. 13s.	3l. 16s.	4l.	4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
6l.	5l. 15s.	6l. 5s.	6l. 10s.	7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.

Do. Elliptic do., at 3½d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

PAINTED GLASS.

THE Subscribers, who have been appointed to furnish the PAINTED GLASS for the WINDOWS of the HOUSE OF LORDS, are ready to prepare Designs adapted to every style of Ecclesiastical or Domestic Architecture, and to execute Work, to any extent, within the shortest possible period.
BALLANTINE and ALLAN, 42, George-street, Edinburgh.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

FOREIGN SHEET GLASS, TILES, &c.—The cheapest, stoutest, and best quality imported and sold at C. JARVIS'S old-established WINDOW GLASS WAREHOUSE, 38, Great Castle-street, a few doors from Regent-street. Crown Glass from 30s. per crate. Squares cut to size equally low in price. Sashes glazed on the lowest terms. Country orders forwarded with reference will meet with prompt attention. The largest discount allowed off all descriptions of glass for ready money only.

THE ARTICLE GLASS.

MESSRS. DAINES and BRADDOCK have made arrangements to supply the Public with Glass for Sashes and Horticultural purposes of superior quality and substance, and at much lower prices than that which may have been obtained through the medium of any previous advertisements as the size therein quoted at 1d. per foot may be obtained at 3s. per 112 lbs. upon application 6, Farringdon-street.—London, March, 1846.

N.B. A Stock of Patent Plate and Stained Glass constantly on hand.

TO THE PLATE GLASS TRADE.

THE BIRMINGHAM PLATE AND CROWN GLASS COMPANY, "Registered," beg to inform the Trade and Public, that the extension of their Works at Smethwick, near Birmingham, being now completed, their Warehouse 141, Fleet-street, is now open for the Sale of their Crystal Plate Glass, which will be found to stand unrivalled by that of any other manufactory. They are also in a position to supply Rough Plate of any substance for Skylights or Floorings on the shortest notice.—Orders addressed to B. MOSS, 141, Fleet-street, will be promptly attended to.

SASHES primed, glazed, and sent to any part of London at 6d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.

FOREIGN SHEET 5d. per foot.
BRITISH CROWN 5d. per foot.

Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Shew-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.

Dry and Good Colours of the best quality; Brushes Dryers, and every article used in the Trade Warranted.

VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 28s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.

For complete lists priced.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

FOREIGN SHEET GLASS, in Cases as imported.

	Common.	Second.	Best.
Under 1 ft. 0 in. superficial	3½	4	5
1 ft. 0 in. „ 3 ft. 0 in. „	4	4½	5½
3 ft. 0 in. „ 4 ft. 6 in. „		5	6
4 ft. 6 in. „ 6 ft 0 in. „	4½	5½	7
6 ft. 0 in. „ 9 ft. 0 in. „	4½	6	8

THOS. MILLINGTON has always a large stock in hand, and receives weekly large supplies: T. M. is nearly the only real importer.—Address, Thos. Millington, 87, Bishopsgate-street Without, London. Dealer in all kinds of Plate, Sheet, and coloured Window Glass. Manufacturers of Paints, Varnishes, and Colours.

An immense stock of Varnish, very old, &c.
Fine Oak Varnish, 10s. per imp. gal.
Fine Carriage.... 12s.
Fine Copal ..... 18s.
Fine Body ..... 24s.
No charge for cans if taken in quantities of 6 gallons.

PAVING, 2s. 9d. PER SQUARE YARD Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27s. 6d. per ton.

TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorised CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

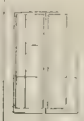
has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced. I. FARRELL, Secretary,
Stangate, near Westminster Bridge, Jun., 1845. Seyssel Asphalte Company.

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

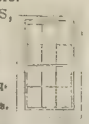
*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Wellworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

TO THE BUILDING PUBLIC.



SASHES AND FRAMES, DOORS, &c.



Manufactured for the Trade
By C. W. WATERLOW,
121, Bunhill-row, Finsbury-sq.
Best Materials.—Lowest Prices.
Terms: Cash.

Full lists of prices may be had on application at the counting-house; if by letter, pre-paid, inclosing postage-stamp.
A large stock of well-seasoned Doors always on hand.

LAWRENCE AND SON,



SHOP FRONT & SASH MANUFACTURERS,
26 and 27, Tottenham-st. Fitzroy-square.



Shop Fronts of every description executed with dispatch, elegance, and economy. Doors, shutters, staircases, and handrails, upon the most reasonable terms. Glass cases and fittings of every kind prepared on the shortest notice.

SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.

JOHNSON & PASK,
1, ANWELL STREET, Clerkenwell,





Beg to state that they continue to make Sashes, glazed complete, at 10½d. per foot; also, Shop Fronts to any design, and with the best British plate-glass. Every description of joinery on the lowest terms, and of the best materials and workmanship.

A full list of prices forwarded by return of post to any part of the country.

PATENT WINDOW BLINDS.

TYLOR and PACE manufacture every description of WINDOW BLINDS entirely upon their own premises, by the aid of steam machinery, insuring the best materials and workmanship, at the lowest cost. Patent metallic gauze and perforated Zinc Blinds, in mahogany frames, at 1s. 9d. per square foot; ditto, in metal frames, 1s. 2d. per square foot. A large and choice assortment of Transparencies, mounted, from 10s.; Holland Blinds, on plain or spring rollers, Outside Shades, Venetian and Sun Blinds of every description.

TYLOR and PACE'S Show-rooms, 33, Cornhill, entrance St. Peter's-alley.

HERRING'S PATENT WINDOW for hanging the Sashes, whereby they may be instantly disconnected from the Frames, without removing the Beading. It is now being applied in Palaces, Castles, Mansions, first-rate Houses, Villas, &c. It is universally approved and adopted by every Architect that has seen it. Builders in the Country will have a full-sized Window forwarded on receiving an order and reference, and taken back if returned within eight days free. To be seen daily. Licences and other particulars had of the Patentee, 14, Kingsgate-street, London.

This invention is exceedingly simple, increases the cost but slightly, and appears to answer the purpose well.—BUILDER, 28th February.

A Premium of 5*l.* will be given to the first fitter-up of a first-rate House with this Patent, and in proportion for second, third, and fourth-rate Houses.—March 20, 1846.

TO CIVIL ENGINEERS, SURVEYORS, &c.

HENRY POPE, Wholesale Stationer, having had for some time a large stock of Drawing Paper on hand, which, from its age, is so superior for mounting, feels much confidence in recommending his Mounted Papers, lengths of which upon linen and cotton are kept always ready. Maker of the Patent Metallic Levelling and Surveying Field Books, Tracing Papers, and all kinds of Stationery. The Ordnance Maps supplied. 22, Budge-row, Watling-street.

LITHOGRAPHY.

MESSRS. MACLURE, MACDONALD, and MACGREGOR, General Lithographers, beg to call attention to a peculiar feature in their system of conducting business; namely, their having a large and permanent staff of Assistants, in all the varied departments of the Art, on the premises; which arrangement, they submit, gives a force and effect to immediate production unattainable by other means, and which is obviously of great advantage to those who may require their services, independent altogether of the excellency of their work.

London Establishment, Saville House, 6, Leicester-square; Liverpool Establishment, 18, Fenwick-street; Glasgow Establishment, 57, Buchanan-street.

Vacancies for two Pupils; one in the Writing, the other in the Artistical Department.

FINE ARTS.

By Her Majesty's  Royal Letters Patent.

LORIMIER'S TRANSPARENT PLANES for Perspective Drawing; BENJAMIN WEST, Patentee.

"This Instrument will enable Artists and others to make any Drawing, whether from Nature or Models, in perfectly true perspective, so that a likeness or landscape may be taken in a few minutes absolutely perfect. It is used by her Majesty's Royal Sappers and Miners, Chatham. To Travellers it would be found serviceable, since it can be employed without the knowledge of drawing."—*Art Union*.

Price 1os. and 20s. Apply for Agents to BENJAMIN WEST, 2, St. James's-walk, Clerkenwell.—Sold by HARRITT and Co., 174, Fleet-street, London; GRIFFIN and Co., Glasgow, and by all Fancy Stationers, &c.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

REDUCTION IN THE PRICE OF BUNNETT AND CORPE'S PATENT REVOLVING IRON SHUTTERS.

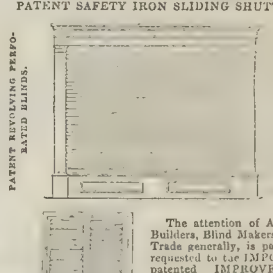
THE validity of this Patent being completely established, the Patentees have much pleasure in stating that the very extensive demand, and the employment of improved machinery in the manufacture, have given them an opportunity (of which they gratefully avail themselves) of making a considerable reduction in the price of this well-knownand tried invention, thereby rendering them the cheapest as well as the best iron shutters in use. Every improvement suggested by practical skill and most extensive application has been adopted, and no effective REVOLVING IRON SHUTTER can be constructed without infringing B. and C.'s patent. The worm and wheel, as patented by them, being the only safe, durable, and efficient mode of raising and lowering such shutters, these shutters can be applied horizontally, either above or below the window, or vertually, as introduced by BUNNETT and CORPE, in some of the largest establishments: they are made with bent or corrugated laths, if required.

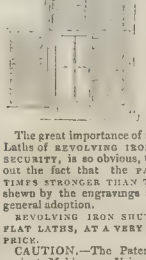
BUNNETT and CORPE also manufacture REVOLVING WOOD SHUTTERS, with their patent raising machinery, or with counterbalance weights, and with proper metallic hinges, without which no shutters can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop Fronts fitted in a superior manner with Iron Shutters, Patent Brass or Zinc Sashes, Moulded Engraved Stall Board Plates, best Plate Glass, and internal Brass Fittings of all kinds, on the most advantageous terms. Estimates given and contracts taken in Town or Country.—All kinds of metal works executed to any design. Metal Drawing, Rolling, and Stamping for the Trade. OFFICE, 36, LOMBARD-STREET, LONDON. WORKS, at DEPTFORD, KENT.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.
PATENT SAFETY IRON SLIDING SHUTTERS.





The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 115, Old Street, London; or at the Licensees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS as shewn by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using BENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licences Granted.

CAEN STONE.

LUARD and BEEDHAM have a quantity of the above stone, of the best quality, direct from their Quarries at Allemange, which may be inspected at the Norway Sufferance Wharf, Greenwich.—Further particulars at Mr. G. GATES', 19, SOUTHWARK-SQUARE, SOUTHWARK.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

SAMUEL CUNDY begs to inform Architects, &c., that every description of Stone, Marble, and Granite work is executed at the cheapest possible rate. Estimates given for Mr. Cundy's Works in all its branches, Gothic Work, Tombs, Monuments, &c.

MARBLE WORK for Halls, Dairies, Tables, Columns, Vases, at most reasonable prices.

A large collection of Designs for Mural and other Monuments.

CHIMNEY PIECES from Twelve Shillings upwards.
Depôt for CAEN STONE, &c.

PORTLAND CEMENT does not vegetate, requires no colouring, is perfectly hydraulic, and resists the action of Frost. The cost of the material and of working it is about the same as Atkinson's Cement, Manufactured by J. B. WHITE and SONS, Millbank-street, Westminster, and sold at their Warehouses:—

Druce's Wharf, Chelsea,
Bell's Wharf, Paddington,
Earl-street, Blackfriars,
Albion Wharf, Deptford-bridge,
by Salmon and Co., Dublin,
and at 36, Seel-street, Liverpool.

ROMAN CEMENT, &c.
REMOVAL.
THOMAS JOHN CROGGON
Begs to inform the Trade that he has removed to
8, LAWRENCE POUNTNEY-HILL and
THREE CRANES WHARF, 69, Upper Thames-street.
Orders addressed to either place for ROMAN CEMENT of genuine quality will be executed with promptitude and the strictest regard to quality and economy.

KEENE'S PATENT MARBLE CEMENT.
WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.
Patentees and manufacturers, J. B. WHITE & SONS, Millbank-street, Westminster.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.
CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—
1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.
It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.
For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.
For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.
Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.
JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.
Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.
Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 8, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,
JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

ATKINSON'S CEMENT.—The public is respectfully informed, that the price of this very excellent Cement, which has now been in use for Architectural and Engineering works upwards of thirty years, is reduced to 2s. 3d. per bushel, and may be had in any quantity at Wyatt, Parker, and Co.'s Wharf, Holland-street, Surrey side of Blackfriars-bridge.
N.B.—This Cement being of a light colour, requires no artificial colouring or painting, and may be used for stucco with three parts its own quantity of sand.

RAIN WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from ⅛ in. to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, and No. 6, Bankside, Southwark.

PLUMBERS' BRASS WORK, WATER-CLOSET PUMPS, &c.—These articles require the greatest attention and care in the manufacture, and will be found superior and cheaper than at any other manufactory. Best Pan Water Closets, 32s.; 2¼ Lift Pumps and Planks, 4l. 10s. 6d.; 3-inch Pumps, 5l. 10s. 6d.; 2-inch Bib Ball and Stop Cocks, 2s. 4d. each, and every article in this branch equally low. Every article warranted.—Address, THOS. MILLINGTON, 87, Bishopsgate-street.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 108, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

TO ARCHITECTS AND BUILDERS.
DOOR SPRINGS AND HINGES.—GERISH'S PATENT DOOR SPRINGS, for CLOSING every description of DOOR, consists of Single and DOUBLE-ACTION BUTT HINGES in Brass and Iron for Doors to open one or both ways, and Rising Hinges for the convenience of Doors opening on uneven Floors. Likewise Swing Centres, which consist of a combination of power unequalled by any made at present. Manufactured by F. W. Gerish, East-road, City-road; and sold by all respectable Ironmongers in the United Kingdom.

TO ARCHITECTS AND BUILDERS.
COLLINGE'S PATENT HINGES.—Sole Manufactory, 64, BRIDGE-ROAD, LAMBETH, where a great variety are always on view, for Church, Park, Conch-house, and all other Doors and Gates, of large or small dimensions, a gate of a ton in weight moving with these hinges as easily as a wicket; they are also admirably adapted for drawing-rooms, being highly ornamental, and folding-doors fitted with them may be removed and replaced in an instant. Rising and spring Hinges, on the most improved principle, and very superior Fastenings for exterior Gates, at moderate prices. To be seen at Charles Collinge and Co's Patent Axletree, Sugar-mill and Spherical-hinge Manufactory, 64, Bridge-road, Lambeth.

TO BUILDERS AND CARPENTERS.
A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery.

Best Patent Cut Clasp.
3d. 4d. 6d. 8d. 10d. 20d.
6d. 7½d. 8½d. 1s. 1d. 1s. 6d. 2s. 3d. per 1000.
Best Sheet Floor Brads 16s. 6d. per cwt.
Best Town Glue 44s. per cwt. Do. Scotch 54s. per cwt.

Best Patent Sash Line.
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4s. 3d. 5s. 6s. 6d. 7s. 6d. 10s. 12s. per gross.
Elliptic Stoves, 3d. per inch. Registers, 6d., 7d., 8d. per inch.
Self-acting Kitchen Ranges with Oven and Back Boiler.
Wrought Bars and Bright Fittings.
3 ft., 3l. 3s. 3 ft. 6 in., 3l. 12s. 6d. 4 ft., 4l.
Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

CHARLES SMITH and SON, 25, GREAT CHARLES STREET, BIRMINGHAM, (late STANDLY and SMITH, formerly STANDLY and GALE, Bull Street), Locksmiths, Bell-hangers, Brass-founders, Whitesmiths, &c., beg most respectfully to solicit the attention of MAGISTRATES, ARCHITECTS, and ENGINEERS to their inventions for prisons, lunatic asylums, &c. C. S. and Son will be happy to attend any committee of magistrates without charge, and submit a VARIETY of patterns of peculiar locks, signals, inspection apparatus, chapel door-fastenings, iron frames, hinges, &c., as supplied by them at the MODEL PRISON, LONDON, and TWENTY-THREE SIMILAR GAOLS, where they have given entire satisfaction. Among other testimonials, can be shewn that of Major Jebb, attesting the efficiency of the labels, &c., invented by them. The contracts will be executed to the approval of the inspector-general of prisons, and the architects, C. Smith and Son, also are prepared to contract for the supply of the whole of the ironmongery requisites for the residences of the nobility and gentry, churches, banks, barracks, gaols, asylums, and workhouses, including locks, bells, hinges, grates, kitchen-ranges, staircases, gates, park fencing, fire-proof safes, bookcases, doors, metal sashes of all kinds, and every description of ornamental brass and iron work, light castings, &c.
C. S. and Son beg to refer to the extensive works performed by them at Windsor Castle, Northumberland and Sion House, Blenheim Palace, Chatsworth, &c. as a guarantee for the superiority and durability of their work, in confirmation of which numerous letters from noblemen can be shewn.

TO ARCHITECTS, BUILDERS, & BRICK MAKERS.
PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Roads, Gardens, and for Liquid Manure. BRICKMAKERS' PUMPS in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to 12-inch bore, kept for Hire.
BENJ. FOWLER, 63, Dorset-street, Fleet-street

HEAL'S CONSILIUM ON BEDDING
CONTAINING a full description of Weights, Sizes, and Prices, by which purchasers are enabled to judge the articles that are best suited to make a good set of bedding. Sent free by post, on application to their establishment, the largest in London, exclusively for the manufacture and sale of bedding (no bedsteads or other furniture being kept).
HEAL and SON, Feather Dressers and Bedding Manufacturers, 196 (opposite the Chapel), Tottenham Court Road.



SMOKY CHIMNEYS CURED
BY COOPER'S PATENT DEFLECTING VENTILATOR.
THE cheapest, most ornamental, and most effective article of the kind yet presented to the public. It has a larger egress for the smoke than any similar invention, and no accumulation of soot can check its action; there being no machinery, it is free from noise, and cannot go out of repair; it offers no obstruction to sweeping-machines, and is warranted to cure all down-draft and smoky chimneys, of whatever nature, caused by wind; to draw off all obnoxious vapour from public buildings, churches, schools, club-houses, hospitals, sick chambers, ships, &c. Manufactured in iron, zinc, galvanized iron, and copper.
Wholesale Agents for London and its vicinity,
GEORGE and JOHN DEANE,
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REMOVED TO LAWRENCE POUNTNEY HILL, CANNON STREET.
By Her Majesty's Royal Letters Patent.
CROGGON'S PATENT ASPHALTE ROOFING FELT,
With which the Committee Rooms of the Houses of Parliament are entirely Covered.
THE above Material has been used and highly approved by the Nobility, Gentry, and Agriculturists generally, and Patronized by many Members of the Royal Agricultural Societies of England, Scotland and Ireland. It has been used for several Years at the Royal Horticultural Society's Gardens, Chiswick; the Swiss Gardens, Shoreham, Sussex; on the Duke of Buccleuch's, and the Marquis of Anglesea's Property, &c., &c., and (under slate) at the Royal Agricultural Society's House, Hanover-square. Its advantages are—CHEAPNESS, LIGHTNESS, DURABILITY, and ECONOMY. Being a Non-Conductor, it has been proved an efficient "Protective Material" to Plants.
PRICE ONE PENNY PER SQUARE FOOT.

CHEAP AND DURABLE ROOFING.
By Her Majesty's Royal Letters Patent.
F. McNEILL and Co. of Lamb's Buildings, Bunhill Row, London, Manufacturers and ONLY Patentees of
THE PATENT ASPHALTED FELT, FOR ROOFING
HOUSES, VERANDAHS, SHEDS, &c.
Patronized by
HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE BOARD OF ORDNANCE,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.
And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover-square.
Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, as THE ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW, LONDON.
Roofs covered with the felt to be seen at the Factory, also the new Vice-Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the new Houses of Parliament.
A Liberal Discount allowed to the Trade.

A CARCASE of a six-roomed House, with or without ground to build. Two more six-roomed houses to be sold a great bargain. The cash being wanted is the cause of its being sold at a great sacrifice. It is situate near the best part of the improved neighbourhood of Pimlico, and held for 99 years at a very trifling ground rent.—Apply to 18, Bedfordbury, Covent-garden.

IRON GATES.

TO BE SOLD CHEAP, a Pair of Strong Wrought-iron framed Gates, 11 feet wide by 10 feet high, with round wrought-iron bars and cast ornamental heads, wrought dog bars, bolts and locks complete, prepared for a wharf entrance, but suitable for the entrance to a park, churchyard, or cemetery. To be seen at Mr. PETERS, smith, Princes-street, Gravesend. —For particulars of price, &c., apply to J. B. COOPER, 139, Windmill-street, Gravesend.

TUNBRIDGE WELLS, KENT.

TO BE LET, on Building Leases, most desirable Frontage Land, upwards of 150 feet in length, well-adapted for Shops, being situated in the leading thoroughfare, and within a short distance of the proposed Railway Station.—For further particulars, apply to Messrs. STONE and WALL, Solicitors, Tunbridge Wells, or Mr. E. N. STEVENS, Architect and Surveyor, New Corn Exchange, Tunbridge Wells.

TO BUILDERS AND OTHERS.

TO BE SOLD, a PLOT of GROUND, in the immediate neighbourhood of London, sufficient for the erection of about 50 fourth-rate houses; held direct from the freeholder for about 70 years at a peppercorn rent. The ground-rents to be apportioned upon the different houses will approach 200*l.* per annum: purchase-money, 3,300*l.*—Apply to Messrs. JONES and DUNSTER, Solicitors, 34, Great Marylebone-street, Cavendish-square.

BUILDING LAND, in a most eligible situation, in Surrey, within four miles of London.—Upwards of 100 ACRES, either the whole or part, may be purchased for 99 years, at a small ground-rent. The situation is one of the healthiest in the kingdom, excellent roads nearly encircle the estate. A substantial dwelling house with out-buildings stands on part, which with a portion of the land would form a delightful residence.—For particulars apply, post paid, to Mr. C. BROWN, builder, house and estate agent, Westcroft-place, Hammersmith.

TO BUILDERS.—MATERIALS AND MONEY ADVANCED.

TO BE LET, on BUILDING LEASES, for ninety-six years, several very eligible plots of Freehold Building Ground, land-tax redeemed, situated in the Shrubland-road, leading from the Queen's-road, Dalston, to Lansdown-place. This is one of the most rapidly improving neighbourhoods near London, and will be the principal thoroughfare from all parts westward to the new Victoria Park, from which it is only a quarter of a mile distant.—Apply to Mr. PALMER, on the premises.

SPACIOUS BUILDING GROUND, in the heart of the City, TO BE LET on a Building Lease. The site comprises old Founders' Hall, Lothbury, (extending from east to west 70 feet, and from north to south 30 feet), and a further space in connection with it, suitable for purposes of an additional entrance to the premises.—Particulars may be obtained by applying at the Company's Offices, Founders' Hall, or to J. B. Gardiner, Esq., Architect, 4, Bank-chambers, Lothbury, where a plan of the premises may be seen.

ST. JOHN'S WOOD PARK!!! IMMEDIATE CONNECTION WITH REGENT'S PARK.

BUILDING PLOTS TO BE LET in this most desirable and salubrious situation!! commanding picturesque views of the surrounding beautiful neighbourhood, and elevated within a few feet of the summit of the monument, with the best approaches of any suburban d strict near the metropolis, and greatest facilities of access to all the fashionable resorts and promenades of the West End and the City!—For particulars and plans, apply to W. H. TWENTYMAN, Esq., 11, Regent's-villas, Avenue-road, Regent's-park.

TO BUILDERS AND OTHERS.—HYTHE IN KENT.

TO BE LET on Building Leases for the term of 99 years, in one lot, or several lots, Six Acres of Land situate on the western side, and immediately contiguous to the marine walk leading from the town of Hythe to the sea. The situation is admirably adapted for building, as it stands on rising ground overlooking the sea, and commands an extensive view of the French coast. In consequence of the increasing demand for lodging-houses at this favourite watering-place, the town council have recently disposed of a portion of their land near the sea, for the purpose of erecting dwelling houses and bathing and reading rooms, and consequently the property now offered, from its superior locality, is considered well worth the attention of builders and others desirous of investing their capital on the sea coast. Hythe is also the nearest seaport town to London on the line of the South-Eastern Railway.

For further particulars apply to Mr. P. ONSLOW ANDREWS, Brabourne, near Ashford; or to Messrs. BROCKMAN and WATTS, solicitors, Hythe, Kent.

TO BUILDERS, STONE MASONS, SLATERS, AND OTHERS.

TO BE DISPOSED OF, a first-rate and well-established concern, doing a very extensive business, principally with builders, in the north-west part of the metropolis. The business is carried on at most convenient and extensive wharf premises, which are held for a long term at a moderate rent. This concern is in every respect worthy the attention of a man of capital or man of business. The returns are very considerable, and the profits amply remunerating, and the commodities are indispensable to the vast building operations in progress in its locality. Principals only will be treated with, in confidence, and no one who cannot command upwards of 3,000*l.* need apply. The present proprietors can give the most satisfactory reasons for wishing to dispose of this eligible concern.

Apply to Mr. W. HENDERSON, Solicitor, 10, Lancaster-place, Strand.

Paperhangings of a very superior character. Messrs. Archer and Taverner having dissolved a partnership of many years standing, have given

MR. H. BIERS instructions to DISPOSE of their very superior stock, without reserve, on Wednesday, April 15th, at Twelve to a minute, in consequence of the number of lots 5,000 pieces of paper will be submitted by auction, having been removed from the establishment at Old-street, Goswell-street, for the convenience of West-end purchasers, to Webster's Repository, Market-street, Paddington.

Mr. H. BIERS is very desirous of calling the attention of builders and the trade in general to this genuine and very excellent stock, adapted for every description of decoration, and most especially to the Flocks, the Flocks and Gold, Bronze and Gold, Granites, and other expensive patterns, but particularly to the Marbles, for the manufacture of which this firm is so celebrated.—Catalogues are preparing, when ready will be sent to any part of the kingdom post free, and may be had on Tuesday at the place of sale, and of Mr. H. BIERS, Poland House, Poland-street, Oxford-street, and at 12, Dorset-place, Dorset-square.—Approved bills at three months on a purchase of 20*l.*

SALES BY AUCTION.

LIBRARY OF JOHN BRITTON, ESQ., F.S.A. Paintings, Miniatures, Autograph Letters, &c.

MR. FLETCHER will SELL by AUCTION, at his Great Room, 191, Piccadilly, on Monday, April 6, and seven following days (Sunday and Good Friday excepted), at One o'clock precisely, a Fourth Portion of the Library of John Britton, Esq., F.S.A., consisting of Curious and Valuable Books of Antiquities, Topography, History, Biography, the Fine Arts, and other Classes of Literature, many of which are Illustrated and Enriched with Drawings, Prints, and MSS.; also Theology, Early Bibles, &c., together with several Fine Paintings, Miniatures, Autograph Letters, Drawings, Illuminated Missals, and a Collection of Prints in Proofs, and Etchings, also Engraved Copperplates, &c.—May be viewed two days before the sale, and Catalogues (price one shilling) now had.

TO BUILDERS, PLASTERERS, BRICKLAYERS, &c.

MR. CANHAM will SELL by AUCTION, on the Premises, 2, Percival-street, two doors from Goswell-street, St. Luke's, on Monday, April 6th, 1846, at 12 for 1 o'clock precisely, the second and remaining portion of ORNAMENTS, &c., for inside and outside work. Also a small quantity of Scaffolding Boards, Trussels, Steps, &c., to clear the premises. May be viewed on the morning of sale, and Catalogues had on the premises, or of the Auctioneer, No. 7, Oxford-street, Mile End.

Teak and Adriatic Oak Timber and Planks, lying in the West-India Docks, being the whole remaining stock of the late Joseph Somes, Esq., M.P.

MESSRS. HUMPHREYS and WALLEN have been favoured with instructions from the executors to SELL by AUCTION, at Garraway's, on Tuesday, April 7, at Six o'clock in the evening, the FOUTH PORTION of the valuable BUSINESS EFFECTS of the late Mr. Somes; comprising about 200 loads of valuable Moulmein teak in log and plank (much of it in long lengths), and 78 loads of Adriatic oak, lying in the West-India Docks. Catalogues will be ready 10 days before the sale, and may be had at the Commercial Tavern, Poplar; Globe, Blackwall; and at the offices of Messrs. HUMPHREYS and WALLEN, 68, Old Broad-street.

WATLING STREET.—Plot of Building Ground, and Leasehold Premises, Queen-street.

MESSRS. WINSTANLEY have received instructions to SELL by AUCTION, at the Mart, on Friday, April 17, in two lots, a valuable PLOT of FREEHOLD GROUND, situate in Watling-street (near Bowlane, to which there is a frontage of 24 feet by a depth of nearly 60 feet: suitable for the erection of a good warehouse and dwelling. Also a Leasehold House and Premises, 75, Queen-street, Cheapside; containing a counting-house and warehouse, two sitting-rooms, five bed-chambers, kitchen, &c.: held at a low rent of only 6*3l.* per annum. To be viewed by applying on the respective premises. Printed particulars may be had of Messrs. BELL, BRODRICK, and BELL, solicitors, Bow Church-yard; at the Mart; and of Messrs. WINSTANLEY, Paternoster-row.

TO TIMBER DEALERS, RAILROAD CONTRACTORS, COACH MAKERS, WHEELWRIGHTS, & OTHERS.—140 Oak, 180 Ash, 560 Elm trees, several containing from 20 to 35 feet in a tree, and about 600 growing larch, fir trees of good size, with the lop and top, 600 capital waggon and cart stocks, and upwards of 1,000 feet of wide elm boards, now lying and standing on Church and Shipperland's Farms, Finchampstead, near Oakingham and Reading, which will be submitted for unreserved SALE by AUCTION by

MR. R. P. DUNN, at the Greyhound Inn, Finchampstead, on Wednesday, April 15th, 1846, at One o'clock. The felled ash and other timber has been cut upwards of two years. Nimrod Alloway, to be found at Church Farm, will point out and shew all or any of the lots, any time previous to the sale. Approved bills will be taken from purchasers of 20*l.* and upwards.—Catalogues to be obtained at each of the farms, at the Rose Inn, Wokingham; Dog and Partridge, Vately-green; Upper Ship, Reading; Lamb, Wallingford; White Hart, Maidenhead; and of Mr. R. P. DUNN, auctioneer and valuer, 59, Peascod-street, at his new furniture warehouse, 1, Oxford-road, and at his Auction Rooms, 4, William-street, Windsor.

OAK TIMBER, OF EXTRAORDINARY QUALITY AND LARGE METINGS.

MESSRS. DANIEL SMITH and SON will SELL by AUCTION, at the White Horse Inn, Romsey, Hants, on Wednesday, the 8th April next, at Two in lots, upwards of 3,000 superior OAK TIMBER TREES, chiefly from 15 to 60 feet metings, with their lop, top, and bark, standing in the woods and rows of the Titherley and Lockerly estates, between Romsey, Stockbridge, and Winchester, only a few miles from Eling-wharf, fifteen from by good hard roads, and convenience of navigation to all parts of the kingdom. Also about 200 Ash and Larch, and Scotch Firs on the same estates. Mr. Coates, the bailiff on the estate, Southampton, and twenty-five from Portsmouth, surrounded will shew the timber, and particulars may be had in due time at all the neighbouring inns; at the hotels at Portsmouth; at the Auction Mart, London; of Mr. BAILY, solicitor, Threadneedle-street; and of Messrs. DANIEL SMITH and SON, Land Agents and Surveyors, in Waterloo-place.

WIMBLEDON AND WESTHILL PARKS, in Surrey, many years the property and residence respectively of Lord Spencer and the Duke of Sutherland.

TO ARCHITECTS, BUILDERS, AND OTHERS.

MESSRS. DANIEL SMITH and SON are commissioned by the present owners of this FINE DOMAIN (unrivalled as to its great local beauties and advantages by any spot round London) to set out and appropriate certain portions for the ERECTION of DETACHED RESIDENCES, without encroaching upon the grounds and privacy of the two existing noble mansions. The Selected Portions are highly picturesque, and will embrace the entire grand and finely-wooded frontage, extending from the lodge by Putney-heath nearly to the village of Wimbledon, opening upon its very extensive healthy common (which comprises about 1000 acres of open land); also some of the very BEAUTIFUL INTERIOR UNDULATIONS, embellished with majestic and ornamental timber, presenting delightful aspects, overlooking the Splendid Lake and Park, and a fine bold expanse of Varied and Interesting Scenery, embracing the Kent and Surrey hills. It is intended to allow for each mansion or villa sufficient ground for gardens and pleasure-grounds, varying from two to five or six acres. It is presumed, viewed as to its neighbourhood, proverbial salubrity, its splendid timber and lake, capital roads, and delightful drives, with the advantage of railway stations on both sides (bringing it now within 20 minutes' ride of London), that scarcely any spot in the kingdom offers more inviting and solid attractions for parties desirous of exercising their own taste in the formation of a residence within the immediate but comparatively secluded environs of the Metropolis. E. HENDRY, at Tibbett's Lodge, Putney-heath, will shew the land. Plans are prepared and may be seen at the offices of Messrs. DANIEL SMITH and SON, Surveyors and Land Agents, Waterloo-place, Pall-mall, who are fully authorized to treat for the several lots.

WEST OF LONDON AND WEST MINSTER CEMETERY; entrances from both Earl's-court, Brompton, and Fulham-road.

The Cemetery is open to the Public from 7 o'clock, A.M. (except on Sundays, when it is opened at 1 o'clock, P.M.) till sunset.

Information as to charges for interments, Brick Graves, Tablets, &c., may be obtained at the Office, 153, Piccadilly.

JOHN H. RUDDICK, Secretary.

FURNISHING UNDERTAKER.—WM. BANGHAM, No. 7, Stockbridge-terrace, corner of Vauxhall and Pimlico roads, begs to inform the Trade they can be supplied with every article requisite for funerals at the lowest furnishing prices, and a liberal credit if required.

For the convenience of the trade every facility is studied. LEADEN COFFINS may be obtained full trimmed in an hour, and every other article on the shortest notice. Cambric and Satin Shrouds, Winding Sheets, &c. Horses, Coaches, Feathers, Velvets, Heraldry, &c. Country orders punctually attended. No extra charge for delivering large coffins within ten miles.

ARCHITECTS, SURVEYORS, AND BUILDERS, are respectfully informed, that CHAS. GOODWIN, of 67, Great Guildford-street, Borough, is enabled to supply Plaster, Hair, &c., at the following reduced prices:—Coarse Plaster per ton 2*l.* 10*s.*, Fine 3*l.* 10*s.*, Hair 8*l.* to 10*l.* cash, at Manufactory. C. G. can also supply Architectural Ornaments of every description in a most superior style.

PATENT PROTOXIDE PAINT.—Messrs. GURNEY and BARTON beg to inform the Public that this Paint, which has been adopted by Architects, Builders, and Engineers of the greatest eminence, as well as by Railway Companies to a great extent, is to be had at their Establishment, No. 2, Davies-street, Oxford-street, where prospectuses and testimonials may be seen.

TO ARCHITECTS, BUILDERS, AND THE PUBLIC IN GENERAL.

C. DEBAUFER and SON beg to call the attention of architects, builders, &c., to their general assortment of Gas Lamps, Pendants, Hydraulic sliding Pendants, Gas Brackets, Pillars, and every article connected with gas apparatus, at their Manufactory and their Rooms, 10 and 11, Creed-lane, Ludgate-street.—A liberal discount allowed to architects and builders.

ROYAL ADELAIDE GALLERY.—Arrival in England of the Ohio Melodists.—These inimitable quartette singers and personaters of Nigger eccentricity will perform every evening during the week at this Institution. Les Petites Danseuses Anglaises continue to receive unbounded applause. The celebrated Bell Harmonists will also perform daily at a quarter to 4, and in the evening at half-past 9. On Tuesday, Thursday, and Saturday, Mr. J. Russell's Hour of Table Talk. A Concert every evening, conducted by Mr. A. Sedgwick. Vocalists—Miss Pearce, Miss Blandford, and Mr. Binge. Nickel's Compressed Air Railway. Lectures on Chemistry, Artificial Memory, Microscope, Chromatrope, and Dissolving Views, daily.

THE CAMPAIGN on the SUTLEJ creating immense interest at the present moment, there is exhibiting at the ROYAL POLYTECHNIC INSTITUTION, Portraits of the most distinguished Men, both in the SIKH ARMY and GOVERNMENT of LAHORE, taken by a lady of rank, distinguished in the Fine Arts, during her residence in India. Also, Portraits of Sir Henry Hardinge, Sir Robert and Lady Sale, &c. By means of the Opaque Microscope, these interesting Portraits are on a magnificent scale. Daily, at Half-past Four o'clock; and in the Evenings, at a Quarter to Ten. LECTURES include those on ASTRONOMY, during Passion Week, daily, at a Quarter to Three and Eight in the Evening. COLEMAN'S WORKING MODEL ascending and descending Inclined Planes, &c. &c. &c. Admission, 1*s.*; Schools, Half-price.

LONDON: Printed by CHARLES WYMAN, of 49, Cumming-street, Pentonville, in the County of Middlesex, Printer, at the Printing-office of J. & H. COX, *Brothers*, 74 & 75, Great Queen-street, Lincoln's-Inn Fields, in the Parish of St. Giles-in-the-Fields, in the same County; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," 2, York-street, Covent-Garden, in the Parish of Saint Paul, Covent-garden, in the said County.—Saturday, April 4, 1846.

The Builder,

A JOURNAL FOR

The Architect, Engineer, Operative & Artist.

Vol. IV.—No. 166. APRIL 11, 1846. Price ..... 3d. Stamped..... 4d.

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METROPOLITAN BUILDINGS ACT.—NOTICE TO CANDIDATES FOR DISTRICT SURVEYORSHIPS.

Office of Metropolitan Buildings,
6, Adelphi-terrace.

NOTICE IS HEREBY GIVEN, that the Examiners appointed by and in pursuance of the Metropolitan Buildings Act, will hold their next examination of persons desirous to obtain a certificate of qualification for the Office of District Surveyor on Wednesday, the 29th day of April, instant.

Persons desirous to be examined must apply on or before the 25th inst. and their applications must be accompanied by a preliminary statement according to the course of examination prescribed in the rules for that purpose, copies of which, and any information on the subject, may be had at this Office, or at Mr. WEALE'S, Architectural Bookseller, 59, High Holborn.

Subsequent examinations will be held in the months of July, October, and January, or at such other periods as shall be appointed, of which due notice will be given.

ARTHUR SYMONDS,
Registrar of Metropolitan Buildings.

ARCHITECTS, SURVEYORS, AND BUILDERS, are respectfully informed, that CHAS. GOODWIN, of 67, Great Guildford-street, Borough, is enabled to supply Plaster, Hair, &c., at the following reduced prices:—Coarse Plaster per ton 2l. 10s., Fine 3l. 10s., Hair 8d. to 10d. cash, at Manufactory. C. G. can also supply Architectural Ornaments of every description in a most superior style.

TO SCULPTORS, MODELLERS, &c.

TO ALL ARTISTS WISHING to EXHIBIT.—Numerous Works of Art being annually refused at the Galleries on the plea of want of space, &c., Artists of every denomination have now the opportunity to exhibit their works at the Spacious Galleries, 252, Oxford-street, which will be opened to the public early in May, and remain so daily, at 6d. each. The design of the projectors is to bring into notice the recent productions of living Artists by means of this public building now wholly devoted to them, by daily advertisements, &c. To be entitled "THE BRITISH ARTISTS' OWN EXHIBITION," embracing Paintings, Proof-Engravings, Sculpture, Models, Designs, and other works of art. Pictures admitted with or without frames forthwith. The first Catalogue will be made up to the 27th of April. All expenses included in a trifling entrance fee, with a per centage if sold.

HYTHE, KENT.—TO CAPITALISTS, BUILDERS, AND OTHERS.

TO LET, for Ninety-nine years, on Building Leases, several PLOTS of FREEHOLD LAND, most pleasantly situate, fronting the sea, and commanding an uninterrupted and extensive view of the British Channel. Hythe is the nearest Sea-port Town to London on the line of the South-Eastern Railway, where Trains are continually running to and from London. It is well known for the beauties of its scenery, walks, and drives. Its beach is very fine, and the Bathing of the first description. The distance is short from Sandgate and Folkstone, and very numerous applications are continually being made for houses by families of distinction and others, who, at present, cannot be accommodated.—For plans and particulars apply at Mr. DANGERFIELD'S Offices, Hythe, or Ashford, Kent; or to W. F. EAST, Esq., Penton-grove, Pentonville. Money would be advanced upon Mortgage of Buildings if required.

IRON BRIDGES, PIERS, &c.

*** For the Numerical Explanation of DREDGE'S PRINCIPLE, see the "Mechanics' Magazine," No. 1172.

THIS system removes from the Arch to the horizonal line the horizontal force of the whole Bridge, which makes the roadway as powerful as the arch itself, and the arch, with half the material, more than double its original power. The pressure on the key-stone of the arch is the horizontal force of a Bridge, which acts directly on that point as a dead load of self-destruction; and it has thrown down, within the last eighteen months, nearly sixty arches of Viaducts and Bridges.

EXAMPLE:—The Menai Bridge, whose depth is 1-14th of its length, and the suspended weight 800 tons, its horizontal force is 2,800 tons of self-destruction on the centre; hence it would require but a small portion of the material and cost of that bridge to construct one over the Menai Straits on this plan, that would possess far greater power and stability than the present structure.

This principle has been fully tested nearly ten years, by the construction of fifteen public bridges for the Government and others in Great Britain. It is also established in India.

Bath, 3rd April, 1846.

NOTICE IS HEREBY GIVEN, that a General Quarterly Meeting of Members of the INSTITUTION of BUILDERS' FOREMEN will take place on Wednesday evening next, April 15th, at the Salisbury Arms Tavern, Durham-street, Strand, for the Election of Officers, Confirmation of Bye Laws, and other General Business.

W. ALLARD, Secretary.

CONTRACTS.

BUILDING LEASES—KENT ROAD.

THE Committee for letting the Bridge House Estates will meet at Guildhall on Friday, the 17th day of April instant, at One o'clock precisely, to receive proposals for building leases of a large plot of ground situate on the west side of a new road recently formed, leading from the Lord Nelson Tavern, on the south side of the Kent-road, towards Peckham, in the county of Surrey. Plans of the ground and conditions for letting may be seen at the Office of Works, Guildhall.—Dated the 3rd day of April, 1846.

FERDINAND BRAND,
Comptroller of the Bridge House Estates.

NEW WORKHOUSE—ASHBOURNE UNION.
TO BUILDERS.

PERSONS desirous of CONTRACTING with the Guardians of the Ashbourne Poor-Law Union for the BUILDING of a NEW WORKHOUSE at Ashbourne, in the county of Derby, may see the drawings and specifications, and obtain every information, upon applying to Mr. HENRY I. STEVENS, Architect, Friar-gate, Derby, on and after the 18th day of April next. The tenders to be delivered, sealed up, and indorsed "Tender for the Building of the Workhouse," to the Clerk of the Guardians, on or before Saturday, the 9th day of May next. The contractors will be required to find two sufficient securities for the performance of the contract.

RICHARD HOLLAND, Clerk to the Union.
Ashbourne, March 28, 1846.

NEW CHURCH, WESTLEIGH, IN THE PARISH OF LEIGH.

To Builders, Masons, Carpenters, Slaters, Plumbers, and others.

PERSONS desirous of CONTRACTING for any or all of the works required in the erection of this Church, may see the Drawings and Specification at the National School, Leigh, between the hours of 9 A.M. and 4 P.M., on and after Thursday the 9th inst. Sealed tenders endorsed "Tender for Westleigh Church," to be forwarded free of expense, to the architect, Mr. WILLIAM YOUNG, 7, Granby-street, Mornington-crescent, London, on or before Saturday, the 25th day of April next; from whom all further particulars may be obtained. The lowest Tender will not necessarily be accepted. Westleigh is twelve miles from Manchester, seven from Bolton, and twenty from Liverpool; and the site of the church is three-quarters of a mile from the Bolton and Leigh Railway. A small portion of the stone has been quarried; particulars of which may be had of the Vicar of Leigh.

Sewers' Office, Guildhall, 7th April, 1846.

TO RAKERS AND OTHERS.

THE COMMISSIONERS of SEWERS of the CITY of LONDON, and of the Liberties thereof, HEREBY GIVE NOTICE, that they will Meet in the Guildhall of the said City, on Tuesday, the 5th May next, at Ten o'Clock in the Forenoon, to receive Tenders for Cleansing the Public Streets, Markets, and Places within this City, for the term of One Year, from Midsummer-day next. For the purposes of this Contract, the City will be divided into Seven Divisions, agreeably to a Plan which may be seen in this Office. Specifications of the Works required to be done may be had on application at this Office daily from Ten till Four o'Clock. Tenders must be delivered in on the printed Forms annexed to the Specification, before Eleven o'Clock in the Morning of the day of treaty. Security will be required from those Persons whose Tenders may be accepted, and the Commissioners do not bind themselves to accept the lowest Tender that may be offered.

JOSEPH DAW, Principal Clerk.

CIRCULAR NOTES AND LETTERS OF CREDIT.

THE LONDON and WESTMINSTER BANK issues Circular Notes for the use of Travellers and Residents on the Continent. These Notes are payable at every important place in Europe, and thus enable a traveller to vary his route without inconvenience; no expense is incurred except the price of the stamp, and when cashed no charge is made for commission.

These Notes may be obtained either at the Head Office of the London and Westminster Bank, in Lothbury; or at the Branches of the Bank, viz., 1, St. James's-square; 213, High Holborn; 4, Stratford-place, Oxford-street; 3, Wellington-street, Borough; and 67, High-street, Whitechapel.—By order of the Board, JAMES WILLIAM GILBART, General Manager.

HOT WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories, and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises. BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

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Do. Elliptic do., at 8½d., and 4d. do.

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Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

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TESTIMONIALS.

From THOMAS GRAHAM, Esq., M.A., F.R.S., L. and E., Professor of Chemistry, University College, London.

"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.

"The wood appears to be fully and deeply penetrated by the metallic salt; I have found it in the centre of a large prepared paving block.

"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the crystallizable salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.

"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Teplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotised principles it contains, by entering into chemical combination with them.

(Signed) "THOMAS GRAHAM."

"University College, 25th October, 1845.

From Professors BRANDE and COOPER.

"London, 4th November, 1845.

"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.

"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.

"We have also fairly compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.

"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.—(Signed) "WILLIAM THOMAS BRANDE,

"JOHN THOMAS COOPER."

"To Sir William Burnett, K.C.H., F.R.S., &c. &c."

Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 52, King William-street, London-bridge.

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HIP TILES to suit slate roofs in colour; Ridges, with plain or rebated joints, roll tops, and vertical ornaments; drains, many sizes, with plain or socket joints; paving in squares, hexagons, octagons, &c., different colours; roofing, in Grecian or Italian styles, other devices also, or plain; conduits, which do not injure pure water; fire-bricks and tiles; clinkers, and out-door paving; sundry wall-coping, garden-borders, chimney-tops; also tubular and other flues of peculiar material. No agent, but a depôt at 22, WHITEFRIARS-STREET, FLEET-STREET, LONDON, under Mr. PEAKE'S personal care, to supply genuine TERRO-METALLIC goods at fair prices as per quality; also, additional Stock at No. 4 Wharf, Macclesfield-street, South, City Basin.

The TILERIES, TUNSTALL, STAFFORDSHIRE, are near the centre of England, whence boats are sent direct to any inland place; or to the Mersey for the coasts, the colonies, and elsewhere.

TO ARCHITECTS, BUILDERS, AND THE PUBLIC IN GENERAL.

C. DEBAUFER and SON beg to call the attention of architects, builders, &c., to their general assortment of Gas Lamps, Pendants, Hydraulic sliding Pendants, Gas Brackets, Pillars, and every article connected with gas apparatus, at their Manufactory and their Rooms, 10 and 11, Creed-lane, Ludgate-street.—A liberal discount allowed to architects and builders.

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PAPER-HANGINGS.

R. CHATER solicits the attention of Builders to his extensive assortment of Paper-hangings, which he is selling at very reduced prices, adapted to every purpose of decoration; also his painted marble-papers of superior description, as well as granite and oak papers for halls and staircases.—A liberal allowance on taking large quantities.—No. 45, Tottenham-court-road.

BLUNDELL'S STUCCO PAINT.—An article perfectly resembling stone surface, for the purpose of covering the outside of buildings, has long been a desideratum. This STUCCO PAINT possesses the necessary qualities. It adheres firmly to the walls, resists the action of the weather, and is altogether free from the glossy appearance of Oil Paint. It is laid on mixed with rain or pure river water, and can be made to any required shade or stone colour. Further particulars may be obtained on application to the Inventors, BLUNDELL, SPENCE, and Co., Paint and Colour Manufacturers, 69, Upper Thames-street, London; and at their Colour Works, Hull.

ATKINSON'S CEMENT.—The public is respectfully informed, that the price of this very excellent Cement, which has now been in use for Architectural and Engineering works upwards of thirty years, is reduced to 2s. 3d. per bushel, and may be had in any quantity at Wyatt, Parker, and Co.'s Wharf, Holland-street, Surrey side of Blackfriars-bridge.

N.B.—This Cement being of a light colour, requires no artificial colouring or painting, and may be used for stucco with three parts its own quantity of sand.

ROMAN CEMENT, &c.
REMOVAL.
THOMAS JOHN CROGGON
Begs to inform the Trade that he has removed to
5, LAWRENCE POUNTNEY-HILL and
THREE CRANES WHARF, 69, Upper Thames-street.

Orders addressed to either place for ROMAN CEMENT of genuine quality will be executed with promptitude and the strictest regard to quality and economy.

PORTLAND CEMENT does not vegetate, requires no colouring, is perfectly hydraulic, and resists the action of Frost. The cost of the material and of working it is about the same as Atkinson's Cement, Manufactured by J. B. WHITE and SONS, Millbank-street, Westminster, and sold at their Warehouses:—

Druce's Wharf, Chelsea,
Bell's Wharf, Paddington,
Earl-street, Blackfriars,
Albion Wharf, Deptford-bridge,
by Salmon and Co., Dublin,
and at 36, Seel-street, Liverpool.

KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Millbank-street, Westminster.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

THE BUILDER.

PROTECTION OF LIFE AND PROPERTY.

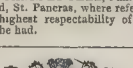
J. READ begs to inform the Public, that after 31 years' experience in the use of Garden Engines and Machines, and 24 years' practice in the manufacture of Fire and Garden Engines, he has taken out a New Patent for improvements in the valvular action of the above, which are made of the best metal and workmanship, and are so simple, they cannot get out of repair; if standing by for months, they are ready to act in an instant. The above engines are well adapted for mansions, villages, factories, agricultural buildings, or wherever there is danger of fire. Made to order, of any power or dimensions, discharging from 20 to 70 gallons per minute. The smallest and middle-sized engines are so portable, they will pass through any common doorway; may be kept in a hall or passage, and worked by two-thirds the labour required for any other engines of the same power. Manufactured only by the Patentee, 35, Regent-circus, Piccadilly, where they may be seen and proved.—N.B. None are genuine except stamped with the Patentee's name.

PORTER'S CORRUGATED, and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanizing Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway, and other Iron and Smith's work Manufactured of the best quality. Iron Fence and Hurdles as usual.—The Trade Supplied.

MOREWOOD AND ROGERS' PATENT GALVANIZED TINNED IRON.

T. W. BEALE begs to acquaint the public that he is prepared to lay roofing, plain or corrugated, fix pipes, gutters, &c. Also chimney-tops and ventilating cowls of every description; also water and oil cisterns, of this incorrodible and fireproof metal. He manufactures all kinds of baths, as hip, shower, Roman, open, slipper, sponging, foot, children's, and self-heating baths; also toilet-cans and pails, slop-pails, coal-scuttles, cash and deed-boxes, and fire-proof safes of every description, 10 per cent. cheaper than any house in London.

The PATENT GALVANIZED TINNED IRON is applicable to the following uses:—The Lining of Ships' Store Rooms, Ships' Water Buckets, Water Jugs and Receivers, and for almost every purpose to which zinc, tin, copper, brass, or any other metal is now applied; is more durable, and manufactured at much less expense. An experienced workman sent to any part of the kingdom. All orders punctually attended to. For particulars, apply to T. W. BEALE, 46, Bridge House-place, Newington Causeway.



PATENT GALVANISED TINNED IRON.
(MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and water-closets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 90z. to any required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quick-set-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

By Her Majesty's — Royal Letters Patent.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED METAL.—This article was at first sold under the name of Galvanised Tin Plates, but the Patentees finding that the public, in some instances, overlooking the word Tin, confounded the article with Galvanised Iron, and that the character of their metal has thereby sustained injury, are desirous of giving it a name so distinctive as to prevent such mistakes, and consequent disappointment to purchasers in future. They therefore respectfully request purchasers to inquire for MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON. In order to enable the public readily and at first sight to distinguish between the two metals, it may be well to inform them, that Galvanised Iron has a plain zinc-like appearance, while M. and R.'s Patent Galvanized Tinned Iron has a smooth crystalline surface.

MOREWOOD and ROGER'S 'PATENT GALVANIZED TINNED IRON, Patronized by the Admiralty and the Honourable Board of Ordnance, being extensively used in her Majesty's Dock-yards, at the Tower, and elsewhere, for every variety of Roofing, and other purposes, where a strong, light, cheap, and durable material is required.

It has been found by experience that this article is beyond all comparison superior to zinc; possessing, as it does, all the advantages arising from the strength and firmness of iron, combined with perfect immunity from rust; whilst it is free from the very serious objection which applies to zinc, viz. its contraction and expansion, consequent upon every change of temperature, and from which circumstance leakage must of course result.

This material is not likely to be destroyed by fire, as is the case with zinc and lead, which melt and run down, thus freely admitting fresh air to the fire, and causing it to burn more fiercely. It is, therefore, obviously well adapted for all the purposes above-named, and most importantly so, when there is the possibility of fire. It is also peculiarly suitable for chimney-tops, gutters, spouting, and out-door work generally, possessing the strength of iron, without its liability to corrosion. It is by far the most economical metal roofing that can be obtained, in consequence of its strength, as it may be laid without boards, and upon the lightest rafters.

This mode of preserving metal from rust does not only apply to sheet-iron, but also to manufactured iron in any form, as bolts, nuts, hinges, nails, &c. &c.

For full Particulars apply to S. HOLLAND, 34, Gracechurch-street.

LATE REDMUND'S PATENT RISING and SPRING HINGES. These much approved Hinges and Swing Centres, suitable for every description of Door from their superior construction, combining simplicity, durability, and cheapness, merit extensive recommendation. Gate Hinges on an improved principle. The Patent Spring Butts, single and double acting, to admit of the Door opening either way.—To be had of J. WALBY, Redmund's Original Warehouse, 59, Greek-street, Soho, Six Doors from the Square.

TO ARCHITECTS AND BUILDERS.

COLLINGE'S PATENT HINGES.—Sole Manufactory, 64, BRIDGE-ROAD, LAMBETH, where a great variety are always on view, for Church, Park, Coach-house, and all other Doors and Gates, of large or small dimensions, a gate of a ton in weight moving with these hinges as easily as a wicket; they are also admirably adapted for drawing-rooms, being highly ornamental, and folding-doors fitted with them may be removed and replaced in an instant. Rising and spring Hinges, on the most improved principle, and very superior Fastenings for exterior Gates, at moderate prices. To be seen at Charles Collinge and Co's Patent Axletree, Sugar-mill and Spherical-hinge Manufactory, 64, Bridge-road, Lambeth.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

REDUCTION IN THE PRICE OF BUNNETT AND CORPE'S PATENT REVOLVING IRON SHUTTERS.

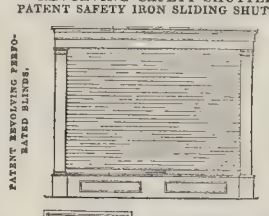
THE validity of this Patent being completely established, the Patentees have much pleasure in stating that the very extensive demand, and the employment of improved machinery in the manufacture, have given them an opportunity (of which they gratefully avail themselves) of making a considerable reduction in the price of this well-knownand tried invention, thereby rendering them the cheapest as well as the best iron shutters in use. Every improvement suggested by practical skill and most extensive application has been adopted, and no effective REVOLVING IRON SHUTTER can be constructed without infringing B. and C.'s patent. The worm and wheel, as patented by them, being the only safe, durable, and efficient mode of raising and lowering such shutters, these shutters can be applied horizontally, either above or below the window, or vertically, as introduced by BUNNETT and CORPE, in some of the largest establishments: they are made with bent or corrugated laths, if required.

BUNNETT and CORPE also manufacture
REVOLVING WOOD SHUTTERS,
with their patent raising machinery, or with counterbalance weights, and with proper metallic hinges, without which no shutters can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop Fronts fitted in a superior manner with Iron Shutters, Patent Brass or Zinc Sashes, Moulded Engraved Stall Board Plates, best Plate Glass, and internal Brass Fittings of all kinds, on the most advantageous terms. Estimates given and contracts taken in Town or Country.—All kinds of metal works executed to any design. Metal Drawing, Rolling, and Stamping for the Trade. OFFICE, 26, LOMBARD-STREET, LONDON. WORKS, at DEPTFORD, KENT.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.
PATENT SAFETY IRON SLIDING SHUTTERS.



The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 115, Old Street, London; or at the Licensees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using BENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licenses Granted.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 38, Chiswell-street, Finsbury-square, near Whitbread's Brewery.

Best Patent Cut Clasp.
3d. 4d. 6d. 10d. 20d.
5d. 7d. 8d. 1s. 6d. 2s. per 1000.
Best Sheet Cut Floor Brads 10s. per cwt.
Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.
Best Patent Sash Line.
1 2 3 4 5 6
4s. 3d. 5s. 6s. 6d. 7s. 6d. 10s. 12s. per gross.
Elliptic Stoves, 3d. per inch. Registers, 6d., 7d., 8d. per inch.
Self-acting Kitchen Ranges with Oven and Hack Boiler.
Wrought Bars and Bright Fittings.
3 ft., 3l. 3s. 3 ft. 6 in., 3l. 12s. 6d. 4 ft., 4l.
Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 168, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

IRON-WORK FOR BAKERS' OVENS.

F. A. TIDDEMAN, Purfleet Wharf, Earl-street, Blackfriars, keeps an assortment of Stocks, or Mouth-pieces; Plates, Furnace-bars, Top and Fall Pieces, Stoppers, Chimney-bars, Inside, Outside, and Ashpit, Doors and Frames, Boilers and Frames, Lamps, &c. &c.; all of the best description, at very moderate prices. —CAST-IRON UPSETS.

PLUMBERS' BRASS WORK, WATER-CLOSET PUMPS, &c.—These articles require the greatest attention and care in the manufacture, and will be found superior and cheaper than at any other manufactory. Best Pan Water Closets, 32s.; 2½ Lift Pumps and Planks, 4l. 10s. 0d.; 3-inch Pumps, 5l. 10s. 0d.; ¾-inch Bib Bull and Stop Cocks, 2s. 4d. each, and every article in this branch equally low. Every article warranted.—Address, THOS. MILLINGTON, 87, Bishopsgate-street.

RAIN WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from 1¼ in. to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, and No. 6, Bankside, Southwark.

BEST PAN WATER-CLOSETS, with Round Valve complete, 30s. each.
Plumbers Bib, Bull, and Stop Cocks, ¾-in., 2os.; ¾-in., 28s.; 1-in., 56s. per dozen.
Lifting Force Pumps on Planks, 2¼-in., 4l. 5s.; 3-in., 5l.
Washing Coppers 1s. 1d. per pound.
Water Bulls 15s. per dozen.
Gun Metal Steam Cocks, Safety Valves, &c., and every description of brass and copper work equally good at A. McGLASHAN and Co., Brass Founders and Coppersmiths, 16, Long Acre.—N.B. Every article warranted.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 20s. per gallon.

STEPHENS'S LIQUID OAK, MAHOGANY, ROSE, and SATIN WOOD STAINS, for Staining various sorts of Inferior Woods, so as to give them the appearance and character of the more costly and ornamental kinds; also for reviving the natural colour of Wood Carvings and Panellings, and other ornamental Wood Work, when such has become faded from age or other causes.

IN THE BUILDING AND DECORATING NEW CHURCHES, where it is desirable to give to the cheaper kind of Woods the appearance of Antique Oak, or to make Deal assume the character of Oak Panelling, whereby the effect of the more costly may be produced by the use of a cheaper material, these Stains will be found more effective than any means hitherto employed.

IN OLD MANSIONS AND HALLS, where the Wood Carvings and Panellings have faded, the applications of these Stains will be found to revive and bring back the rich natural colour, and which colour may be varied from the lighter to the deeper shades of the most Antique Oak.

The BIRCH WOOD, which has a fine natural grain, with little colour, is particularly suited to the application of these Stains; and the appearance which it assumes after Staining is so near that of the natural wood, that it is only when the grain and colour of the latter is particularly fine that it is preferred. Beech, Birch, Elm, Ash, and other Woods, English and Foreign, receive the Stains and produce various imitations.

For the exposed Timbers of the inside of the ROOFS of CHURCHES, for which north country Timbers and Deals are generally used, by brushing them over with the Stain, which operation is very rapidly, and of course economically, effected, the appearance of an Oaken Roof will be produced. For colouring the backs of the Seats, Pews, the fronts of Galleries, the Pulpit, &c., it is equally advantageous.

Prepared by HENRY STEPHENS, and may be obtained at 54, Stamford-street; at the Office of "The Builder," 2, York-street, Covent-garden, and in Manchester, at CRAKE'S MARBLE WORKS, Garratt-bridge, Davidstreet, at which places specimens of their application may be seen.

TO SCULPTORS AND MARBLE MASONS.

JUST arrived in the St. Katherine's Dock, the "Hoppett," with an assortment of Vein, Dove, and Statuary Marbles for R. GREAVES, 2, South Wharf, Paddington.

TO BUILDERS.

BRICKS FOR SALE.—200,000 Prime Stocks.—Apply to JOSEPH MEARS, Brickfield, Garratt, near Tooting, Surrey.

TO BUILDERS AND OTHERS.

FOR IMMEDIATE SALE, at reduced rates, as the Premises are required to be cleared; an excellent well-seasoned Stock of Flooring, all manufactured by Muir's Patent Planing Machinery.—Apply on the premises of CHARLES MOORE and SON, Timber Merchants, Wilton-road, Pimlico.

TO BUILDERS AND OTHERS.

TO BE SOLD, a PLOT of GROUND, in the immediate neighbourhood of London, sufficient for the erection of about 36 fourth-rate houses; held direct from the freeholder for about 70 years at a peppercorn rent. The ground-rents to be apportioned upon the different houses will approach 200*l.* per annum: purchase-money, 3,300*l.*—Apply to Messrs. JONES and DUNSTER, Solicitors, 34, Great Marylebone-street, Cavendish-square.

TO BUILDERS AND OTHERS.

TO BE SOLD or LET, the Carcasses of Four small Eight-roomed Houses in the modern Villa Style of Erection and in a forward state, with Sewage, &c., near the Terminus of the Great Western Railway; also a Plot of Building Ground with frontage to the main Harrow-road for Two Houses of a similar class; leasehold for 500 years, and will readily command tenants upon completion.—Apply to Mr. STUNT, House-agent, 28, New Church-street, Edgware-road.

TO CAPITALISTS AND BUILDERS.

TO BE SOLD OR LET, on Building Leases, some plots of Meadow-land, delightfully situate for the erection of villas or respectable houses, situate at Hampton Wick, near the market town of Kingston, and commanding views into the royal parks. It is freehold, tithe-free, and land-tax redeemed; the soil gravel, and excellent water. The amount of purchase-money of any portion, if sold to builders, would be taken out in building.—Apply at Mr. LAPIDGE'S Offices, No. 2, Derby-street, Parliament-street.

TO LET, LIME WORKS, situated 12 Miles from London, close to a Railway Station; a good business attached and worth the attention of Builders and others.—For particulars, address to W. T., Post-office, Sutton, post-paid, or apply at the Cock-inn, Sutton.

TO PARTIES REQUIRING ROOMY AND ELIGIBLE PREMISES.

TO LET on Lease, the substantially built Brick-house, Spacious Sheds, and Frontage, Double Counting-houses, &c., &c., situated in the Wilton-road, opposite Grosvenor Canal Basin, Pimlico.—For particulars apply on the premises, or to Mr. R. H. MADDOX, House Agent, &c., 35, Welbeck-street, Cavendish-square.

TO INNKEEPERS, BUILDERS, AND OTHERS.—GREENWICH.

TO BE LET by TENDER, a PLOT of LAND [illegible] Public-house, situate in the neighbourhood of Wharfs, and where upwards of one hundred houses will be erected, upwards of fifty are already built and others in progress, and it is expected all the Land will be covered this year. No other house on this Estate will be permitted to sell beer by retail or otherwise.—For particulars, apply to Mr. NOBLE, Surveyor, at his office, London-street, Greenwich; all letters prepared.

TO BUILDERS.—MATERIALS AND MONEY ADVANCED.

TO BE LET, on BUILDING LEASES, for ninety-six years, several very eligible plots of Freehold Building Ground, land-tax redeemed, situated in the Shrubland-road, leading from the Queen's-road, Dalston, to Lansdown-place. This is one of the most rapidly improving neighbourhoods near London, and will be the principal thoroughfare from all parts westward to the new Victoria Park, from which it is only a quarter of a mile distant.—Apply to Mr. PALMER, on the premises.

SPACIOUS BUILDING GROUND, in the heart of the City, TO BE LET on a Building Lease. The site comprises old Founders' Hall, Lothbury, (extending from east to west 70 feet, and from north to south 30 feet), and a further space in connection with it, suitable for purposes of an additional entrance to the premises.—Particulars may be obtained by applying at the Company's Offices, Founders' Hall, or to J. B. Gardiner, Esq., Architect, 4, Bank-chambers, Lothbury, where a plan of the premises may be seen.

ST. JOHN'S WOOD PARK!!! IMMEDIATE CONNECTION WITH REGENT'S PARK.

BUILDING PLOTS TO BE LET in this most desirable and salubrious situation!! commanding picturesque views of the surrounding beautiful neighbourhood, and elevated within a few feet of the summit of the monument, with the best approaches of any suburban district near the metropolis, and greatest facilities of access to all the fashionable resorts and promenades of the West End and the City!—For particulars and plans, apply to W. H. TWENTYMAN, Esq., 11, Regent's-villas, Avenue-road, Regent's-park.

TO BUILDERS AND OTHERS.—HYTHE IN KENT.

TO BE LET on Building Leases for the term of 99 years, in one lot, or several lots, Six Acres of Land situate on the western side, and immediately contiguous to the marine walk leading from the town of Hythe to the sea. The situation is admirably adapted for building, as it stands on rising ground overlooking the sea, and commands an extensive view of the French coast. In consequence of the increasing demand for lodging-houses at this favourite watering-place, the town council have recently disposed of a portion of their land near the sea, for the purpose of erecting dwelling houses and bathing and reading rooms, and consequently the property now offered, from its superior locality, is considered well worth the attention of builders and others desirous of investing their capital on the sea coast. Hythe is also the nearest seaport town to London on the line of the South-Eastern Railway.

For further particulars apply to Mr. ONSLOW ANDREWS, Brabourne, near Ashford; or to Messrs. BROCKMAN and WATTS, solicitors, Hythe, Kent.

BUILDING LAND.

TO BE LET on Leases for 99 Years, some very Eligible Plots of Freehold Land (Land-tax Redeemed), for detached or semi-detached Villas, screened from the high road by beautiful timber-trees and well drained; advances may be had if required.—Plans and particulars may be seen upon application to Mr. EALES, Architect, No. 4, Chapel-place, Cavendish-square.

TO BUILDERS, STONE MASONS, SLATERS, AND OTHERS.

TO BE DISPOSED OF, a first-rate and well-established concern, doing a very extensive business, principally with builders, in the north-west part of the metropolis. The business is carried on at most convenient and extensive wharf premises, which are held for a long term at a moderate rent. This concern is in every respect worthy the attention of a man of capital or man of business. The returns are very considerable, and the profits amply remunerating, and the commodities are indispensable to the vast building operations in progress in its locality. Principals only will be treated with, in confidence, and no one who cannot command upwards of 3,000*l.* need apply. The present proprietors can give the most satisfactory reasons for wishing to dispose of this eligible concern.

Apply to Mr. W. HENDERSON, Solicitor, 10, Lancaster-place, Strand.

SALES BY AUCTION.

Paperhangings of a very superior character, Messrs. Archer and Tavernier having dissolved a partnership of many years standing, have given

MR. H. BIERS instructions to DISPOSE of their very superior stock, without reserve, on Wednesday, April 15th, at Twelve to a minute, in consequence of the number of lots 5,000 pieces of paper will be submitted by auction, having been removed from the establishment at Old-street, Goswell-street, for the convenience of West-end purchasers, to Webster's Repository, Market-street, Paddington.

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FREEHOLD AND LEASEHOLD DWELLING-HOUSES, STRATFORD, ESSEX.

MR. W. H. DEAN will SELL by AUCTION, at the Yorkshire Grey Inn, Stratford, on Thursday, April 16th, at Three: Lot 1. TWENTY Brick-built DWELLING-HOUSES, situate in New-street, Stratford, comprising from No. 2 to No. 22 consecutively, except No. 11, together with a piece of building ground adjoining No. 22, extending to a frontage of 132 feet, producing a rental of 182*l.* per annum, which are held under a lease for the term of 60 years from Christmas, 1838, at the rent of 60*l.* per annum. Lot 2. A brick-built Freehold Dwelling-house, being No. 11 in New-street, Stratford, producing a rental of 9*l.* 2*s.* per annum.—Particulars and conditions of sale may be had at the Yorkshire Grey Inn; of D. JENNINGS, Esq., solicitor, 71, Whitechapel-road; and of the Auctioneer, Stratford, Essex.

TO BUILDERS, BUILDING SOCIETIES, SHIP-BUILDERS, COAL OWNERS, AND OTHERS.

MR. W. H. DEAN will SELL by AUCTION, at the Auction Mart, on Thursday, April 23, 1846, at 12, Sixty lots of valuable BUILDING GROUND, adjoining the River Lea, the Barking highway, and the road to Stratford, in the parish of West Ham, county of Essex. The situation is eminently adapted for building purposes, possessing an extensive frontage to the most desirable part of the River Lea, from which river it is proposed to form short tramways to the Eastern Counties and Thames Junction Railway (vide plan), and also abutting upon the carriage road formed by the side of the said railway from the Thames to Stratford. The fact that about 1,000 mechanics daily pass over the iron bridge to their employment at Messrs. Ditchburne and Mare's, many of them having to traverse upwards of two miles to their dwellings, must fully shew the requisition for houses in the locality and the extensive works which are being carried out by the Thames Junction and North Woolwich Railway Companies, together with the many other projected improvements which will be effected along the Thames and Lea Rivers, will necessarily create a demand which must render this ground a most profitable investment. The portion abutting upon the Lea is well adapted for ship building or manufactories, and from its eligibility for mooring craft, and its being the only spot suitable for forming an easy and desirable communication, by means of tramways, from the Lea to the Eastern Counties and Thames Junction Railway, a favourable opportunity is open to the owners of coal pits to secure an immense trade in coal and coke throughout the northern and eastern suburbs of London, and in the Counties of Essex, Cambridge, and Herts.—Particulars and plans may be had at the Auction Mart; of Messrs. HINE and ROBINSON, solicitors, Charter House-square; and of the Auctioneer, Stratford, Essex.

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CLERKENWELL IMPROVEMENT.—BUILDING MATERIALS OF FIFTEEN HOUSES.

PULLEN and SON are favoured with instructions from the Hon. the Clerkenwell Improvement Commissioners to SELL by AUCTION, on the Premises, on Wednesday, April 22, at Twelve, the whole of the valuable BUILDING MATERIALS of Fifteen Houses—viz. Nos. 19, 20, 21, 22, and 23, Great Saffron-hill, Nos. 3, 4, 5, 6, 7, 8, and 9, Saffron-street, and Nos. 6, 7, and 8, Lilly-street, including the materials and fixtures of the Chequers Public-house.—May be viewed the day previous, and catalogues had of Messrs. BURCHELL, KILGOUR, and PARSON, solicitors, Red Lion-square; of R. C. CARPENTER, Esq., Architect, 99, Guildford-street; and of PULLEN and SON, 80, Fore-street, Cripplegate.

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RICHARD HOLLAND, Clerk to the Union.

Ashbourne, March 28, 1846.

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PAPER HANGINGS.—A Stock of 50,000 Pieces always ready, in Satins, Flocks, Gold, Damasks, Oaks, Granite, Hand Marbles, &c. &c., at extraordinary prices. Terms, Cash.—Paper Stainers supplied with long Elephant at Mill Prices—Cash.—LESCHALLAS, 32, Budge-row, City, corner of Size-lane.

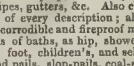
PAPER-HANGINGS.
R. CHATER solicits the attention of Builders to his extensive assortment of Paper-hangings, which he is selling at very reduced prices, adapted to every purpose of decoration; also his painted marble-papers of superior description, as well as granite and oak papers for halls and staircases.—A liberal allowance on taking large quantities.—No. 45, Tottenham-court-road.

FRENCH PAPER HANGINGS AND DECORATIONS.
THE duty on the above having been reduced by the new tariff to 2d. per yard, Messrs. MARKS and Co. beg to inform the Trade, that from their long and intimate connection with the principal manufacturers, they have, in conjunction with them, established a depôt at their warehouse for all the newest and most splendid designs, Patterns of which may be seen and orders taken at 59, Princes-street, Leicester-square.

TO ARCHITECTS, BUILDERS, AND THE PUBLIC IN GENERAL.
C. DEBAUFER and SON beg to call the attention of architects, builders, &c., to their general assortment of Gas Lamps, Pendants, Hydraulic sliding Pendants, Gas Brackets, Pillars, and every article connected with gas apparatus, at their Manufactory and their Rooms, 10 and 11, Creed-lane, Ludgate-street.—A liberal discount allowed to architects and builders.

PORTER'S CORRUGATED, and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanising Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway, and other Iron and Smith's work Manufactured of the best quality. Iron Fence and Hurdles as usual.—The Trade Supplied.

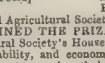
MOREWOOD AND ROGERS' PATENT GALVANIZED TINNED IRON.
T. W. BEALE begs to acquaint the public that he is prepared to lay roofing, plain or corrugated, fix pipes, gutters, &c. Also chimney-tops and ventilating cowls of every description; also water and oil cisterns, of this incorrodible and fireproof metal. He manufactures all kinds of baths, as hip, shower, Roman, open, slipper, sponging, foot, children's, and self-heating baths; also toilet-cans and pails, slop-pails, coal-scuttles, cash and deed-boxes, and fire-proof safes of every description, 10 per cent. cheaper than any house in London.
The PATENT GALVANIZED TINNED IRON is applicable to the following uses:—The Lining of Ships' Store Rooms, Ships' Water Buckets, Water Jugs and Receivers, and for almost every purpose to which zinc, tin, copper, brass, or any other metal is now applied; is more durable, and manufactured at much less expense. An experienced workman sent to any part of the kingdom. All orders punctually attended to. For particulars, apply to T. W. BEALE, 46, Bridge House-place, Newington Causeway.


PATENT GALVANISED TINNED IRON.
(MOREWOOD AND ROGERS' PROCESS.)
ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 9lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and water-closets lined. The sheets are 6 feet long by 2 ft., 2 ft. 6 in., and 3 feet wide, and 9 oz. to any required weight per foot, and can be had either plain or corrugated.
Please apply to CHARLES GELL, Junior, No. 5, Quick-set-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

HEAL & SON'S LIST OF BEDDING.
CONTAINING a full description of Weights, Sizes, and Prices, by which purchasers are enabled to judge the articles that are best suited to make a good set of bedding. Sent free by post, on application to their establishment, the largest in London, exclusively for the manufacture and sale of bedding (no bedsteads or other furniture being kept).
HEAL and SON, Feather Dressers and Bedding Manufacturers, 196 (opposite the Chapel), Tottenham Court Road.


SMOKY CHIMNEYS CURED
BY COOPER'S PATENT DEFLECTING VENTILATOR.
THE cheapest, most ornamental, and most effective article of the kind yet presented to the public. It has a larger egress for the smoke than any similar invention, and no accumulation of soot can check its action; there being no machinery, it is free from noise, and cannot go out of repair: it offers no obstruction to sweeping-machines, and is warranted to cure all down-draft and smoky chimneys, of whatever nature, caused by wind; to draw off all obnoxious vapour from public buildings, churches, schools, club-houses, hospitals, sick chambers, ships, &c. Manufactured in iron, zinc, galvanized iron, and copper.
Wholesale Agents for London and its vicinity,
GEORGE and JOHN DEANE,
(Opening to the Monument),
46, KING WILLIAM-STREET, LONDON-BRIDGE.


By Her Majesty's  Royal Letters Patent.
SEALED 7th OCTOBER, 1845.
CROGGON'S PATENT WATERPROOF DOUBLE BITUMINOUS PAPER.
THE above is Manufactured by the most Accurate Machinery, for Depositing a DOUBLE COAT of ASPHALTE between Two Sheets of Paper, ensuring an evenness of distribution of the Waterproof Materials, thus rendering EVERY MINUTE PORTION OF THE PAPER ENTIRELY IMPERVIOUS TO WATER. To prove that it perfectly resists water, it is only necessary to put it into such a form as to Hold Water, when, after filling, it, the water will evaporate without appearing in the least degree on the other side.
For ROOFS OF HOUSES it will be found very advantageous, being very cheap, admitting A GREAT SAVING OF TIMBERS; it may be painted of all colours, thus rendering it peculiarly applicable to any description of Roof. It is also an EFFECTUAL PREVENTATIVE against the effects of DAMP FROM WALLS, if put under the usual paper, and DAMP FLOORS, when under carpets.
It may be had in Rolls of any Length, to order, AT SIXPENCE PER SQUARE YARD, of
THOS. JNO. CROGGON,
8, Laurence Pountney Hill, Cannon-street.

CHEAP AND DURABLE ROOFING.
By Her Majesty's  Royal Letters Patent.
F. McNEILL and Co. of Lamb's Buildings, Bunhill Row, London, Manufacturers and ONLY Patentees of
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.
Patronized by
HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE BOARD OF ORDNANCE,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.
And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover-square.
Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, as THE ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW, LONDON.
Roofs covered with the felt to be seen at the Factory, also the new Vice-Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the new Houses of Parliament.
A Liberal Discount allowed to the Trade.

FURNISHING UNDERTAKER. — WM. BANGHAM, No. 7, Stockbridge-terrace, corner of Vauxhall and Pimlico roads, begs to inform the Trade they can be supplied with every article requisite for funerals at the lowest furnishing prices, and a liberal credit if required.

For the convenience of the trade every facility is studied. LEADEN COFFINS may be obtained full trimmed in an hour, and every other article on the shortest notice. Cambric and Satin Shrouds, Winding Sheets, &c. Horses, Coaches, Feathers, Velvets, Heraldry, &c. Country orders punctually attended. No extra charge for delivering large coffins within ten miles.



WILSON'S PATENT VENTILATING SPIRAL CHIMNEY POT, for the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success. This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance. The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory, Southwark-bridge Iron Roofing Works.

DAY'S PATENT WINDGUARD, for ventilating

Churches,	Shops,	Kitchens,
Hospitals,	Bed-rooms,	Offices,
Factories,	Smoking-rooms,	Ships,
Theatres,	School-rooms,	Mines,
Breweries,	Nurseries,	Vaults,
Malt-houses,	Stables,	Tunnels,
Club-houses,	Larders,	&c. &c.

Also for preventing down draft; and is guaranteed to cure all smoky chimneys caused by wind; and entirely supersedes the use of revolving cowls, or any thing moveable or unsightly on the tops of chimneys or ventilators.

The object of this invention is to create a draft where otherwise it would not exist, by the spontaneous action of the external air. The Windguard forms a pleasing octagonal pillar, and by its peculiar construction to carry out the principle on which it is based, which consists of the wind giving a disposition for a vacuum within, thereby causing a continual upward current about equal to the velocity of the wind at the time acting upon it, which averages about six feet per second thirty days out of thirty-one; therefore, will nearly at all times ensure a continual change of air, being no impediment to spontaneous ventilation, even on a perfectly calm day. One five feet square will ventilate a building containing upwards of 1,000 persons. The Windguard applied to ships and steam vessels, in the form of a sky-light, prevents rain or the sea entering within, however boisterous the weather may be, thereby affording excellent ventilation as well as light. The Windguard is simply applied for effectually ventilating bed-rooms, nurseries, smoking-rooms, offices, &c., causing the air of the apartment to be at all times as pleasant as can be desired. It is fixed at the top of the chimney, in addition to which a cast-iron frame and valve (about one foot area), made to open or shut at pleasure, is let into the flue, near the ceiling of the room, to allow the constant ascending vitiated air being immediately carried off. The opening is guarded by a neat venetian blind or grating; and so powerful is the effect on a windy day that if a handkerchief be thrown up to the grating, it will remain there—i. e. if the valve be open. In winter the valve would be only partially open, to allow the smoke from the fire to ascend, but if the room be found too cold, can be entirely closed. The Windguard applied to the tops of chimneys prevents all annoyance from smoke (caused by wind), indeed, where it does not, nothing else applied at top will (of the same size); care, therefore should be taken to have the proper size applied. It is simple in its application, reasonable in price, ornamental in appearance; no machinery or anything moveable in it, therefore, cannot get out of order; free from noise or any unpleasantness whatever; not liable to choke up with soot; no obstacle to the machines used for sweeping chimneys. May be had of all respectable ironmongers in town and country; and may be seen daily in operation, where its powers and usefulness are exhibited by the severest tests, at THE PATENT VENTILATING WORKS, COMMERCIAL-ROAD, PIMLICO, LONDON; where also may be seen Mr. G. T. DAY's plans (illustrating the different applications of his Patent Archimedian Ventilator and his Portable Water Apparatus) for effectually Ventilating, Warming, and Cooling the Air of Buildings, Ships, Mines, &c. &c. By the use of these inventions many thousand cubic feet, or any quantity of pure warm or cold air, can be guaranteed to be continually exchanged per minute, day and night, winter and summer; thereby insuring, at all times, free ventilation to the rooms and passages of buildings, &c. from the basement to the roof, at the same time in such a manner as shall not be inconveniently perceptible. The size of the apparatus depends on the nature and use of the building and its occupants. The Patentee has been honoured by his inventions being applied at the following places:—

Windsor Castle,	Trinity House,
Buckingham Palace,	Ordnance,
Saint James's Palace,	Greenwich Hospital,
Claremont Palace,	Christ's Hospital,
Walmer Castle	Westminster Hospital,
The Houses of Parliament,	Bethlehem Hospital,
New Conservative Club,	Surrey Lunatic Asylum,
White's Club,	New Royal Exchange,
Travellers' Club,	Mansion House,
Oxford and Cambridge,	Goldsmiths' Hall,
Parthenon,	Fishmongers' Hall,
Wyndham,	Haberdashers' Hall,
Army and Navy,	Dyers' Hall,
Senior United Service,	Grocers' Hall,
Junior United Service,	Armourers' Hall,
Admiralty,	Weigh-house Meeting-house
British Museum,	Hanover Square Rooms,
Somerset House,	Theatre of the Westminster
Custom House,	Literary and Scientific In-
Mint,	stitution,
Hon. Artillery Company,	Grand Cigar Divan, Strand,
H. M. S. Salamander,	City Club,

And many other Public Buildings in Town and Country, as well as in the Mansions of many Noblemen and Gentlemen. Licenses granted for Manufacturing the above.

Drawings and Plans made for Ventilating and Warming Buildings of every description.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

FOREIGN SHEET GLASS, TILES, &c. —The cheapest, stoutest, and best quality imported and sold at C. JARVIS'S old-established WINDOW GLASS WAREHOUSE, 38, Great Castle-street, a few doors from Regent-street. Crown Glass from 50s. per crate. Squares cut to size equally low in price. Sashes glazed on the lowest terms. Country orders forwarded with reference will meet with prompt attention. The largest discount allowed off all descriptions of glass for ready money only.

SASHES primed, glazed, and sent to any part of London at 6d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.

FOREIGN SHEET 5d. per foot.
BRITISH CROWN 5d. per foot.

Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Show-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.

Dry and Good Colours of the best quality; Brushes Dryers, and every article used in the Trade Warranted.

VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.

For complete lists priced.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

TO THE PLATE GLASS TRADE.

THE BIRMINGHAM PLATE AND CROWN GLASS COMPANY, "Registered," beg to inform the Trade and Public, that the extension of their Works at Smethwick, near Birmingham, being now completed, their Warehouse 141, Fleet-street, is now open for the Sale of their Crystal Plate Glass, which will be found to stand unrivalled by that of any other manufactory. They are also in a position to supply Rough Plate of any substance for Skylights or Floorings on the shortest notice.—Orders addressed to B. MOSS, 141, Fleet-street, will be promptly attended to.

FOREIGN SHEET GLASS, in Cases as imported.

	Common.	Second.	Best.
Under 1 ft. 0 in. superficial	3½	4	5
1 ft. 0 in. „ 2 ft. 0 in. „	4	4½	6½
3 ft. 0 in. „ 4 ft. 6 in. „	4½	5	6
4 ft. 6 in. „ 6 ft. 0 in. „	4½	5½	7
6 ft. 0 in. „ 9 ft. 0 in. „	4½	6	8

THOS. MILLINGTON has always a large stock in hand, and receives weekly large supplies: T. M. is nearly the only real importer.—Address, Thos. Millington, 87, Bishopsgate-street Without, London. Dealer in all kinds of Plate, Sheet, and coloured Window Glass. Manufacturers of Paints, Varnishes, and Colours.

An immense stock of Varnish, very old, &c.

Fine Oak Varnish,	10s. per imp. gal.
Fine Carriage	12s.
Fine Copal	18s.
Fine Body	24s.

No charge for cans if taken in quantities of 6 gallons.

WALLIS'S PATENT LIQUID WOOD KNOTTING. — This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 20s. per gallon.

STEPHENS'S LIQUID OAK, MAHOGANY, ROSE, and SATIN WOOD STAINS, for Staining various sorts of Inferior Woods, so as to give them the appearance and character of the more costly and ornamental kinds; also for reviving the natural colour of Wood Carvings and Panellings, and other ornamental Wood Work, when such has become faded from age or other causes.

IN THE BUILDING AND DECORATING NEW CHURCHES, where it is desirable to give to the cheaper kind of Woods the appearance of Antique Oak, or to make Deal assume the character of Oak Panelling, whereby the effect of the more costly may be produced by the use of a cheaper material, these Stains will be found more effective than any means hitherto employed.

IN OLD MANSIONS AND HALLS, where the Wood Carvings and Panellings have faded, the applications of these Stains will be found to revive and bring back the rich natural colours, which colour may be varied from the lighter to the deeper shades of the most Antique Oak.

The BIRCH WOOD, which has a fine natural grain, with little colour, is particularly suited to the application of these Stains; and the appearance which it assumes after Staining is so near that of the natural wood, that is in only when the grain and colour of the latter is particularly fine that it is preferred. Beech, Birch, Elm, Ash, and other Woods, English and Foreign, receive the Stains and produce various imitations.

For the exposed Timbers of the inside of the ROOFS of CHURCHES, for which north country Timbers and Deals are generally used, by brushing them over with the Stain, which operation is very rapidly, and of course economically, effected, the appearance of an Oaken Roof will be produced. For colouring the backs of the Seats, Pews, the fronts of Galleries, the Pulpit, &c., it is equally advantageous.

Prepared by HENRY STEPHENS, and may be obtained at 54, Stamford-street; at the Office of "The Builder," 2, York-street, Covent-garden, and in Manchester, at CRAKE'S MARBLE WORKS, Garratt-bridge, Davidstreet, at which places specimens of their application may be seen.

FIRE BRICKS.

WARD, Honduras Wharf, Bankside, and St. Michael's-alley, Cornhill, has just landed a large quantity of his very superior manufactured Fire Bricks, of Stourbridge, Welsh, and Newcastle. Prices very low. Shipments made for the East and West Indies, &c., with the greatest promptness. Gas companies, engineers, builders, and all large consumers supplied from ships in the river at a much lower price. A very large stock on hand of Bricks, Lumps, Tiles, and Clays.

River sand and gravel by freight to any wharf and dock.

WROUGHT-IRON BACK BOILERS for RANGES, and Boilers for Steam and Hot Water purposes of every description, made and repaired on a short notice. Wrought-iron Patent Welded Tubing for Hot Water, Steam, or Gas, with the requisite fittings constantly on hand. Composition Pipe of extraordinary long lengths for interior fittings, affording a great saving in joints.—at WALBY'S DEPOT, 59, Greek-street, Soho, six doors from the square. — N.B. A quantity of Back Boilers, &c., various sizes, kept in stock.

THE OXFORD ROASTING RANGE,

THESE RANGES are especially suited to Hotels, Clubs, and large Private Families, since they combine the most complete facility for roasting even the largest joints with great economy of fuel and perfect simplicity of management. They are manufactured by

J. L. BENHAM and SONS,

and have been erected by them in the kitchens of many of the nobility and gentry; amongst others are those of the Earl Fortescue, Earl of Liverpool, Lord Foley, Sir Edward Baker, Bart., Mrs. Drummond, Edward Ellice, Esq., M.P., W. Marshall, Esq., M.P., J. Attwood, Esq., M.P., H. A. Herbert, Esq., F. M. Goodlake, Esq., R. Marsham, Esq., Rev. Mr. Barnard, Rev. Mr. St. Aubyn, &c., &c., and also at the Reform Club House.

Hot Plates, Broiling Stoves, Ovens, Hot Closets, Steam Cooking Apparatus, &c., erected in town or country.

BUILDINGS HEATED by HOT WATER on the most secure and efficient principles.—MANUFACTORY and SHOW ROOMS, 19, Wigmore-street, Cavendish-square, London.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

2 ft.	2 ft. 3 in.	2 ft. 6 in.	2 ft. 9 in.	4 ft.
3l. 5s.	3l. 13s.	3l. 16s.	4l.	4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

2 ft.	2 ft. 3 in.	2 ft. 6 in.	2 ft. 9 in.	4 ft.
3l.	3l. 15s.	3l. 5s.	3l. 10s.	7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.

Do. Elliptic do., at 3½d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

HOLBORN AND FINSBURY SEWERS, MIDDLESEX.

THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persons about to Purchase or Rent Houses or Property, or take Land for Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Persons to apply for at the above Office.

By the Court,
STABLE and LUSH, Clerks.

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDDLESEX, No. 1, Greek-street, Soho-square.

TO BUILDERS and Others interested in buildings or in ground for building upon, within the district under the jurisdiction of this Court, drained by watercourses falling into the river Thames, between the city of London and the parish of Fulham.

The Commissioners hereby give notice, that by an Act of the 47th Geo. III. (chap. 7, local) it is required that, previously to the making of any new sewer in any street, lane, or public way, or in any part intended to become a street, lane, or public way, or to carry or drain off water from any ouse, building, yard, or ground, into any sewer under their management, or within their jurisdiction, a notice in writing shall be given to them, or to their clerk at their office, and that such new sewer or sewers shall be constructed and made in such manner and form as shall be directed by the said Commissioners, and not otherwise.

And, in order to prevent the serious evils and inconveniences that must arise from ground proposed to be built upon being excavated at too great a depth, the Commissioners have directed that, upon application being made at this office previously to the excavation of such ground, information shall be given as to the lowest depth at which the same can be drained.

And the Commissioners do also give notice that, whenever the lower floors or pavements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any sewers, or drains into sewers, to be made for the service of such buildings.

It is recommended to all persons about to purchase or take houses, or other premises, to ascertain whether such premises have separate and distinct drains into common sewers.

All petitions must be delivered at this office at least three clear days before they are presented to the Commissioners; and all such petitions will be called on in the order of their application, and the name of any party not present when called on to support the application will be struck out, and the proceedings must in consequence be commenced de novo.

All communications made with any sewer without leave of the Commissioners will be cut off, and the parties making the same will subject themselves to a fine.

The provisions of the Metropolitan Buildings Act (7 and 8 Victoria, c. 84) do not supersede the authority of the Commissioners of Sewers in the above respects, but their powers are expressly reserved, and their regulations made subservient to the purposes of that Act. The execution of such works, under the superintendence of the district surveyor alone, cannot therefore warrant the making of any sewers or drains within this commission, nor relieve the parties making them from the penalties above mentioned.

By order of the Court,
LEWIS C. HERTSLET, Clerk.

FREEHOLD WHARF to be SOLD, very desirably situate at the foot of Vauxhall-bridge, on the Surrey side, and having a considerable frontage to the Vauxhall-bridge-road.—Apply to Mr. LEE, Architect, 20, Golden-square, St. James's.

ST. LEONARD'S-ON-SEA.—OPENING OF THE RAILROAD.

ELIGIBLE Freehold Building Ground for Sale. This fashionable town, which has required nothing but a railroad to make it one of the most popular in the kingdom, will in another month or two have one opened from Brighton, by which the journey from London will be accomplished in three hours, and a demand in consequence will arise for houses of all classes.—Apply to Mr. BEDDOES, South Lodge, St. Leonard's-on-Sea.

TO BUILDERS.

TO BE SOLD, some Plots of Meadow-land, delightfully situate for the erection of Villas or respectable houses at Hampton Wick, contiguous to the Market Town of Kingston, and in the vicinity of Hampton-court, commanding Views of the Royal Parks. The estate is freehold, tithe-free, and land-tax redeemed; a proverbial healthy site, the soil gravel, and excellent water.—N.B. The amount of the purchase money would be taken out in building.—Apply for further particulars at Mr. LAPIDGE'S Offices, No. 2, Derby-street, Parliament-street.

TO BUILDERS AND OTHERS.

TO BE SOLD or LET, the Carcasses of Four small Eight-roomed Houses in the modern Villa Style of Erection and in a forward state, with Sewage, &c., near the Terminus of the Great Western Railway; also a Plot of Building Ground with frontage to the main Harrow-road for Two Houses of a similar class; leasehold for 500 years, and will readily command tenants upon completion.—Apply to Mr. STUNT, House-agent, 28, New Church-street, Edgware-road.

TO BUILDERS.

TO BE LET on Lease for Ninty-nine Years in Plots or otherwise, the sites of the Reservoirs belonging to the Grand Junction Water Company, situated on the Bishop of London's Estate, at Paddington.—Apply to Mr. LEE, Architect, 20, Golden-square, St. James's.

BUILDING LAND.

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COPENHAGEN ESTATE, ISLINGTON.—TO BUILDERS AND OTHERS.

TO BE LET in Building Plots on Lease for 99 years, the whole of this estate. The above property is most eligible for building purposes. It stands high, and presents extensive views of the surrounding country. It has also the great advantage of being well drained.—Apply to Mr. LEE, Architect, 20, Golden-square, St. James's.

TO BUILDERS AND OTHERS.—RICHMOND, SURREY.

TO LET on Lease, Extensive Premises many years occupied as a boarding-school, but well calculated to be converted, by a moderate outlay, into three distinct houses. One house to contain eleven rooms, another house nine rooms, and the other six rooms. The best rooms in each house will be of good size. This opportunity is deserving attention, as the railway to Richmond is expected to be finished in a few weeks.—Plans and particulars may be seen at Messrs. SMITH and SON, Solicitors, Richmond.

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TO BE LET, on BUILDING LEASES, for ninety-six years, several very eligible plots of Freehold Building Ground, land-tax redeemed, situated in the Shrubland-road, leading from the Queen's-road, Dalston, to Lansdown-place. This is one of the most rapidly improving neighbourhoods near London, and will be the principal thoroughfare from all parts westward to the new Victoria Park, from which it is only a quarter of a mile distant.—Apply to Mr. PALMER, on the premises.

SPACIOUS BUILDING GROUND, in the heart of the City, TO BE LET on a Building Lease. The site comprises old Founders' Hall, Lothbury, (extending from east to west 70 feet, and from north to south 30 feet), and a further space in connection with it, suitable for purposes of an additional entrance to the premises.—Particulars may be obtained by applying at the Company's Offices, Founders' Hall, or to J. B. Gardiner, Esq., Architect, 4, Bank-chambers, Lothbury, where a plan of the premises may be seen.

TO INNKEEPERS, BUILDERS, AND OTHERS.—GREENWICH.

TO BE LET by TENDER, a PLOT of LAND, reserved for a Licensed Public-house, situate in the neighbourhood of Wharfs, and where upwards of one hundred houses will be erected, upwards of fifty are already built and others in progress, and it is expected all the Land will be covered this year. No other house on this Estate will be permitted to sell beer by retail or otherwise.—For particulars, apply to Mr. NOBLE, Surveyor, at his office, London-street, Greenwich; all letters prepared.

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BUILDING PLOTS TO BE LET in this most desirable and salubrious situation!! commanding picturesque views of the surrounding beautiful neighbourhood, and elevated within a few feet of the summit of the monument, with the best approaches of any suburban district near the metropolis, and greatest facilities of access to all the fashionable resorts and promenades of the West End and the City!—For particulars and plans, apply to W. H. TWENTYMAN, Esq., 11, Regent's-villas, Avenue-road, Regent's-park.

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THE PARK—EALING, MIDDLESEX.

THERE is no spot in the vicinity of London where the peculiar aspect of an English country village has remained so entirely unimpared as the quiet and picturesque village of Ealing: and, with its gravelly soil and fine climate; with its abundant facilities of communication with the metropolis, both by coaches and by railway; with all these advantages, it is only the want of suitable residences that has prevented this spot from being far more frequented than it is by Londoners in search of health and retirement.

The chief cause of this want is the remarkable extent of common land in and around the village, which, whilst it prevents the growth of buildings, secures to the inhabitants the free and uninterrupted enjoyment of their healthful breezes and picturesque scenery.

The portion of land, however, known as the Park, lying between the Green and the Common, is now proposed to be appropriated to building purposes. It will be found to be in every way advantageously circumstanced for the erection of detached residences of moderate size. No buildings of an inferior character will be permitted to disfigure the estate, and the present ornamental timber will not be disturbed farther than may be absolutely necessary. Every possible care will be taken to preserve the retired and respectable character of the spot.

Persons desirous of information at Ealing may apply to Mr. NYE, Carpenter, on the Green; and offers for any portions of the land are to be addressed to Mr. SIDNEY SMIRKE, 24, Berkeley-square.

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TO BUILDERS AND OTHERS.—HYTHE IN KENT.

TO BE LET on Building Leases for the term of 99 years, in one lot, or several lots, Six Acres of Land situate on the western side, and immediately contiguous to the marine walk leading from the town of Hythe to the sea. The situation is admirably adapted for building, as it stands on rising ground overlooking the sea, and commands an extensive view of the French coast. In consequence of the increasing demand for lodging-houses at this favourite watering-place, the town council have recently disposed of a portion of their land near the sea, for the purpose of erecting dwelling houses and bathing and reading rooms, and consequently the property now offered, from its superior locality, is considered well worth the attention of builders and others desirous of investing their capital on the sea coast. Hythe is also the nearest seaport town to London on the line of the South-Eastern Railway.

For farther particulars apply to Mr. ONSLOW ANDREWS, Brabourne, near Ashford; or to Messrs. BROCKMAN and WATTS, solicitors, Hythe, Kent.

SALES BY AUCTION.

HAMMERSMITH.—SALE OF ELM BOARDS, &c.
To Undertakers, Barge Builders, Chair Makers, Wheelwrights, and others.

MR. GOMME will SELL by AUCTION, on Monday next, the 26th of April, in the Orchard, near Catchpool's Brewery, Bridge-road, Hammersmith, at Twelve for One o'clock precisely, about 8,000 feet of capital 2-in., 1-in, 2-in., and 3-in. Elm, Plank, and Boards of various widths; Oak Posts, 150 Chaise and Cart Stocks, six new Box Barrows, Rustic Limbs, Spring-cart, four sets of new Phaeton Wheels, Forge Bellows, Counter, Glazed Light, Chaise Bodies, old Carts, Harness, &c.—To be viewed, and catalogues had, at Catchpool's Brewery; of JAMES GOMME, Upholsterer, 7, Brydges-street, Covent-garden; and of the Auctioneer and Surveyor, Hammersmith.

TO BUILDERS, BUILDING SOCIETIES, SHIP-BUILDERS, COAL OWNERS, AND OTHERS.

MR. W. H. DEAN will SELL by AUCTION, at the Auction Mart, on Thursday, April 23, 1846, at 12, Sixty lots of valuable BUILDING GROUND, adjoining the River Lea, the Barking highway, and the road to Stratford, in the parish of West Ham, county of Essex. The situation is eminently adapted for building purposes, possessing an extensive frontage to the most desirable part of the River Lea, from which river it is proposed to form short tramways to the Eastern Counties and Thames Junction Railway (vide plan), and also abutting upon the carriage road formed by the side of the said railway from the Thames to Stratford. The fact that about 1,000 mechanics daily pass over the iron bridge to their employment at Messrs. Ditchbourne and Mare's, many of them having to traverse upwards of two miles to their dwellings, must fully shew the requisition for houses in the locality and the extensive works which are being carried out by the Thames Junction and North Woolwich Railway Companies, together with the many other projected improvements which will be effected along the Thames and Lea Rivers, will necessarily create a demand which must render this ground a most profitable investment. The portion abutting upon the Lea is well adapted for ship building or manufactories, and from its eligibility for mooring craft, and its being the only spot suitable for forming an easy and desirable communication, by means of tramways, from the Lea to the Eastern Counties and Thames Junction Railway, a favourable opportunity is open to the owners of coal pits to secure an immense trade in coal and coke throughout the northern and eastern suburbs of London, and in the Counties of Essex, Cambridge, and Herts.—Particulars and plans may be had at the Auction Mart; of Messrs. HINE and ROBINSON, solicitors, Charter House-square; and of the Auctioneer, Stratford, Essex.

SALES BY AUCTION.

TO PAPER-HANGERS, HOUSE DECORATORS, BUILDERS, AND OTHERS.

MR. BRAY, Jun., will SELL at his Rooms, 259, High Holborn, on Tuesday, April 21st, at Twelve o'clock; upwards of 4,000 pieces of paper-hangings of excellent workmanship and modern design; including drawing and dining room papers, in rich crimson and other flocks; mock flocks, scroll damask, embossed satins, morpeth on satins, and Elizabethans; parlour and bed-room papers in chintzes, shaded and plain, trellis, Berlins, bouquet, hall, and staircase, in landscape, Gothic, granites, painted and other marbles.—May be viewed one day prior and morning of Sale, and Catalogues had at the Rooms as above.

THIRTY HANDSOME STATUARY, DOVE, AND VEINED MARBLE CHIMNEY PIECES.

W. AND C. PUGH have received directions to SELL by AUCTION, at a warehouse, the entrance of Great Dover-street, near St. George's Church, Southwark (removed for the convenience of sale), on Monday, the 20th inst., at 1 o'clock, THIRTY WELL-FINISHED MARBLE CHIMNEY PIECES, of running sizes, of an attractive description, and well suited for modern houses. May be viewed the morning of sale, and catalogues had at the Yorkshire Stingo, Lisson-green; the Swan, Knightsbridge; the York and Albany, Camden-town, and of W. and C. PUGH, No. 6, Blackman-street, Southwark.

TO TIMBER MERCHANTS, CABINET MAKERS, COACH BUILDERS, CARPENTERS, BUILDERS, &c.

MESSRS. SKEEN and LEARY will SELL by AUCTION, without reserve, at No. 33, Charles-street, Hampstead-road, on Tuesday, April 21st, by order of the proprietor, quitting the premises, all the remaining stock in trade of Mr. Charles Rowed, mahogany and timber merchant; consisting of Spanish, Honduras, and Cuba mahogany, in logs, planks, boards, and veneers; prime dry panel board, African wood, rosewood, cedar, satin-wood, zebra-wood, maple, walnut, wainscot, beech, birch, staves, oak, elm, ash, sycamore, lime, Swiss Belly wood, battens, cut deals, spruce, and dry pine plank and board, &c., &c.—To be viewed two days previous to, and on the morning of Sale. Catalogues to be had on the premises and of SKEEN and LEARY, Brokers, 75, Old Broad-street.

MR. ALFRED DAY has received instructions to SELL by PUBLIC AUCTION on the premises, Smith's-buildings, City-road, on Tuesday, April 21st, at Eleven, without reserve, by order of the Ecclesiastical Commissioners for England, the third portion of valuable building materials of forty houses, to be taken down and cleared by the purchasers, comprising 3,000,000 bricks, timber in long lengths, girders, Memel timber, partitions, pantiles, rafters, joists, flooring boards, bead and flush, 6 by 4 and 2, panel doors and frames, stoves, coppers, twelve bushel oven, shop fronts, lead, gutters, shutters, glazed sashes and frames, iron palisading, stone coping, paving, cart, chaise, truck, and numerous other effects.—May be viewed on Monday and morning of sale, and catalogues had on the premises, and of the Auctioneer, No. 17, Anderson's-buildings, City-road, and Stoke Newington.

PLUMBERS' BRASS WORK, WATER-CLOSET PUMPS, &c.—These articles require the greatest attention and care in the manufacture, and will be found superior and cheaper than at any other manufactory. Best Pan Water Closets, 32s.; 2½ Lift Pumps and Planks, 4l. 10s. 0d.; 3-inch Pumps, 5l. 10s. 0d.; 3-inch Bib Ball and Stop Cocks, 2s. 4d. each, and every article in this branch equally low. Every article warranted.—Address, THOS. MILLINGTON, 87, Bishopsgate-street.

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IRON BRIDGES, PIERS, &c.

*** For the Numerical Explanation of DREDGE'S PRINCIPLE, see the "Mechanics' Magazine," No. 1172.

THIS system removes from the Arch to the horizonal line the horizontal force of the whole Bridge, which makes the roadway as powerful as the arch itself, and the arch, with half the material, more than double its original power. The pressure on the key-stone of the arch is the horizontal force of a Bridge, which acts directly on that point as a dead load of self-destruction; and it has thrown down, within the last eighteen months, nearly sixty arches of Viaducts and Bridges.

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This principle has been fully tested nearly ten years, by the consertuction of fifteen public bridges for the Government and others in Great Britain. It is also established in India.
Bath, 3rd April, 1846.

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TO BE LET, on long Building Leases, direct from the freeholder, together or in plots, a considerable extent of valuable LAND. The situation is elevated, and commands extensive views. The neighbourhood is highly respectable, and is remarkable for its healthiness, and being within a short distance of the Anerly station, on the Croydon Railway, it presents a fine opportunity for a building speculation on a large scale.—Apply to Mr. VERE, 85, Upper Stamford-street.

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TO BE LET, some Capital Frontage Ground for Building purposes, on Lease for Ninty-nine Years. An advantageous opportunity presents itself to a respectable party, as upon an adequate number being built, the owner would enter into an arrangement for having two houses built for himself on the property.—Apply to Mr. EALES, Architect, 4, Chapel-place, Cavendish-square.

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TO BE LET on Leases for 99 Years, some very Eligible Plots of Freehold Land (Land-tax Redeemed), for detached or semi-detached Villas, screened from the high road by beautiful timber-trees and well drained; advances may be had if required.—Plans and particulars may be seen upon application to Mr. EALES, Architect, No. 4, Chapel-place, Cavendish-square.

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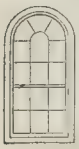
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ONE WORD with you, and Take Notice, should you want SASHES and FRAMES, go to that Noted Cheap Sash and Frame Manufacturer to the Trade,



R. BOOTH,
No. 5, GIBSON-STREET,
LAMBETH,



Where you can have Sashes and Frames made and glazed at 1s. 3d. per foot superficial; Shop-fronts of every description; greenhouses, doors, and shop-fittings manufactured equally cheap.—For further particulars apply as above (prepaid), including a postage-stamp. Country orders punctually attended to. Terms for Cash only.

N.B. The Cheapest House in London for all kinds of fittings.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

TO THE PLATE GLASS TRADE.

THE BIRMINGHAM PLATE AND CROWN GLASS COMPANY, "Registered," beg to inform the Trade and Public, that the extension of their Works at Smethwick, near Birmingham, being now completed, their Warehouse 141, Fleet-street, is now open for the Sale of their Crystal Plate Glass, which will be found to stand unrivalled by that of any other manufactory. They are also in a position to supply Rough Plate of any substance for Skylights or Floorings on the shortest notice.—Orders addressed to B. MOSS, 141, Fleet-street, will be promptly attended to.

SASHES primed, glazed, and sent to any part of London at 6d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.

FOREIGN SHEET 5d. per foot.
BRITISH CROWN 5d. per foot.

Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Shew-cases, &c. The largest stock of cheap Glass in London for HORTICULTURAL PURPOSES.

Dry and Good Colours of the best quality; Brushes Dryers, and every article used in the Trade Warranted.

VARNISHES and GENUINE WHITE LEAD; MILLED LEAD SHEET'S 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.

For complete lists priced.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

FOREIGN SHEET GLASS, in Cases as imported.

	Common.	Second.	Best.
Under 1 ft. 0 in. superficial	3½	4	5
1 ft. 6 in. „ 8 ft. 0 in. „	4	4½	5½
3 ft. 0 in. „ 4 ft. 6 in. „	5	5½	6
4 ft. 6 in. „ 6 ft. 0 in. „	4½	5½	7
6 ft. 0 in. „ 9 ft. 0 in. „	4½	6	8

THOS. MILLINGTON has always a large stock in hand, and receives weekly large supplies: T. M. is nearly the only real importer.—Address, Thos. Millington, 87, Bishopsgate-street Without, London. Dealer in all kinds of Plate, Sheet, and coloured Window Glass. Manufacturers of Paints, Varnishes, and Colours.

An immense stock of Varnish, very old, &c.

Fine Oak Varnish, 10s. per imp. gal.	
Fine Carriage	12s.
Fine Copal	18s.
Fine Body	24s.

No charge for cans if taken in quantities of 6 gallons.

FOREIGN SHEET GLASS, TILES, &c. —The cheapest, stoutest, and best quality imported and sold at C. JARVIS'S old-established WINDOW GLASS WAREHOUSE, 38, Great Castle-street, a few doors from Regent-street. Crown Glass from 50s. per crate. Squares cut to size equally low in price. Sashes glazed on the lowest terms. Country orders forwarded with reference will meet with prompt attention. The largest discount allowed off all descriptions of glass for ready money only.

FURNISHING UNDERTAKER. — WM. BANGHAM, No. 7, Stockbridge-terrace, corner of Vauxhall and Pimlico roads, begs to inform the Trade they can be supplied with every article requisite for funerals at the lowest furnishing prices, and a liberal credit if required.

For the convenience of the trade every facility is studied. LEADEN COFFINS may be obtained full trimmed in an hour, and every other article on the shortest notice. Cambric and Satin Shrouds, Winding Sheets, &c. Horses, Coaches, Feathers, Velvets, Heraldry, &c. Country orders punctually attended. No extra charge for delivering large coffins within ten miles.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

REDUCTION IN THE PRICE OF BUNNETT AND CORPE'S PATENT REVOLVING IRON SHUTTERS.

THE validity of this Patent being completely established, the Patentees have much pleasure in stating that the very extensive demand, and the employment of improved machinery in the manufacture, have given them an opportunity (of which they gratefully avail themselves) of making a considerable reduction in the price of this well-known and tried invention, thereby rendering them the cheapest as well as the best iron shutters in use. Every improvement suggested by practical skill and most extensive application has been adopted, and no effective REVOLVING IRON SHUTTER can be constructed without infringing B. and C.'s patent. The worm and wheel, as patented by them, being the only safe, durable, and efficient mode of raising and lowering such shutters, these shutters can be applied horizontally, either above or below the window, or vertically, as introduced by BUNNETT and CORPE, in some of the largest establishments: they are made with bent or corrugated laths, if required.

BUNNETT and CORPE also manufacture REVOLVING WOOD SHUTTERS,

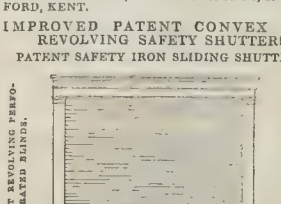
with their patent raising machinery, or with counterbalance weights, and with proper metallic hinges, without which no shutters can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop Fronts fitted in a superior manner with Iron Shutters, Patent Brass or Zinc Sashes, Moulded Engraved Stall Board Plates, best Plate Glass, and internal Brass Fittings of all kinds, on the most advantageous terms. Estimates given and contracts taken in Town or Country.—All kinds of metal works executed to any design. Metal Drawing, Rolling, and Stamping for the Trade. OFFICE, 26, LOMBARD-STREET, LONDON. WORKS, at DEPTFORD, KENT.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.

PATENT SAFETY IRON SLIDING SHUTTERS.





The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 116, Old Street, London; or at the Licensees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using BENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licenses Granted.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery.

Best Patent Cut Clasp.

3d.	4d.	6d.	10d.	20d.
5d.	7d.	8d.	1s. 6d.	2s. per 1000.

Best Sheet Cut Floor Brads 16s. per cwt.
Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6d., 7d., 8d. per inch.
Self-acting Kitchen Ranges with Oven and Back Boiler.
Wrought Bars and Bright Fittings.
3 ft., 3l. 3s. 3 ft. 6 in., 3l. 12s. 6d. 4 ft., 4l.
Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3l. 6s.	3l. 13s.	3l. 16s.	4l.	4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5l.	5l. 15s.	6l. 5s.	6l. 10s.	7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., 8½d., and 9½d. do.
Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.
Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

THE OXFORD ROASTING RANGE.

THESE RANGES are especially suited to Hotels, Clubs, and large Private Families, since they combine the most complete facility for roasting even the largest joints with great economy of fuel and perfect simplicity of management. They are manufactured by

J. L. BENHAM and SONS,

and have been erected by them in the kitchens of many of the nobility and gentry; amongst others are those of the Earl Fortescue, Earl of Liverpool, Lord Foley, Sir Edward Baker, Bart., Mrs. Drummond, Edward Ellice, Esq., M.P., W. Marshall, Esq., M.P., J. Attwood, Esq., M.P., H. A. Herbert, Esq., T. M. Goodlake, Esq., R. Marsham, Esq., Rev. Mr. Barnard, Rev. Mr. St. Aubyn, &c., &c., and also at the Reform Club House.

Hot Plates, Broiling Stoves, Ovens, Hot Closets, Steam Cooking Apparatus, &c., erected in town or country.

BUILDINGS HEATED by HOT WATER on the most secure and efficient principles.—MANUFACTORY and SHOW ROOMS, 19, Wigmore-street, Cavendish-square, London.

HOT WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories, and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises. BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

JOHN BROOKES, 64½, BULL-STREET, BIRMINGHAM, Smith, Smoke Jack Maker, and manufacturer of every description of plain and ornamental Ironwork, Forgings for Machinery, Force and Lift Pumps, and Railway Ironwork in general.

Wrought-iron Gates, Verandahs, Balconies, fancy Pannels for Staircases, Window Guards, &c. &c. Gothic hinges, and bolts for large gates and church doors, weather vanes, and every article requisite in buildings of magnitude to pattern or drawing, of superior workmanship, and with the greatest accuracy, on the lowest terms.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 169, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

IRON BRIDGES, PIERS, &c.

*** For the Numerical Explanation of DREDGE'S PRINCIPLES, see the "Mechanics' Magazine," No. 1172.

THIS system removes from the Arch to the horizonal line the horizontal force of the whole Bridge, which makes the roadway as powerful as the arch itself, and the arch, with half the material, more than double its original power. The pressure on the key-stone of the arch is the horizontal force of a Bridge, which acts directly on that point as a dead load of self-destruction; and it has thrown down, within the last eighteen months, nearly sixty arches of Viaducts and Bridges.

EXAMPLE:—The Menai Bridge, whose depth is 1-14th of its length, and the suspended weight 800 tons, its horizontal force is 2,800 tons of self-destruction on the centre; hence it would require but a small portion of the material and cost of that bridge to construct one over the Menai Straits on this plan, that would possess far greater power and stability than the present structure.

This principle has been fully tested nearly ten years, by the construction of fifteen public bridges for the Government and others in Great Britain. It is also established in India.

Bath, 3rd April, 1846.

FIRE BRICKS.

WARD, Honduras Wharf, Bank-side, and St. Michael's-alley, Cornhill, has just landed a large quantity of his very superior manufactured Fire Bricks, of Stourbridge, Welsh, and Newcastle. Prices very low. Shipments made for the East and West Indies, &c., with the greatest promptness. Gas companies, engineers, builders, and all large consumers supplied from ships in the river at a much lower price. A very large stock on hand of Bricks, Lumps, Tiles, and Clays.

River sand and gravel by freight to any wharf and dock.

CAEN STONE.

LUARD and BEEDHAM have a quantity of the above stone, of the best quality, direct from their Quarries at Allemange, which may be inspected at the Norway Sufferance Wharf, Greenwich.—Further particulars at Mr. G. GATES', 18, SOUTHWARK-SQUARE, SOUTHWARK.

PAVING, 2s. 9d. PER SQUARE YARD Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27s. 6d. per ton.

TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorized CERTIFICATES to be granted to Builders where the

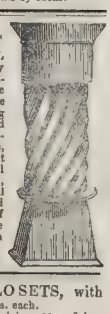
SEYSSEL ASPHALTE

has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced. I. FARRELL, Secretary.
Stangate, near Westminster Bridge, Jan., 1845. Seyssel Asphalte Company.

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.



WILSON'S PATENT VENTILATING SPIRAL CHIMNEY POT, for the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success. This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance. The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory, Southwark-bridge Iron Roofing Works.

BEST PAN WATER CLOSETS, with Round Valve complete, 30s. each.
Plumbers Bib, Ball, and Stop Cocks, ¾-in., 20s.; ½-in., 28s.; 1-in., 50s. per dozen.
Lifting Force Pumps on Planks, 2½-in., 4l. 5s.; 3-in., 5l.
Washing Coppers 1s. 1d. per pound.
Water Balls 15s. per dozen.
Gun Metal Steam Cocks, Safety Valves, &c., and every description of brass and copper work equally good at A. McGLASHAN and Co., Brass Founders and Coppersmiths, 16, Long Acre.—N.B. Every article warranted.

PLUMBERS' BRASS WORK, WATER-CLOSET PUMPS, &c.—These articles require the greatest attention and care in the manufacture, and will be found superior and cheaper than at any other manufactory. Best Pan Water Closets, 32s.; 2½ Lift Pumps and Planks, 4l. 10s. 0d.; 3-inch Pumps, 5l. 10s. 0d.; ½-inch Bib Ball and Stop Cocks, 2s. 4d. each, and every article in this branch equally low. Every article warranted.—Address, THOS. MILLINGTON, 87, Bishopsgate-street.

RAIN WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from ½ in. to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, and No. 6, Bankside, Southwark.

LATE REDMUND'S PATENT RISING and SPRING HINGES. These much approved Hinges and Swing Centres, suitable for every description of Door from their superior construction, combining simplicity, durability, and cheapness, merit extensive recommendation. Gate Hinges on an improved principle. The Patent Spring Butts, single and double acting, to admit of the Door opening either way.—To be had of J. WALBY, Redmund's Original Warehouse, 59, Greek-street, Soho, Six Doors from the Square.

TO ARCHITECTS AND BUILDERS.

COLLINGE'S PATENT HINGES.—Sole Manufactory, 64, BRIDGE-ROAD, LAMBETH, where a great variety are always on view, for Church, Park, Coach-house, and all other Doors and Gates, of large or small dimensions, a gate of a ton in weight moving with these hinges as easily as a wicket; they are also admirably adapted for drawing-rooms, being highly ornamental, and folding-doors fitted with them may be removed and replaced in an instant. Rising and spring Hinges, on the most improved principle, and very superior Fastenings for exterior Gates, at moderate prices. To be seen at Charles Collinge and Co.'s Patent Axletree, Sugar-mill and Spherical-hinge Manufactory, 64, Bridge-road, Lambeth.

PAPER-HANGINGS.

R. CHATER solicits the attention of Builders to his extensive assortment of Paper-hangings, which he is selling at very reduced prices, adapted to every purpose of decoration; also his painted marble-papers of superior description, as well as granite and oak papers for halls and staircases.—A liberal allowance on taking large quantities.—No. 46, Tottenham-court-road.

TO ARCHITECTS, BUILDERS, AND THE PUBLIC IN GENERAL.

C. DEBAUFER and SON beg to call the attention of architects, builders, &c., to their general assortment of Gas Lamps, Pendants, Hydraulic sliding Pendants, Gas Brackets, Pillars, and every article connected with gas apparatus, at their Manufactory and their Rooms, 10 and 11, Creed-lane, Ludgate-street.—A liberal discount allowed to architects and builders.

FINE ARTS.

By Her Majesty's Royal Letters Patent.

LORIMIER'S TRANSPARENT PLANES for Perspective Drawing; BENJAMIN WEST, Patentee.

"This Instrument will enable Artists and others to make any Drawing, whether from Nature or Models, in perfectly true perspective, so that a likeness or landscape may be taken in a few minutes absolutely perfect. It is used by her Majesty's Royal Sappers and Miners, Chatham. To Travellers it would be found serviceable, since it can be employed without the knowledge of drawing."—*Art Union.*

Price 18s. and 26s. Apply for Agents to BENJAMIN WEST, 2, St. James's-walk, Clerkenwell.—Sold by BARRITT and Co., 173, Fleet-street, London; GRIFFIN and Co., Glasgow, and by all Fancy Stationers, &c.

BED FEATHERS

MIXED, 1s. per lb.
Grey Goose, 1s. 4d. per lb.
Foreign, ditto, ditto, 1s. 8d. per lb.

Best Foreign Grey Goose, 2s. per lb.
Best Irish White, ditto, 2s. 6d. per lb.
Best Dantzic, ditto, ditto, 3s. per lb.

Warranted sweet and free from dust.

A List of every description of Bedding, containing weights, sizes, and prices, sent free by post, on application to HEAL and SON, Feather-dressers and Bedding manufacturers, 196, opposite the Chapel, Tottenham Court-road.

REMOVED TO LAWRENCE POUNTNEY HILL, CANNON STREET.

By Her Majesty's Royal Letters Patent.

CROGGON'S PATENT ASPHALTE ROOFING FELT,
With which the Committee Rooms of the Houses of Parliament are entirely Covered.

THE above Material has been used and highly approved by the Nobility, Gentry, and Agriculturists generally, and Patronised by many Members of the Royal Agricultural Societies of England, Scotland and Ireland. It has been used for several Years at the Royal Horticultural Society's Gardens, Chiswick; the Swiss Gardens, Shoreham, Sussex; on the Duke of Buccleuch's, and the Marquis of Anglesea's Property, &c., &c., and (under slate) at the Royal Agricultural Society's House, Hanover-square; its advantages are—CHEAPNESS, LIGHTNESS, DURABILITY, and ECONOMY. Being a Non-Conductor, it has been proved an efficient "Protective Material" to Plants.
PRICE ONE PENNY PER SQUARE FOOT.



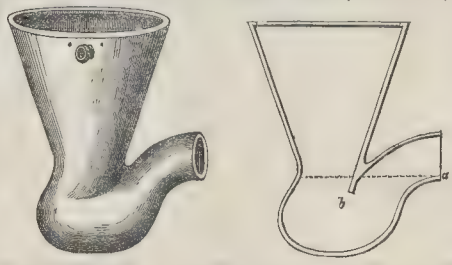
SMOKY CHIMNEYS CURED
BY COOPER'S PATENT DEFLECTING VENTILATOR.

THE cheapest, most ornamental, and most effective article of the kind yet presented to the public. It has a larger egress for the smoke than any similar invention, and no accumulation of soot can check its action; there being no machinery, it is free from noise, and cannot go out of repair; it offers no obstruction to sweeping-machines, and is warranted to cure all down-draft and smoky chimneys, of whatever nature, caused by wind; to draw off all obnoxious vapour from public buildings, churches, schools, club-houses, hospitals, sick chambers, ships, &c. Manufactured in iron, zinc, galvanized iron, and copper.

Wholesale Agents for London and its vicinity,
GEORGE and JOHN DEANE,
(Opening to the Monument),
46, KING WILLIAM-STREET, LONDON-BRIDGE.



CHEAP PAN FOR WATER CLOSETS, WITH TRAP, IN ONE PIECE.



DOULTON AND WATTS,
LAMBETH POTTERY, LONDON,

Manufacturers of the annexed in superior glazed STONE WARE,

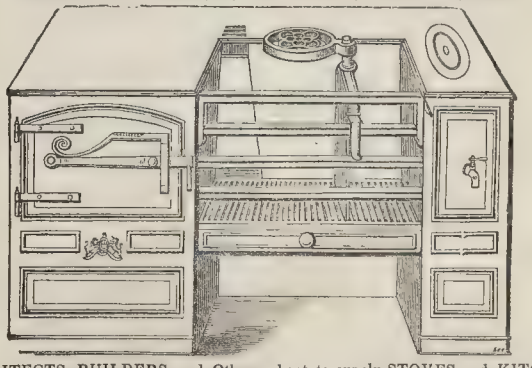
Price 7s. 6d. each.

They are of the most durable ware, and are recommended in preference to iron on account of their cleanliness and cheapness.

If preferred, they can be had in two parts, the Pan at 4s. 6d., and the Trap at 3s. 6d.

N.B. Manufacturers of RAIN WATER PIPING for houses.

THE PANKLIBANON IRON WORKS,
WHOLESALE AND RETAIL, 58, BAKER STREET, PORTMAN SQUARE.



ARCHITECTS, BUILDERS, and Others, about to supply STOVES and KITCHEN APPENDAGES, will find at this Establishment the most unique and elegant assortment of STOVE-GRATES, FENDERS, and FIRE-IRONS ever offered to the Public, at prices considerably below the usual charges. The Proprietors at the same time beg to invite attention to their extensive Stock of FURNISHING IRONMONGERY, Tinned Copper, Tin and Iron Cooking Vessels, Block Tin Dish-Covers, Japanned Ware, Table Cutlery, and especially their Sheffield Plate and German Silver Wares, embracing every Article suitable for the Table, comprising Dish and Plate Covers, Liquor Frames, Epergnes, &c. &c. The plan adopted by the Proprietors of affixing the price to each article for cash, enables all purchasers to have the same advantage. The Patent Thermio Stove is in daily operation. THORPE, FALLOWS & COMPANY, 58, Baker-street, Portman-square, London.

CONTRACTS.

TO BUILDERS AND CONTRACTORS.

PLANS and SPECIFICATIONS for the RESTORATION of WORKSOP CHURCH will be ready for inspection at Worksop on Monday, April 27th. Tenders to be sent in on or before 12 at noon on Monday, May 11th. —Applications to be made to the Church wardens or to me, at my offices, Worksop.

R. NICHOLSON, Architect, of Lincoln.

TO BUILDERS.

PERSONS desirous of CONTRACTING for Building Six New Houses in Turner's-court, St. Martin's-lane, London, may inspect the plans and specifications for the same, which are lying at Messrs. A'BECKETT and SON, and SYMPSON'S, 7, Golden-square. Tenders to be given in at the above office on Monday, May 4th, 1846, by Twelve o'clock, addressed, "Tenders for Contract for Houses, Turner's-court."

TO BUILDERS.

PERSONS willing to CONTRACT for the necessary works for Building a Bridge at Higham, Suffolk, are invited to send in Tenders to the committee, sealed up, under cover to the Clerk of the Peace, Bury St. Edmunds, on or before Saturday, the 2nd of May next. The plans and specifications for the works will be ready for inspection at the office of Messrs. WHITING and WOOLNOUGH, Architects, Ipswich, on Monday, the 20th inst., where full particulars may be had.

N.B. The magistrates do not bind themselves to accept the lowest tender.

Ipswich, April 18, 1846.

TO BUILDERS AND OTHERS.

NOTICE IS HEREBY GIVEN, that the Commissioners of Sewers for Holborn and Finsbury Divisions, Middlesex, will meet at their office in Hatton-garden, on Friday, the Eighth day of May, 1846, at one o'clock in the afternoon precisely, to RECEIVE TENDERS for building a sewer along Upper Gower-street to the New Road, St. Pancras, for a length of about 950 feet, conformably to a plan and specification which may be seen daily, between the hours of 10 and 3. The parties offering must attend at the above time of meeting with their tenders sealed up, which must contain the names and address of two sureties for the due execution of the works. The Commissioners will not consider themselves bound to accept the lowest Tender.—By the Court. STABLE and LUSH.

Office of Sewers, Hatton-garden, 21, April, 1846.

Sewers' Office, Guildhall, 7th April, 1846.
TO BAKERS AND OTHERS.

THE COMMISSIONERS of SEWERS of the CITY of LONDON, and of the Liberties thereof, HEREBY GIVE NOTICE, that they will Meet in the Guildhall of the said City, on Tuesday, the 5th May next, at Ten o'Clock in the Forenoon, to receive Tenders for Cleansing the Public Streets, Markets, and Places within this City, for the term of One Year, from Midsummer-day next. For the purposes of this Contract, the City will be divided into Seven Divisions, agreeably to a Plan which may be seen in this Office. Specifications of the Works required to be done may be had on application at this Office daily from Ten till Four o'Clock. Tenders must be delivered in on the printed Forms annexed to the Specification, before Eleven o'Clock in the Morning of the day of treaty. Security will be required from those Persons whose Tenders may be accepted, and the Commissioners do not bind themselves to accept the lowest Tender that may be offered.

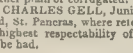
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THOMAS PAVEY, Manager.

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TO LET, for Ninety-nine years, on Building Leases, several PLOTS of FREEHOLD LAND, most pleasantly situate, fronting the sea, and commanding an uninterrupted and extensive view of the British Channel. Hythe is the nearest Sea-port Town to London on the line of the South-Eastern Railway, where Trains are continually running to and from London. It is well known for the beauties of its scenery, walks, and drives. Its beach is very fine, and the Bathing of the first description. The distance is short from Sandgate and Folkstone, and very numerous applications are continually being made for houses by families of distinction and others, who, at present, cannot be accommodated.—For plans and particulars apply at Mr. DANGERFIELD'S Offices, Hythe, or Ashford, Kent; or to W. F. EAST, Esq., Penton-grove, Pentonville. Money would be advanced upon Mortgage of Buildings if required.

NOTICE TO INVENTORS.

OFFICE for PATENTS of INVENTIONS and REGISTRATIONS of DESIGNS, 14, LINCOLN'S-INN-FIELDS.—The printed Instructions gratis, and every information upon the subject of PROTECTION for INVENTIONS, either by Letters Patent or the Designs Act, may be had by applying personally, or by letter (prepaid) to Mr. Alexander Prince, at the office, 14, Lincoln's-inn-fields. Where may be had, price 1s., or, through any bookseller in the United Kingdom, of Wm. BENNING and Co., law booksellers, 43, Fleet-street, the LAW of PATENTS and REGISTRATIONS, with all Forms and Cases up to the present time, by SIDNEY BILLING, Esq., barrister-at-law, and ALEXANDER PRINCE, of the Office for Patents, 14, Lincoln's-inn-fields.

WILSON'S PATENT VENTILATING SPIRAL CHIMNEY POT, for the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success. This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance. The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory, Southwark-bridge Iron Roofing Works.



DAY'S PATENT WINDGUARD, for ventilating

Churches,	Shops,	Kitchens,
Hospitals,	Bed-rooms,	Offices,
Factories,	Smoking-rooms,	Ships,
Theatres,	School-rooms,	Mines,
Breweries,	Nurseries,	Vaults,
Malt-houses,	Stables,	Tunnels,
Club-houses,	Larders,	&c. &c.

Also for preventing down draft; and is guaranteed to cure all smoky chimneys caused by wind; and entirely supersedes the use of revolving cowls, or any thing moveable or unsightly on the tops of chimneys or ventilators.

The object of this invention is to create a draft where otherwise it would not exist, by the spontaneous action of the external air. The Windguard forms a pleasing octagonal pillar, and by its peculiar construction to carry out the principle on which it is based, which consists of the wind giving a disposition for a vacuum within, thereby causing a continual upward current about equal to the velocity of the wind at the time acting upon it, which averages about six feet per second thirty days out of thirty-one; therefore, will nearly at all times ensure a continual change of air, being no impediment to spontaneous ventilation, even on a perfectly calm day. One five feet square will ventilate a building containing upwards of 1,000 persons. The Windguard applied to ships and steam vessels, in the form of a sky-light, prevents rain or the sea entering within, however boisterous the weather may be, thereby affording excellent ventilation as well as light. The Windguard is simply applied for effectually ventilating bed-rooms, nurseries, smoking-rooms, offices, &c., causing the air of the apartment to be at all times as pleasant as can be desired. It is fixed at the top of the chimney, in addition to which a cast-iron frame and valve (about one foot area), made to open or shut at pleasure, is let into the floe, near the ceiling of the room, to allow the constant ascending vitiated air being immediately carried off. The opening is guarded by a neat venetian blind or grating; and so powerful is the effect on a windy day that if a handkerchief be thrown up to the grating, it will remain there—i. e. if the valve be open. In winter the valve would be only partially open, to allow the smoke from the fire to ascend, but if the room be found too cold, can be entirely closed. The Windguard applied to the tops of chimneys prevents all annoyance from smoke (caused by wind); indeed, where it does not, nothing else applied at top will (of the same size); care, therefore should be taken to have the proper size applied. It is simple in its application, reasonable in price, ornamental in appearance; no machinery or anything moveable in it, therefore, cannot get out of order; free from noise or any unpleasantness whatever; not liable to choke up with soot; no obstacle to the machines used for sweeping chimneys. May be had of all respectable ironmongers in town and country; and may be seen daily in operation, where its powers and usefulness are exhibited by the severest tests, at THE PATENT VENTILATING WORKS, COMMERCIAL-ROAD, PIMLICO, LONDON; where also may be seen Mr. G. T. Day's plans (illustrating the different applications of his Patent Archimedian Ventilator and his Portable Water Apparatus) for effectually Ventilating, Warming, and Cooling the Air of Buildings, Ships, Mines, &c. &c. By the use of these inventions many thousand cubic feet, or any quantity of pure warm or cold air, can be guaranteed to be continually exchanged per minute, day and night, winter and summer; thereby insuring, at all times, free ventilation to the rooms and passages of buildings, &c. from the basement to the roof, at the same time in such a manner as shall not be inconveniently perceptible. The size of the apparatus depends on the nature and use of the building and its occupants. The Patentee has been honoured by his inventions being applied at the following places:—

Windsor Castle,	Trinity House,
Buckingham Palace,	Ordnance,
Saint James's Palace,	Greenwich Hospital,
Claremont Palace,	Christ's Hospital,
Walmer Castle	Westminster Hospital,
The Houses of Parliament,	Bethlehem Hospital,
New Conservative Club,	Surrey Lunatic Asylum,
White's Club,	New Royal Exchange,
Travellers' Club,	Mansion House,
Oxford and Cambridge,	Goldsmiths' Hall,
Parthenon,	Fishmongers' Hall,
Wyndham,	Haberdashers' Hall,
Army and Navy,	Dyers' Hall,
Senior United Service,	Grocers' Hall,
Junior United Service,	Armourers' Hall.
Admiralty,	Weigh-house Meeting-house
British Museum,	Hanover Square Rooms,
Somerset House,	Theatre of the Westminster
Custom-House,	Literary and Scientific Institution,
Mint,	Grand Cigar Divan, Strand,
Hon. Artillery Company,	City Club,
H. M.'S. Submarine,	

And many other Public Buildings in Town and Country, as well as for the Mansions of many Noblemen and Gentlemen. Licenses granted for Manufacturing the above. Drawings and Plans made for Ventilating and Warming Buildings of every description.

TO ARCHITECTS AND BUILDERS.

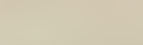
DOOR SPRINGS AND HINGES.—GERISH'S PATENT DOOR SPRINGS, for CLOSING every description of DOOR, consists of Single and DOUBLE-ACTION BUTT HINGES in Brass and Iron for Doors to open one or both ways, and Rising Hinges for the convenience of Doors opening on uneven Floors. Likewise Swing Centres, which consist of a combination of power unequalled by any made at present. Manufactured by F. W. Gerish, East-road, City-road; and sold by all respectable Ironmongers in the United Kingdom.

TO ARCHITECTS AND BUILDERS.

COLLINGE'S PATENT HINGES.—Sole Manufactory, 61, BRIDGE-ROAD, LAMBETH, where a great variety are always on view, for Church, Park, Coach-house, and all other Doors and Gates, of large or small dimensions, a gate of a ton in weight moving with these hinges as easily as a wicket; they are also admirably adapted for drawing-rooms, being highly ornamental, and folding-doors fitted with them may be removed and replaced in an instant. Rising and spring Hinges, on the most improved principle, and very superior Fastenings for exterior Gates, at moderate prices. To be seen at Charles Collinge and Co.'s Patent Athletrec; Sugar-mill and Spherical-hinge Manufactory, 64, Bridge-road, Lambeth.

FRENCH PAPER HANGINGS.—All the Newest and most Splendid Patterns at the Reduced Duty of 2d. per yard, on view; and orders taken at MARES and Co.'s Warehouse, 59, Princes-street, Leicester-square. Carved Leather and Carton Pierre Ornaments, and Utrecht Velvets, at the same Reduced Duties.

FINE ARTS.

By Her Majesty's  Royal Letters Patent.

LORIMIER'S TRANSPARENT PLANES for Perspective Drawing; BENJAMIN WEST, Patentee.

"This Instrument will enable Artists and others to make any Drawing, whether from Nature or Models, in perfectly true perspective, so that a likeness or landscape may be taken in a few minutes absolutely perfect. It is used by her Majesty's Royal Sappers and Miners, Chatham. To Travellers it would be found serviceable, since it can be employed without the knowledge of drawing."—*Art Union.*

Price 18s. and 28s. Apply for Agents to BENJAMIN WEST, 2, St. James's-walk, Clerkenwell.—Sold by BARRITT and Co.; 158, Fleet-street, London; GRIFFIN and Co., Glasgow; and by all Fancy Stationers, &c.



SMOKY CHIMNEYS CURED
BY COOPER'S PATENT DEFLECTING VENTILATOR.

THE cheapest, most ornamental, and most effective article of the kind yet presented to the public. It has a larger egress for the smoke than any similar invention, and no accumulation of soot can check its action; there being no machinery, it is free from noise, and cannot go out of repair; it offers no obstruction to sweeping-machines, and is warranted to cure all down-draft and smoky chimneys, of whatever nature, caused by wind; to draw off all obnoxious vapour from public buildings, churches, schools, club-houses, hospitals, sick chambers, ships, &c. Manufactured in iron, zinc, galvanized iron, and copper.

Wholesale Agents for London and its vicinity,
GEORGE and JOHN DEANE,
(Opening to the Monument),
46, KING WILLIAM-STREET, LONDON-BRIDGE.



SEALED 7th OCTOBER, 1845.

CROGGON'S PATENT WATERPROOF DOUBLE BITUMINOUS PAPER.

THE above is Manufactured by the most Accurate Machinery, for Depositing a DOUBLE COAT of ASPHALTE between Two Sheets of Paper, ensuring an evenness of distribution of the Waterproof Materials, thus rendering EVERY MINUTE PORTION OF THE PAPER ENTIRELY IMPERVIOUS TO WATER. To prove that it perfectly resists water, it is only necessary to put it into such a form as to Hold Water, when, after filling, it, the water will evaporate without appearing in the least degree on the other side.

For ROOFS OF HOUSES it will be found very advantageous, being very cheap, admitting A GREAT SAVING OF TIMBERS; it may be painted of all colours, thus rendering it peculiarly applicable to any description of Roof. It is also an EFFECTUAL PREVENTATIVE against the effects of DAMP FROM WALLS, if put under the usual paper, and DAMP FLOORS, when under carpets.

It may be had in Rolls of any Length, to order, AT SIXPENCE PER SQUARE YARD, of
THOS. JNO. CROGGON,
8, Laurence Pountney Hill, Cannon-street.

CHEAP AND DURABLE ROOFING.

By Her Majesty's  Royal Letters Patent.

F. McNEILL and Co. of Lamb's Buildings, Bunhill Row, London, Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING
HOUSES, VERANDAHS, SHEDS, &c.
Patronized by

Her Majesty's Woods and Forests,	Honourable Board of Ordnance,
Her Majesty's Commission of Customs,	Her Majesty's Estate, Isle of Wight,
Honourable East India Company,	Royal Botanical Gardens, Regent's Park.

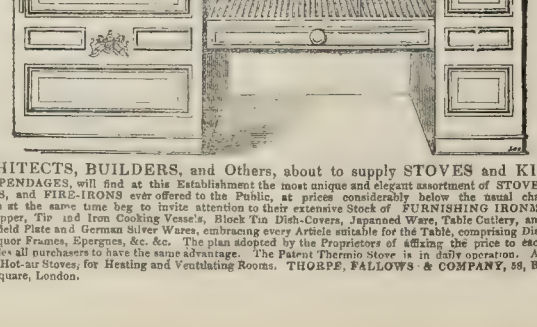
And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover-square.

Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, as THE ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW, LONDON.

Roofs covered with the felt to be seen at the Factory, also the new Vice-Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the new Houses of Parliament.

A Liberal Discount allowed to the Trade.

THE PANKLIBANON IRON WORKS,
WHOLESALE AND RETAIL, 58, BAKER STREET, PORTMAN SQUARE.



ARCHITECTS, BUILDERS, and Others, about to supply STOVES and KITCHEN APPENDAGES, will find at this Establishment the most unique and elegant assortment of STOVE-GRATES, FENDERS, and FIRE-IRONS ever offered to the Public, at prices considerably below the usual charges. The Proprietors at the same time beg to invite attention to their extensive Stock of FURNISHING IRONMONGERY, Tinned Copper, Tin and Iron Cooking Vessels, Block Tin Dish-Covers, Japanned Ware, Table Cutlery, and especially their Sheffield Plate and German Silver Wares, embracing every Article suitable for the Table, comprising Dish and Plate Covers, Liquor Frames, Epergnes, &c. &c. The plan adopted by the Proprietors of affixing the price to each article for cash, enables all purchasers to have the same advantage. The Patent Thermio Stove is in daily operation. Also Cundy's Improved Hot-air Stoves, for Heating and Ventilating Rooms. THORPE, FALLOWS & COMPANY, 58, Baker-street, Portman-square, London.

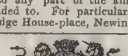
THE BUILDER.

PORTER'S CORRUGATED, and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanizing Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway, and other Iron and Smith's work Manufactured of the best quality. Iron Fence and Hurdles as usual.—The Trade Supplied.

MOREWOOD AND ROGERS' PATENT GALVANIZED TINNED IRON.

T. W. BEALE begs to acquaint the public that he is prepared to lay roofing, plain or corrugated, fix pipes, gutters, &c. Also chimney-tops and ventilating cowls of every description; also water and oil cisterns, of this incorrodible and fireproof metal. He manufactures all kinds of baths, as hip, shower, Roman; open, slipper, sponging, foot, children's, and self-heating baths; also toilet-cans and pails, slop-pails, coal-scuttles, cash and deed-boxes, and fire-proof safes of every description, 10 per cent. cheaper than any house in London.

The PATENT GALVANIZED TINNED IRON is applicable to the following uses:—The Lining of Ships' Store Rooms, Ships' Water Buckets, Water Jugs and Receivers, and for almost every purpose to which zinc, tin, copper, brass, or any other metal is now applied; is more durable, and manufactured at much less expense. An experienced workman sent to any part of the kingdom. All orders punctually attended to. For particulars, apply to T. W. BEALE, 46, Bridge House-place, Newington Causeway.



PATENT GALVANISED TINNED IRON.
(MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and water-closets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 9oz. to any required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quick-set-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

SIR WILLIAM BURNETT'S PATENT for the Preservation of Timber, Canvas, Cordage, Cotton, Woollen, &c., from Decay.

TESTIMONIALS.

From THOMAS GRAHAM, Esq., M.A., F.R.S., L. and E., Professor of Chemistry, University College, London.

"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.

"The wood appears to be fully and deeply penetrated by the metallic salt, I have found it in the centre of a large prepared paving block.

"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the crystallizable salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.

"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Joplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotised principles it contains, by entering into chemical combination with them.

(Signed) "THOMAS GRAHAM."

"University College, 25th October, 1845.

From Professors BRANDE and COOPER.

"London, 4th November, 1845.

"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.

"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.

"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.

"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.—(Signed) "WILLIAM THOMAS BRANDE,

"JOHN THOMAS COOPER."

"To Sir William Burnett, K.C.H., F.R.S., &c. &c."

Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 83, King William-street, London-bridge.

PREPARED FLOORING BOARDS.

AT REDUCED PRICES.

ALWAYS ON SALE, a LARGE ASSORTMENT of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¾ inch to 1¼ inch thick. Rough Boarding for Flats.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Smith-street, Westminster.

PREPARED FLOORING BOARDS.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, and Old-Barge-Wharf, Upper Ground-street, Blackfriars, a very large stock of well-seasoned Floor Boards of every variety.

A. R., in calling the attention of builders and consumers, confidently presumes on his being able to supply them on such advantageous terms, as will ensure and merit their favours and approbation.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above.

N.B.—A weighbridge on the premises.

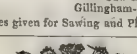
MUIR'S PATENT  PLANING MACHINERY.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.



THE GENERAL WOOD CUTTING COMPANY, TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.—SAWING in all its branches executed with the greatest precision and despatch. PLANING by the most approved Machinery, reducing the Boards to a parallel width and thickness, and grooving or matching with undeviating accuracy. The operation economises time, money, and material.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—Wyatt, Parker, and Co., Agents. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

ORNAMENTAL TILES FOR COVERING BUILDINGS.

ROBERT BROWNE'S newly-invented CURVED ITALIAN TILES, for which invention the Society of Arts and Sciences awarded a medal. The Gothic Grooved Ridge Tile, with vertical ornaments, invented by R. B. in 1840; also a variety of plain Gothic Ridge Tiles adapted for tile or slate coverings; ornamental Plain Tiles of various patterns.

Tiles form in winter a warmer and in summer a cooler covering than slates or metal, and may be burnt of any desired colour. Address ROBERT BROWN, Tile Works, Surbiton Hill, near Kingston, Surrey.

WILLIAMS'S PATENT SLATE RIDGES and HIPS.—The above article is recommended as the best and the most suitable covering for Ridges and Hips of slated roofs ever invented, possessing a solid Roll of various sizes, more elegant and durable than lead, and 30 per cent. cheaper.—Sold by Messrs. J. and J. SHARP, Slate Merchants, Tooley-street, and Mr. RICHARD COOPER, Slate Merchant; Belvedere-road, Lambeth, London.

DAVEY'S PATENT SLATE RIDGES and HIPS are very superior in appearance to lead, as well as more durable and much cheaper, and are admitted to be the most valuable articles for the purpose hitherto invented. They consist of two side pieces and a roll, either united together to form one solid piece, or in separate parts, and in lengths of from four to six feet. The roll is made of various sizes, perfectly round, and in the strongest way of the slate. They may be purchased of the patentee, W. DAVEY, Broad Quay, Bath, or of any slate dealer in London or the country. Parties ordering a cargo of roofing slates may procure these ridges at the cheapest rate from Mr. JAMES WYATT, Port Penrhyn, Bangor (where they are manufactured), of whom and of the patentee further particulars and prices may be obtained.—Be particular to order DAVEY'S Patent.

HIP TILES to suit slate roofs in colour; Ridges, with plain or rebated joints, roll tops, and vertical ornaments; drains, many sizes, with plain or socket joints; paving in squares, hexagons, octagons, &c., different colours; roofing, in Grecian or Italian styles, other devices also, or plain; conduits, which do not injure pure water; fire-bricks and tiles; clinkers, and out-door paving; sundry wall-coping, garden-borders, chimney-tops; also tubular and other flues of peculiar material. No agent, but a depôt at 22, WHITEFRIARS-STREET, FLEET-STREET, LONDON, under Mr. PEAKE'S personal care, to supply genuine TERRO-METALLIC goods at fair prices as per quality; also, additional Stock at No. 4 Wharf, Macclesfield-street, South, City Basin.

The TILERIES, TUNSTALL, STAFFORDSHIRE, and near the centre of England, whence boats are sent direct to any inland place; or to the Mersey for the coasts, the colonies, and elsewhere.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.

Manufactured by J. B. WHITE and SONS, of Millbank-street, Westminster; and sold at their warehouses—Earl-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

ROMAN CEMENT, &c.
REMOVAL.

THOMAS JOHN CROGGON

Begs to inform the Trade that he has removed to 8, LAWRENCE POUNTNEY-HILL and THREE CRANES WHARF, 69, Upper Thames-street.

Orders addressed to either place for ROMAN CEMENT of genuine quality will be executed with promptitude and the strictest regard to quality and economy.

KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Millbank-street, Westminster.

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FREEHOLD LAND, Land-tax redeemed, TO BE LET in this favourite and healthy spot. This neighbourhood abounds with houses of a large class; it is thought some of a smaller size will readily let. Terms offered are low. An old building to be pulled down and disposed of to any one taking ground.—Inquire of Mr. BILES, Norland Brick Field, Notting-hill.

ST. JOHN'S WOOD PARK!!! IMMEDIATE CONNECTION WITH REGENT'S PARK.

BUILDING PLOTS TO BE LET in this most desirable and salubrious situation!! commanding picturesque views of the surrounding beautiful neighbourhood, and elevated within a few feet of the summit of the monument, with the best approaches of any suburban district near the metropolis, and greatest facilities of access to all the fashionable resorts and promenades of the West End and the City!—For particulars and plans, apply to W. H. TWENTYMAN, Esq., 11, Regent's-villas, Avenue-road, Regent's-park.

TO BUILDERS, BREWERS, AND OTHERS.
Freehold Building Ground, Brixton.

MR. SPEARMAN is instructed to LET several Plots of BUILDING GROUND, including a very eligible corner piece, eminently adapted for a public-house, for which a license might be obtained without difficulty, the neighbourhood requiring accommodation of the kind, and for several detached and semi-detached villa residences, situate contiguous to the Brixton road, in a new, populous, and rapidly improving neighbourhood. Lease 97 years.—Further particulars on application to Mr. SPEARMAN, Auctioneer and Surveyor, 77, Old Broad-street; or to Mr. BLENKARN STOCKWELL, Park-road, Brixton, who will shew the land.

ELEGIBLE BUILDING PLOT, CARSHALTON, SURREY.—LAND TAX REDEEMED.

TO LET, EIGHT ACRES OF LAND, beautifully situated, having a frontage of about 600 feet, overlooking a splendid park of deer, and a similar length of frontage open to fine undulated down, periodically covered with corn, &c., &c. The plot in question is particularly suitable for the erection of eight or ten villas, being a fine, high, and dry chalk soil, with excellent water beneath. Charshalton is one of the most picturesque villages in England, abounding with trout streams in every direction. There is not a gentleman's residence of any description empty in the neighbourhood, and a railway station (on the Epsom Atmospheric Line) will be immediately completed close to the village.—Further particulars may be had on application to Mr. JAMES WALTER FRANCIS, House and Land Agent, Croydon, Surrey.

SALES BY AUCTION.

MR. FREDERICK INDERMAUR will SELL by AUCTION on WEDNESDAY next, May 13, at Twelve o'clock, at his Warehouse, No. 40, Lant-street, Borough, a sale not being permitted on the premises; a large quantity of capital 20 feet, 18, 16, 14, 12, 8, 6, and 4 feet yellow and white plank, and cut deals, scantling, and pantile laths; a quantity of feather edge boards, and sundry other articles, &c.—May be viewed the morning of Sale and Catalogues had, and of the Auctioneer, 71, Union-street, Borough.

TO TIMBER MERCHANTS,
Cabinet Makers, Coach Builders, Piano-Forte Makers, Boat Builders, Carpenters, Builders, &c.

MESSRS. SKEEN and LEARY will SELL by AUCTION, without reserve, at Weston Wharf, Edward-street, Regent's-park Basin, on TUESDAY, 12th May, 1846, and at No. 8, Oxford-street, on WEDNESDAY, 13th May, 1846, commencing each day at Eleven o'clock precisely, in consequence of the proprietor wishing to leave the business, all the remaining stock in trade of Mr. ROBERT WARD, Mahogany and Timber Merchant, and also his remaining interest in the Leases of the Premises. The Stock consists of Spanish, Honduras, and Cuba mahogany, in logs, planks, boards, and veneers; prime dry panel board, rosewood, American ash, English oak, lime tree, wainscot, oak and fir scantling, yellow and red pine, white and yellow deals and battens, staves, &c. &c. Chaise, phaeton, crane, timber-carriage, cart, three timber trucks, four sets of cart harness, &c. To be viewed two days previous to, and on the morning of sale. Catalogues may be had on the premises, and of SKEEN and LEARY, 75, Old Broad-street.

DECORATIVE-ART SOCIETY.—The next General Meeting will take place at No. 20, Great Marlborough-street, on Wednesday next. A paper "On Ornamental Floorings" will be read, and specimens of Parquetry, &c., exhibited.—Visitors' tickets may be obtained from

E. C. LAUGHER, Hon. Sec.,
17, Sussex-place, Kensington.

PLUMBERS' BRASS WORK, WATER-CLOSET PUMPS, &c.—These articles require the greatest attention and care in the manufacture, and will be found superior and cheaper than at any other manufactory. Best Pan Water Closets, 32s.; 2¼ Lift Pumps and Planks, 4l. 10s. 0d.; 3-inch Pumps, 5l. 10s. 0d.; ¾-inch Bib Ball and Stop Cocks, 2s. 4d. each, and every article in this branch equally low. Every article warranted.—Address, THOS. MILLINGTON, 87, Bishopsgate-street.

HOLBORN AND FINSBURY SEWERS, MIDDLESEX.

THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persons about to Purchase or Rent Houses or Property, or take Land for Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Persons to apply for at the above Office.

By the Court,
STABLE and LUSH, Clerks.

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDDLESEX, No. 1, Greek-street, Soho-square.

TO BUILDERS and Others interested in buildings or in ground for building upon, within the district under the jurisdiction of this Court, drained by watercourses falling into the river Thames, between the city of London and the parish of Fulham.

The Commissioners hereby give notice, that by an Act of the 47th Geo. III. (chap. 7, local) it is required that, previously to the making of any new sewer in any street, lane, or public way, or in any part intended to become a street, lane, or public way, or to carry or drain off water from any ouse, building, yard, or ground, into any sewer under their management, or within their jurisdiction, a notice in writing shall be given to them, or to their clerk at their office, and that such new sewer or sewers shall be constructed and made in such manner and form as shall be directed by the said Commissioners, and not otherwise.

And, in order to prevent the serious evils and inconveniences that must arise from ground proposed to be built upon being excavated at too great a depth, the Commissioners have directed that, upon application being made at this office previously to the excavation of such ground, information shall be given as to the lowest depth at which the same can be drained.

And the Commissioners do also give notice that, whenever the lower floors or pavements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any sewers, or drains into sewers, to be made for the service of such buildings.

It is recommended to all persons about to purchase or take houses, or other premises, to ascertain whether such premises have separate and distinct drains into common sewers.

All petitions must be delivered at this office at least three clear days before they are presented to the Commissioners; and all such petitions will be called on in the order of their application, and the name of any party not present when called on to support the application will be struck out, and the proceedings must in consequence be commenced de novo.

All communications made with any sewer without leave of the Commissioners will be cut off, and the parties making the same will subject themselves to a fine.

The provisions of the Metropolitan Buildings Act (7 and 8 Victoria, c. 84) do not supersede the authority of the Commissioners of Sewers in the above respects, but their powers are expressly reserved, and their regulations made subservient to the purposes of that Act. The execution of such works, under the superintendence of the district surveyor alone, cannot therefore warrant the making of any sewers or drains within this commission, nor relieve the parties making them from the penalties above mentioned.

By order of the Court,
LEWIS C. HERTSLET, Clerk.

TO BUILDERS AND MECHANICS.

THE COMMERCIAL FOREIGNERS and GENERAL INVESTMENT ASSOCIATION. Offices, Bedford-house, Featherstone-buildings, High Holborn.

TRUSTEES.

John Peto, Esq., Larke Hall-lane, Clapham.
A. E. Reynolds, Esq., Woodford.
J. Della Torre, Esq., 70, Lamb's Conduit-street.
R. Sanderson, Esq., 9, Brook-street, Holborn.

PRESIDENT.—John Peto, Esq.

Present Entrance Fee, 2s. 6d.; Subscriptions, 10s. per month; Shares, 120l.

First subscriptions due on Thursday, 7th May, at the offices.

To Builders and Mechanics this association is peculiarly adapted, it enabling them to build or finish houses, and generally to acquire property without any outlay of their own capital. The large and excessive fines, fees, &c., which the borrower is obliged in most other societies to pay, being in this wholly done away with, the borrower being only answerable for the payment of his subscriptions. Amongst other important advantages it will be found in this society there is no Redemption Fee—no Fine on Withdrawal—no Bidding for Shares—no Deducting of Discount from amount to be advanced—no Postage Fees—Reduced Law Charges—no Excessive Fines. INTEREST AT FIVE PER CENT. ALLOWED ON EVERY PAYMENT. Members assisted to purchase at auction and pay deposit. The Directors act gratuitously.

Members can withdraw the whole of their subscriptions at any time, and receive interest thereon at 5l. per cent. Females and minors may become members.

Prospectuses may be obtained and shares taken of the Secretary at the offices at any time of the day; the Solicitor, W. A. Rivolta, Esq., 44, Bloomsbury-square; the Surveyor, Mr. Bray, 259, High Holborn; and of the Manager, 5, Crosby Hall Chambers, Bishopsgate-street. Prospectuses forwarded by post on receipt of one postage stamp.

Friendly application for shares and advances is desirable. Country Members can pay their subscriptions to an agent, who will be paid by the Association; and local surveyors will be appointed. Applications for appointment as surveyors and agents should be made at once.

THOMAS PAVEY, Manager.

NEWSPAPER READING DEPARTMENT

GRAINING AND WRITING FOR THE TRADE.

MESSRS. WOOD AND COMPANY, Grainers and Writers to the Trade only, by contract, measure, or otherwise.

Offices, 11, St. Benet-place, Gracechurch-street, City, and 62, Waterloo Bridge-road. All letters post paid.

N.B. Workmen sent to any part of the kingdom.

TO ARCHITECTS, BUILDERS, AND THE PUBLIC IN GENERAL.

C. DEBAUFER and SON beg to call the attention of architects, builders, &c., to their general assortment of Gas Lamps, Pendants, Hydraulic sliding Pendants, Gas Brackets, Pillars, and every article connected with gas apparatus, at their Manufactory and their Rooms, 10 and 11, Orcd-lane, Ludgate-street.—A liberal discount allowed to architects and builders.

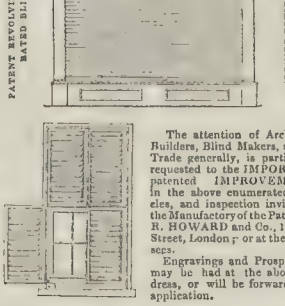
SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.

PATENT SAFETY IRON SLIDING SHUTTERS.



The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 115, Old Street, London; or at the Licensees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using BENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licenses Granted.

REDUCTION IN THE PRICE OF BUNNETT AND CORPE'S PATENT REVOLVING IRON SHUTTERS.

THE validity of this Patent being completely established, the Patentees have much pleasure in stating that the very extensive demand, and the employment of improved machinery in the manufacture, have given them an opportunity (of which they gratefully avail themselves) of making a considerable reduction in the price of this well-known and tried invention, thereby rendering them the cheapest as well as the best iron shutters in use. Every improvement suggested by practical skill and most extensive application has been adopted, and no effective REVOLVING IRON SHUTTER can be constructed without infringing B. and C.'s patent. The worm and wheel, as patented by them, being the only safe, durable, and efficient mode of raising and lowering such shutters, these shutters can be applied horizontally, either above or below the window, or vertically, as introduced by BUNNETT and CORPE, in some of the largest establishments: they are made with bent or corrugated laths, if required.

BUNNETT and CORPE also manufacture

REVOLVING WOOD SHUTTERS,

with their patent raising machinery, or with counterbalance weights, and with proper metallic hinges, without which no shutters can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop Fronts fitted in a superior manner with Iron Shutters, Patent Brass or Zinc Sashes, Moulded Engraved Stall Board Plates, best Plate Glass, and internal Brass Fittings of all kinds, on the most advantageous terms. Estimates given and contracts taken in Town or Country.—All kinds of metal works executed to any design. Metal Drawing, Rolling, and Stamping for the Trade. OFFICE, 26, LOMBARD-STREET, LONDON. WORKS, at DEPTFORD, KENT.

TO BUILDERS, MASONS, AND OTHERS.

TO BE DISPOSED OF, a road-side business of thirty years' standing in the above line, on account of the recent decease of the principal, in a building neighbourhood, near the city, with the lease of a good house, premises, good-will, fixtures, materials, and immediate possession may be had.—Apply by letter, pre-paid, to A. J., care of Mr. Snow, 37, Goswell-road.

CARPENTERS AND BUILDERS' BUSINESS.

TO BE DISPOSED OF (in consequence of the retirement of the proprietor), an old-established first-class business, so desirably situated as to command the best portion of the trade of a very extensive and highly respectable neighbourhood near London. The business premises are most convenient, and there is a good residence attached.—For particulars apply to Messrs. HUMPHREYS and WALLEN, No. 68, Old Broad-street.

PATENT WINDOW BLINDS.

TYLOR and PACE manufacture every description of WINDOW BLINDS entirely upon their own premises, by the aid of steam machinery, insuring the best materials and workmanship, at the lowest cost. Patent metallic gauze and perforated Zinc Blinds, in mahogany frames, at 1s. 8d. per square foot; ditto, in metal frames, 1s. 2d. per square foot. A large and choice assortment of Transparencies, mounted, from 10s.; Holland Blinds, on plain or spring rollers, Outside Shades, Venetian and Sun Blinds of every description.

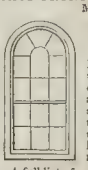
TYLOR and PACE'S Show-rooms, 53, Cornhill, entrance St. Peter's-alley.

HERRING'S PATENT WINDOW for hanging the Sashes, whereby they may be instantly disconnected from the Frames, without removing the Beading. It is now being applied in Palaces, Castles, Mansions, first-rate Houses, Villas, &c. It is universally approved and adopted by every Architect that has seen it. Builders in the Country will have a full-sized Window forwarded on receiving an order and reference, and taken back if returned within eight days free. To be seen daily. Licences and other particulars had of the Patentee, 14, Kingsgate-street, London.

This invention is exceedingly simple, increases the cost but slightly, and appears to answer the purpose well.—BUILDER, 28th February.

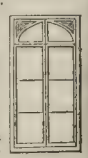
A Premium of 5l. will be given to the first fitter-up of a first-rate House with this Patent, and in proportion for second, third, and fourth-rate Houses.—March 26, 1846.

SHOP FRONTS, SASHES AND FRAMES, DOORS, &c MADE FOR THE TRADE.



JOHNSON & PASK,
1, AMWELL STREET,
Clerkenwell,

Beg to state that they continue to make Sashes, glazed complete, at 10½d. per foot; also, Shop Fronts to any design, and with the best British plate-glass. Every description of joinery on the lowest terms, and of the best materials and workmanship.



A full list of prices forwarded by return of post to any part of the country.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

FOREIGN SHEET GLASS, TILES, &c. —The cheapest, stoutest, and best quality imported and sold at C. JARVIS'S old-established WINDOW GLASS WAREHOUSE, 38, Great Castle-street, a few doors from Regent-street. Crown Glass from 50s. per crate. Squares cut to size equally low in price. Sashes glazed on the lowest terms. Country orders forwarded with reference will meet with prompt attention. The largest discount allowed off all descriptions of glass for ready money only.

SASHES primed, glazed, and sent to any part of London at 6d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.

FOREIGN SHEET 5d. per foot.
BRITISH CROWN 5d. per foot.

Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Shew-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.

Dry and Good Colours of the best quality; Brushes Dryers, and every article used in the Trade Warranted.

VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.

For completeness and low prices, Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

FOREIGN SHEET GLASS, in Cases as imported.

	Common.	Second.	Best.
Under 1 ft. 0 in. superficial	3½	4	5
1 ft. 0 in. ,, 3 ft. 0 in. ,,	4	4½	5½
3 ft. 0 in. ,, 4 ft. 6 in. ,,		5	6
4 ft. 6 in. ,, 6 ft. 0 in. ,,	4½	5½	7
6 ft. 0 in. ,, 9 ft. 0 in. ,,	4¾	6	8

THOS. MILLINGTON has always a large stock in hand, and receives weekly large supplies: T. M. is nearly the only real importer.—Address, Thos. Millington, 87, Bishopsgate-street Without, London. Dealer in all kinds of Plate, Sheet, and coloured Window Glass. Manufacturers of Paints, Varnishes, and Colours.

An immense stock of Varnish, very old, &c.
Fine Oak Varnish, 10s. per imp. gal.
Fine Carriage.... 12s.
Fine Copal ..... 18s.
Fine Body ..... 24s.
No charge for cans if taken in quantities of 6 gallons.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery

Best Patent Cut Clasp.

3d.	4d.	6d.	10d.	20d.
5d.	7d.	8d.	1s. 6d.	2s. per 1000.

Best Sheet Cut Floor Brads 16s. per cwt.
Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6d½., 7d., 8d. per inch.
Self-acting Kitchen Ranges with Oven and Back Boiler.
Wrought Bars and Bright Fittings.

3 ft., 3l. 3s.	3 ft. 6 in., 3l. 12s. 6d.	4 ft., 4l.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3l. 5s.	3l. 12s.	3l. 16s.	4l.	4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5l.	5l. 10s.	6l. 5s.	6l. 10s.	7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 8½d., and 4d. do.
Manufacturer of WOLFAETON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.
Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

BRIGHT REGISTER STOVES, with Steel and Ormolu Ornaments, for 4l. 15s., cast at GREEN and CONSTABLES, 36, King William-street, five doors from London-bridge.

THE OXFORD ROASTING RANGE.

THESE RANGES are especially suited to Hotels, Clubs, and large Private Families, since they combine the most complete facility for roasting even the largest joints with great economy of fuel and perfect simplicity of management. They are manufactured by

J. L. BENHAM and SONS,

and have been erected by them in the kitchens of many of the nobility and gentry; amongst others are those of the Earl Fortescue, Earl of Liverpool, Lord Foley, Sir Edward Baker, Bart., Mrs. Drummond, Edward Ellice, Esq., M.P., W. Marshall, Esq., M.P., J. Attwood, Esq., M.P., H. A. Herbert, Esq., T. M. Goodlake, Esq., R. Marsham, Esq., Rev. Mr. Barnard, Rev. Mr. St. Aubyn, &c., &c., and also at the Reform Club House.

Hot Plates, Broiling Stoves, Ovens, Hot Closets, Steam Cooking Apparatus, &c., erected in town or country.

BUILDINGS HEATED by HOT WATER on the most secure and efficient principles.—MANUFACTORY and SHOW ROOMS, 19, Wigmore-street, Cavendish-square, London.

HOT WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories, and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises. BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 168, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

IRON BRIDGES, PIERS, &c.

*** For the Numerical Explanation of DREDGE'S PRINCIPLE, see the "Mechanics' Magazine," No. 1179.

THIS system removes from the Arch to the horizonal line the horizontal force of the whole Bridge, which makes the roadway as powerful as the arch itself, and the arch, with half the material, more than double its original power. The pressure on the key-stone of the arch is the horizontal force of a Bridge, which acts directly on that point as a dead load of self-destruction; and it has thrown down, within the last eighteen months, nearly sixty arches of Viaducts and Bridges.

EXAMPLE:—The Menai Bridge, whose depth is 1-14th of its length, and the suspended weight 800 tons, its horizontal force is 2,800 tons of self-destruction on the centre; hence it would require but a small portion of the material and cost of that bridge to construct one over the Menai Straits on this plan, that would possess far greater power and stability than the present structure.

This principle has been fully tested nearly ten years, by the construction of fifteen public bridges for the Government and others in Great Britain. It is also established in India.

Bath, 3rd April, 1846.

BIELEFELD'S PAPIER MACHE.—The superiority of the Papier Mâché for the purposes of ARCHITECTURAL DECORATIONS is now so generally admitted, that it is needless to argue it. The introduction of Papier Mâché into most of the public and private buildings in the country is the best proof of its merits. Ornaments may be had in almost every style, and pattern-books, containing more than a thousand executed designs, price 1l.

PICTURE FRAMES and other Articles of Furniture, either gilt or in imitation of the finest carved oak. An illustrated Tariff forwarded on the receipt of eight post-office stamps.

PATENT QUAQUAVERSAL GLASS-STANDS for the toilet, on an entirely new principle, of great elegance, and free from all the practical inconvenience of ordinary Glass-stands.

At the works, 15, Wellington-street North, Strand.

BEDDING.

MIXED, 1s. per lb.
Grey Goose, 1s. 4d. per lb,
Foreign, ditto, ditto, 1s. 8d. per lb,

Best Foreign Grey Goose, 2s. per lb.
Best Irish White, ditto, 2s. 6d. per lb.
Best Dantzic, ditto, ditto, 3s. per lb.

Warranted sweet and free from dust.

A List of every description of Bedding, containing weights, sizes, and prices, sent free by post, on application to HEAL and SON, Feather-dressers and Bedding manufacturers, 196, opposite the Chapel, Tottenham Court-road.

REMOVED TO LAWRENCE POUNTNEY HILL, CANNON STREET.

By Her Majesty's Royal Letters Patent.

CROGGON'S PATENT ASPHALTE ROOFING FELT,

With which the Committee Rooms of the Houses of Parliament are entirely Covered.

THE above Material has been used and highly approved by the Nobility, Gentry, and Agriculturists generally, and Patronized by many Members of the Royal Agricultural Societies of England, Scotland and Ireland. It has been used for several Years at the Royal Horticultural Society's Gardens, Chiswick; the Swiss Gardens, Shoreham, Sussex; on the Duke of Buccleuch's, and the Marquis of Anglesea's Property, &c., &c., and (under slate) at the Royal Agricultural Society's House, Hanover-square; its advantages are—CHEAPNESS, LIGHTNESS, DURABILITY, and ECONOMY. Being a Non-Conductor, it has been proved an efficient "Protective Material" to Plants.

PRICE ONE PENNY PER SQUARE FOOT.



SMOKY CHIMNEYS CURED
BY COOPER'S PATENT DEFLECTING VENTILATOR.

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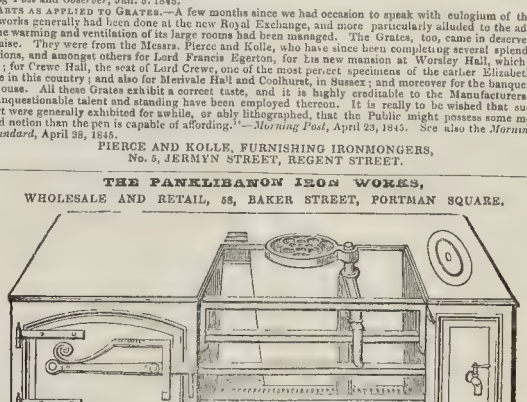
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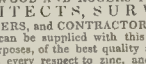
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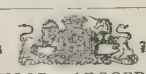
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THE Advertiser, who has had considerable experience in the above business, is desirous of engaging himself with a plasterer for a large portion of his time. He is of very steady habits, and his character will bear the strictest inquiries.—Address W. F. R., 8, Earl-street, Kensington.

PARTNERSHIP IN THE IRONMONGERY AND STONE TRADE.

THE ADVERTISER is desirous of a PARTNER, with capital, to join him in a profitable and increasing business. The present income offers ample inducement, irrespective of the extended trade which increased capital would secure.—Applications, stating amount of capital at command, to be addressed to C. W., care of Messrs. Barber and Andrewes, 65, John-street, Fitzroy-square.

A CARPENTER, who has held the situation of OUT-DOOR FOREMAN to an extensive Builder for upwards of the last eight years, during which time he has had the management of several large jobs, and thereby has acquired a good practical knowledge in the different branches required in building, would wish to engage himself to an Architect or gentleman who may require a man in that capacity.—Address to U. V., Post Office, opposite the Orphan School, City-road.

FURNITURE.

WANTED to PURCHASE, from 200*l.* to 500*l.* worth of Second-hand FURNITURE, in large or small quantities, for which a fair price will be given in cash, without any deduction for valuation, and removed at the purchaser's expense; linen, china, glass, books, pictures, and musical instruments included, if required.—Apply to Mr. J. CHAPMAN, 6, Great Russell-street, Covent-garden. Valuations made for the legacy duty, rents collected, &c.

TO HOUSE AGENTS, &c.

A LARGE HOUSE is required for the purposes of a Charitable Institution, within a circuit of half a mile from Lincoln's Inn. It is necessary that there should be a suitable room for a Hall, and numerous bedrooms, with proper offices, yard, and outbuildings; the situation as to thoroughfare not important. One of the large mansions built in the last or previous century, now generally let into tenements or for warehouses, would be most desirable. Application, with full particulars of rent and outgoings, to be made between the hours of ten and four o'clock, to JOSEPH CLARKE, Esq., No. 1, Lincoln's-inn-fields.

HYTHE, KENT.—TO CAPITALISTS, BUILDERS, AND OTHERS.

TO LET, for Ninety-nine years, on Building Leases, several PLOTS of FREEHOLD LAND, most pleasantly situate, fronting the sea, and commanding an uninterrupted and extensive view of the British Channel. Hythe is the nearest Sea-port Town to London on the line of the South-Eastern Railway, where Trains are continually running to and from London. It is well known for the beauties of its scenery, walks, and drives. Its beach is very fine, and the Bathing of the first description. The distance is short from Sandgate and Folkstone, and very numerous applications are continually being made for houses by families of distinction and others, who, at present, cannot be accommodated.—For plans and particulars apply at Mr. DANGERFIELD'S Offices, Hythe, or Ashford, Kent; or to W. F. EAST, Esq., Penton-grove, Pentonville. Money would be advanced upon Mortgage of Buildings if required

CONTRACTS.

ASHBOURNE UNION WORKHOUSE.—TO BUILDERS.

Extension of Time for Delivery of Tenders.

THE GUARDIANS of the Ashbourne Poor Law Union HEREBY GIVE NOTICE, that they have EXTENDED THE TIME for the Delivery of Tenders for the Erection of the New Workhouse until Friday, the 29th day of May next. The Plans and Specifications are now lying for the Inspection of parties, in the office of Mr. HENRY I. STEVENS, Architect, Friar-gate, Derby, where all further information will be obtained.

RICHARD HOLLAND, Clerk to the Union.

Ashbourne, May 9, 1846.

PLANS, &c., FOR BUILDING A NEW WORKHOUSE.

1, Canning Place, Kensington, May 12, 1846.

TO ARCHITECTS.—The Board of Guardians of the Parish of Kensington, in the County of Middlesex, are desirous of receiving Plans, &c., for the erection of a Workhouse capable of accommodating 400 inmates, at a cost not exceeding 9,000*l.*, on ground in the occupation of Mr. Foster, in Wright's Lane, Kensington. Plans, Elevations, and Sections, giving the figured heights of Stories and dimensions, upon a scale of 1-8th of an inch to the foot, together with a Specification and Estimate, each to be distinguished by a cypher, to be referred to in a sealed Letter to accompany the plans containing the name of the Candidate, must be sent on or before the 9th day of June next, addressed to the Clerk, to the Board at his Office, No. 1, Canning Place, Kensington New Town, where a Plan of the site for the proposed Building, and a written Statement containing further particulars, may be seen. The Board of Guardians will adjudicate on the said Plans, &c., on the 16th day of June next. The Plan selected by the Guardians will be subject to the approval of the Poor Law Commissioners. The Architect whose Plan shall be approved, will be employed to erect the Workhouse upon the usual per centage; or if not so employed, will receive a premium of 50*l.*; and the Architect whose plan shall be considered by the Board of Guardians second in merit will receive a premium of 20*l.* The accepted Plans are to be the property of the Board of Guardians.

S. CORNELL, Clerk to the Guardians.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 168, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

IRON BRIDGES, PIERS, &c.

*** For the Numerical Explanation of DREDGE'S PRINCIPLE, see the "Mechanics' Magazine," No. 1172.

THIS system removes from the Arch to the horizonal line the horizontal force of the whole Bridge, which makes the roadway as powerful as the arch itself, and the arch, with half the material, more than double its original power. The pressure on the key-stone of the arch is the horizontal force of a Bridge, which acts directly on that point as a dead load of self-destruction; and it has thrown down, within the last eighteen months, nearly sixty arches of Viaducts and Bridges.

EXAMPLE.—The Menai Bridge, whose depth is 1-14th of its length, and the suspended weight 800 tons, its horizontal force is 2,800 tons of self-destruction on the centre; hence it would require but a small portion of the material and cost of that bridge to construct one over the Menai Straits on this plan, that would possess far greater power and stability than the present structure.

This principle has been fully tested nearly ten years, by the consrtuction of fifteen public bridges for the Government and others in Great Britain. It is also established in India.

Bath, 3rd April, 1846.

PATENT WOOD CARVING OFFICE.

THE Proprietors of the Patent Method of producing Wood Carvings beg to announce the removal of their Offices from No. 5, Henrietta-street, Covent Garden, to No. 444, West Strand, where specimens in every variety may be seen.

NOTICE TO INVENTORS.

OFFICE for PATENTS of INVENTIONS and REGISTRATIONS of DESIGNS, 14, LINCOLN'S-INN-FIELDS.—The printed Instructions gratis, and every information upon the subject of PROTECTION for INVENTIONS, either by Letters Patent or the Designs Act, may be had by applying personally, or by letter (prepaid) to Mr. Alexander Prince, at the office, 14, Lincoln's-inn-fields. Where may be had, price 12*s.*, or, through any bookseller in the United Kingdom, of Wm. BENNING and Co., law booksellers, 43, Fleet-street, the LAW of PATENTS and REGISTRATIONS, with all Forms and Cases up to the present time, by SIDNEY BILLING, Esq., barrister-at-law, and ALEXANDER PRINCE, of the Office for Patents, 14, Lincoln's-inn-fields.

QUICK DISPOSAL OF HOUSE AND LANDED PROPERTY.

BY means of an Extensive and Classified Buying Connection, to whom we can immediately offer what may be placed in our hands, we effect Sales of Property with the greatest facility, and as we make no charge until a sale is effected, it is to the interest of all proprietors of house and landed property, desirous of selling, to register such with us, BECKWITH and SALMON, Auctioneers and Estate Agents, 25, Bucklersbury.

TO BUILDERS AND OTHERS.

TO BE LET on Lease from the Freeholder, for a term of 99 years, an eligible PLOT of GROUND in Harlington-street, Waterloo-road, having a frontage of 94 feet, land-tax redeemed.—For further particulars apply to Messrs. DAVIS and VIGERS, 3, Frederick's-place, Old Jewry.

RIVER FRONTAGE—ROTHERHITHE.

TO BE LET on Lease, the whole or part of DURAND'S WHARF, Trinity-street, Rotherhithe. The above property contains about 5 acres, has a river frontage recently erected of nearly 600 feet, with a good depth of water. For further particulars, apply to Mr. JOHN SEDGER, of Rotherhithe; Messrs. EVERSFIELD and HORNE, of No. 1, Little Smith-street, Westminster, and Coal Exchange, Lower Thames-street, or to Mr. LLOYD, Assistant Surveyor, Atlas Assurance Office, Cheapside.

CARCASES AT GROUND RENTS.

TO BE LET, for little more than the value of the ground upon which they stand, SIX WELL-BUILT CARCASES, either altogether or singly, in a fine and picturesque situation about twenty miles from London, and close to a railway station. Persons desirous of an advantageous investment will find this a good opportunity. Also a commodious VILLA RESIDENCE, on the same estate, quite ready for occupation, and with or without land. Apply to W. J. R. CHIDLEY, 6, Guildhall Chambers, Basinghall-street.

ST. JOHN'S WOOD PARK!!! IMMEDIATE CONNECTION WITH REGENT'S PARK.

BUILDING PLOTS TO BE LET in this most desirable and salubrious situation!! commanding picturesque views of the surrounding beautiful neighbourhood, and elevated within a few feet of the summit of the monument, with the best approaches of any suburban district near the metropolis, and greatest facilities of access to all the fashionable resorts and promenades of the West End and the City!—For particulars and plans, apply to W. H. TWENTYMAN, Esq., 11, Regent's-villas, Avenue-road, Regent's-park.

TO BUILDERS.—EARL'S-COURT, KENSINGTON.

TO BE LET on Building Leases, for a Term of 99 Years, a very desirable piece of Freehold Land, land-tax redeemed, containing about 18½ acres, situate at the east side of Pembroke-square, and communicating with the Kensington-road by Earl-street, Newland-street, and Phillimore-terrace. Particulars of the terms of letting, plans of the property, and every other information may be obtained of S. F. HARVEY, Esq., Architect, No. 7, Bedford-street, Bedford-square; G. MAIR, Esq., Architect, No. 18, Charlotte-street, Bedford-square, and Messrs. BOLTON, MERRIMAN, and DUNNING, 25, Austin Friars.

TO LIME AND CEMENT MERCHANTS.

TO BE LET, on Lease, an extensive WHARF and PREMISES in the King's Road, Camden Town, having a Frontage of 187 feet on the Regent's Canal. A large Trade in the above Articles has been carried on upon the Premises for many years, and an extensive Connexion formed, of which the Incoming Tenant will have the advantage. The Premises comprise a spacious Manufactory, Warehouse, Sheds, Mill House, Drying Kilns, Counting House, Stabling, &c. &c. The whole enclosed by high Brick Walls and Folding Gates, opening into the main Road.—For particulars apply to Messrs. BROWN and ROBERTS, Surveyors, 22, Throgmorton-street.

ELEGIBLE BUILDING PLOT, CARSHALTON, SURREY.—LAND TAX REDEEMED.

TO LET, EIGHT ACRES OF LAND, beautifully situated, having a frontage of about 600 feet, overlooking a splendid park of deer, and a similar length of frontage open to fine undulated down, periodically covered with corn, &c., &c. The plot in question is particularly suitable for the erection of eight or ten villas, being a fine, high, and dry chalk soil, with excellent water beneath. Carshalton is one of the most picturesque villages in England, abounding with trout streams in every direction. There is not a gentleman's residence of any description empty in the neighbourhood, and a railway station (on the Epsom Atmospheric Line) will be immediately completed close to the village.—Further particulars may be had on application to Mr. JAMES WALTER FRANCIS, House and Land Agent, Croydon, Surrey.

SPACIOUS BUILDING GROUND, in the heart of the City, to be LET on a BUILDING LEASE. The site comprises Old Founders' Hall, Lothbury (extending from east to west seventy feet and from north to south thirty feet), and a further space in connection with it suitable for purposes of an additional entrance to the Premises. Persons willing to tender for these Premises on a Building Lease are hereby informed that a Committee will meet here on Thursday, the 4th of June next, at one o'clock precisely, to take such Tenders into consideration.—Particulars may be obtained by applying at Founders' Hall, or to J. B. GARDINER, Esq., Architect, 4, Bank Chambers, Lothbury, where a Plan of the Premises may be seen.—By Order, J. GRAY, Jun., Clerk.
Founders' Hall, 7th May, 1846.

TO BUILDERS, GRAVEL MERCHANTS, LIGHTERMEN, AND OTHERS.

FOR SALE, by Private Contract, a capital BALLAST MACHINE, fitted with 14-horse power Engine and Machinery complete. Lying for view off the Red-House, Battersea.—Particulars to be had of Messrs. EVERSFIELD and HORNE, Auctioneers, Coal Exchange, or 1, Little Smith-street, Westminster.

TO JOINERS, PAINTERS, PLASTERERS, &c.

FIVE Third-rate Carcasses TO BE SOLD OR LET, at a Ground-rent. Money advanced, if required, at 5 per cent. Part of the purchase-money may be worked out on adjoining houses.—Apply to JAMES WAGSTAFF, Esq., Albion-terrace, Canonbury-square, Islington.

FREEHOLD ESTATES AND OTHER PROPERTY TO BE SOLD.

TO BE SOLD in Lots, pursuant to an Order of the High Court of Chancery, made in a certain cause of Hamilton against Viscount Lismore, with the approbation of Samuel Duckworth, Esq., one of the Masters of the said court at Gray's Inn Coffee House, Holborn, in the month of June next, a FREEHOLD ESTATE, consisting of 27 acres of building-ground, known as the Gospel Oak Field and Five Acre Field, situate between Kentish Town and Hampstead, and adjoining the land of the Earl of Mansfield and the land recently sold by Lord Southampton. Also, a rent charge in perpetuity of 100*l.* per annum from the chapel and burial-ground of the parish of St. James, Westminster, situate in the Hampstead-road. Also, a PLOT OF GROUND in the Hampstead-road, containing the reservoir and premises of the New River Company, and now on lease to the said company for an unexpired term of 945 years, at a clear rent of 200*l.* per annum.—Particulars and conditions of sale may shortly be had at the said Master's Chambers, Southampton-buildings, Chancery-lane; of Messrs. WALKER, GRANT, and Co., Solicitors, 13, King's-road, Gray's Inn; and Messrs. LIGHTFOOT, ROBSON, and LIGHTFOOT, Solicitors, 26, Castle-street, Leicester-square.
WALKER, GRANT, and Co.
King's-road, Gray's Inn.

SALES BY AUCTION.

Absolute Sale.—To Builders and others.—Carcasses of Four Houses, Chepstow-place, Westbourne-green.

MESSRS. BROOKS and GREEN have received instructions from the Mortgagees in Trust to SELL by AUCTION, at their Estate Auction Gallery, 28, Old Bond-street, on Wednesday, May 20, at 1, the roofed-in CARCASSES of FOUR HOUSES, of handsome architectural elevation, most desirably situate, in a respectable and rapidly increasing neighbourhood, adjacent to Hyde-park and Kensington-gardens; held on lease, at a ground-rent of 10*l.* per annum each.—Particulars may be had of Messrs. GRAY and BERRY, Solicitors, 12, Gross-place, Lisson-grove; Hall of Commerce, Threadneedle-street; and of Messrs. BROOKS and GREEN, Estate Agents, Surveyors, and Auctioneers, 28, Old Bond-street.

BRICKFIELD—SYDENHAM, KENT.—To Brickmakers, Builders, and others.

MESSRS. BECKWITH and SALMON will SELL by AUCTION at Garraway's on TUESDAY, May 19th, at Twelve, a Lease for Seven Years from Midsummer next, of a valuable Brickfield at Bell Green, Sydenham, about a mile from the Forest Hill, and Sydenham Stations on the Croydon Railway. It is in complete working order, in extent about Six Acres and a Half, contains very superior clay and capable of making Three Millions per Season, well supplied with water, and erected thereon are two workmen's cottages. Will be sold subject to a Rent of 40*l.* per annum, and a royalty of 2*s.* per thousand.—May be viewed, and particulars had of G. W. HUSSEY, Esq., Solicitor, 85, Queen-street, Cheapside; at GARRAWAY'S; and at the Auctioneers' Offices, 25, Bucklersbury.

Votes for the County.—Freehold Building Ground, Two-waters, Herts, contiguous to the Birmingham Railway Station at Boxmoor and the market town of Hemel Hempstead.

MESSRS. BROOKS and GREEN have received instructions to SELL by AUCTION, at the Bell Inn, Two-waters, on Thursday, May 21, at 12 o'clock, highly desirable FREEHOLD BUILDING GROUND on the Manor Farm, having excellent frontages, and offering eligible investments for builders and large or small capitalists. Through the formation of the Birmingham Railway with its station at Boxmoor, and the consequent facilities for travelling, the applications for residences and apartments for families have been so numerous, that extensive building operations have been most successfully conducted between Two-waters and Hemel Hempstead.—Particulars and plans may be had at the Bell Inn, Two-waters; at the Railway Inns, at Hemel Hempstead, Berkhampstead, Tring, Watford, Rickmansworth, and St. Alban's; of Messrs. SMITH and GROVER, Solicitors, Hemel Hempstead; Messrs. TEESDALE, SYMES, WESTON, and TEESDALE, Solicitors, Fenchurch-street; and of Messrs. BROOKS and GREEN, Estate Agents, Surveyors, and Auctioneers, 28, Old Bond-street.

ST. BENET FINK CHURCH.—All the Valuable Materials, including 20 tons of Lead on the Roof.

PULLEN and SON have received instructions to SELL by AUCTION, on the Premises, on TUESDAY, May 19, at Twelve, in Lots, all the valuable MATERIALS of St. Benet Fink Church, Threadneedle-street (one of the works of Sir Christopher Wren), comprising about 20 tons of lead, entirely covering the roof, which is formed of prime oak timber, in joists, tie-beams, and girders, and supported by six lofty stone columns with richly-carved Corinthian capitals; all the excellent stone and bricks of the external walls, vaults, and foundations; altar window with stained-glass centre, with the arms of the Holman family, 1695; numerous lead casements, sashes and frames, doors, flooring, marble and York pavements, excellent circular stone staircase with 55 steps, stone cornice and pediment, window dressings and coping, the erection and fittings of vestry, &c.—May be viewed the day previous, and catalogues had at the Office of Works, Guildhall; and of PULLEN and SON, 60, Fore-street, Cripplegate.

LONG-ACRE.—Extensive Sale of Building Materials, to clear the Site for the New Music Hall to be erected for J. Hullah, Esq.

PULLEN and SON are directed by the Worshipful Company of Mercers, to SELL by AUCTION, on the Premises, on MONDAY, May 25, at Twelve, in Lots, the whole of the valuable BUILDING MATERIALS of Six Houses, coach factory, stabling, and premises in Charles-street, Long-acre, nearly opposite Bow-street.—May be viewed on Saturday, and catalogues had of GEORGE SMITH, Esq., Mercers' Hall, and of PULLEN and SON, 60, Fore-street, Cripplegate.

CHARLTON VILLA, KENT.—The capital Building Materials of a portion of Charlton Villa, Old Charlton.

PULLEN and SON respectfully announce that they have received instructions to SELL by AUCTION, on the Premises, Old Charlton, on FRIDAY, June 5, at Twelve, in Lots, the excellent BUILDING MATERIALS of a Portion of Charlton Villa, late in the occupation of Major-General Sir Thomas Hislop, including the extensive coach-houses, stabling, barns, and other substantial brick and timber buildings, the whole of the granite, pebble, and York paving of the spacious court-yard, &c.—May be viewed two days previous, and catalogues had of Messrs. LETHBRIDGE and MACKRELL, Solicitors, 25, Abingdon-street; P. HARDWICK, Esq. Russell-square; R. S. MARTYR, Esq. Greenwich; and of PULLEN and SON, 60, Fore-street, Cripplegate.

TO BUILDERS, LINENDRAPERS, &c.

TO BE DISPOSED OF, TWO modern SHOP FRONTS, one an almost new mahogany plate glass front, now used by a draper, consisting of two windows and handsome doors, each window nine feet three inches in height and five feet 11 inches in breadth, size of panes two feet four by 24½ inches; the other a deal front of one window, 12 feet 4½ inches in breadth, and 8 feet 7½ inches in height. Apply to Mr. SEATON, on the premises, Hill-street, Richmond, Surrey.

PUBLICATIONS

QUESTED ON RAILWAY SURVEYING AND LEVELLING.

This day is published, in 1 vol. 8vo., illustrated with several Plans and Diagrams, price 5*s.* 6*d.*, in cloth,

A TREATISE on RAILWAY SURVEYING and LEVELLING; in which the Author has endeavoured to simplify the most approved methods now adopted by Surveyors. By JOHN QUESTED, Surveyor, Author of "A Treatise on the Art of Land Surveying."
BELL'S and FLETCHER, 15, Cloak-lane.

TO HEIRS AT LAW AND NEXT OF KIN.

A complete List of the Advertisements that have appeared during the present century is now publishing in

THE CRITIC, the largest and cheapest literary journal in Europe, every Saturday, 32 folio pages, price 4*d.*, or 5*d.* stamped. THE CRITIC contains also many new and original features. A copy, as specimen, sent to any person transmitting three postage stamps to the Critic Office, 29, Essex-street, Strand. To be had by order of all booksellers and newsmen.
N.B. The fourth monthly part for the present year is now ready, containing 128 large pages of amusing and instructive matter for eighteen-pence only.

NOTICE OF REMOVAL TO 193, STRAND.

To all Architects, Builders, Engineers, Artists, Workmen, and every class of Designers, JOHN WILLIAMS & CO., Library of Arts, established 1830, beg to announce they have taken more Central and Commodious Premises, 193, STRAND, where the best Works on Architecture, Engineering, and Mechanics, will always be found on Sale, rendering this the fixed Mart for the Architect, Engineer, Builder, and Student. Now ready as follows:
Standard Works for the Architect, Builder, and Workman.

BARTHOLOMEW'S PRACTICAL ARCHITECTURE; 180 Wood Cuts; 4,747 Paragraphs on Construction, and upwards of a thousand pages of Remedies for Defects in Building. 28*s.*
Just Imported,
CARPENTRY; the finest detailed Work ever published on Carpentry. Large Plates of Roofs; upwards of 200 Subjects. 4*l.* 4*s.*
HEAT: Pechelet's celebrated work on Heat (a variety of Plates).
VILLAS in all styles; viz.:—Bree's Italian Villas 21*s.*; Robinson's Old English, Swiss, and Elizabethan, 45*s.*; Goodwin's Italian, Grecian, and other styles, 63*s.*
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New Work on Shop Fronts (Louis XIV. Style). 7*s.* 6*d.*
CHURCHES, Modern, Working Drawings of. 10*s.*
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ELIZABETHAN SCRAP BOOK of Elizabethan Ornament; variety of detail, 20*s.*
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Fine Works on Italian Architecture Just Imported.
LETAROUILLY'S Splendid Work, Measured Drawings, 7*l.* 17*s.* 6*d.* Paris, Modern; 300 Plans, Sections, Elevations, and Details of 300 Mansions in Paris, 5*l.* 15*s.* 6*d.*
Fine Works at Low Prices.
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N.B. Worthy of especial notice to public institutions of architecture.
PUGIN'S ORIGINAL SKETCHES, as drawn by the late A. PUGIN and his old pupils, in 3 folio volumes, in Outline, for the well-known work of Specimens, 25 guineas.
PIRANESI, old Roman, set, 80 guineas.
PIRANESI, various volumes to complete sets.
Just published, this day,
ANALYTICAL REGISTER of Awards and Certificates under the New Building Act, 4*s.* 6*d.*, in cloth.
Please observe the address:—JOHN WILLIAMS & Co., 193, Strand; removed from Great Russell-street. Catalogues gratis.

FRENCH PAPER HANGINGS.—All the Newest and most Splendid Patterns at the Reduced Duty of 2*d.* per yard, on view; and orders taken at MARKS and Co.'s Warehouse, 59, Princes-street, Leicester-square. Carved Leather and Carton Pierre Ornaments, and Utrecht Velvets, at the same Reduced Duties.

PAPER HANGINGS.

BUILDERS, ARCHITECTS, SURVEYORS, and Others, may select from a Stock of 80,000 Pieces of Paper Hangings, always ready, in decorations, Golds, Flocks, Satins, Damasks, Hand and other Marbles, Oaks, &c. &c., at unprecedented low prices, terms cash, at W. LESCHALLAS'S, 32, Budge-row, corner of Sise-lane, City.

NEWLY-INVENTED WATER-CLOSET.
Registered by Act of Parliament, No. 669.

J. C. STOKES, successor to W. R. MARSTON, respectfully begs to call the attention of architects, merchants, factors, and the public to his newly-invented WATER-CLOSET. Among its many advantages may be noticed, its extreme simplicity and durability; the expense and annoyance of frequent repairs being altogether obviated; it may be fixed in almost any situation, and is the cheapest and most efficient Water-Closet extant.
Drawings, with every information, may be obtained on application, personally or by letter, at the warehouse, 2, Monmouth-street, Birmingham.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 20s. per gallon.

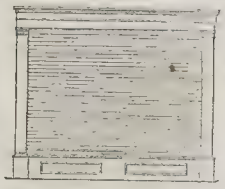
SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.

PATENT SAFETY IRON SLIDING SHUTTERS.



PATENT REVOLVING PERFORATED BLINDS.

PATENT OUTSIDE SHUTTER, VENETIAN, CORRUGATED, AND CARRIAGE BLINDS.



The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 116, Old Street, London; or at the Licensees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using FLAT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licenses Granted.

REDUCTION IN THE PRICE OF BUNNETT AND CORPE'S PATENT REVOLVING IRON SHUTTERS.

THE validity of this Patent being completely established, the Patentees have much pleasure in stating that the very extensive demand, and the employment of improved machinery in the manufacture, have given them an opportunity (of which they gratefully avail themselves) of making a considerable reduction in the price of this well-known and tried invention, thereby rendering them the cheapest as well as the best iron shutters in use. Every improvement suggested by practical skill and most extensive application has been adopted, and no effective REVOLVING IRON SHUTTER can be constructed without infringing B. and C.'s patent. The worm and wheel, as patented by them, being the only safe, durable, and efficient mode of raising and lowering such shutters, these shutters can be applied horizontally, either above or below the window, or vertically, as introduced by BUNNETT and CORPE, in some of the largest establishments: they are made with bent or corrugated laths, if required.

BUNNETT and CORPE also manufacture

REVOLVING WOOD SHUTTERS,

with their patent raising machinery, or with counterbalance weights, and with proper metallic hinges, without which no shutters can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop Fronts fitted in a superior manner with Iron Shutters, Patent Brass or Zinc Sashes, Moulded Engraved Stall Board Plates, best Plate Glass, and internal Brass Fittings of all kinds, on the most advantageous terms. Estimates given and contracts taken in Town or Country.—All kinds of metal works executed to any design. Metal Drawing, Rolling, and Stamping for the Trade. OFFICE, 26, LOMBARD-STREET, LONDON. WORKS, at DEPTFORD, KENT.

BUILDERS and the PUBLIC about putting in NEW WINDOWS or altering old ones, should inspect HERRING'S new PATENT SASH, before they go to any expense, which is universally being adopted in town and country.—Exhibited daily at the Patentees, 14, Kingsgate-street, Holborn, also at JOHNSON and PASK'S, Sash-makers.

PATENT WINDOW BLINDS.

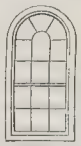
TYLOR and PACE manufacture every description of WINDOW BLINDS entirely upon their own premises, by the aid of steam machinery, insuring the best materials and workmanship, at the lowest cost. Patent metallic gauze and perforated Zinc Blinds, in mahogany frames, at 1s. 8d. per square foot; ditto, in metal frames, 1s. 2d. per square foot. A large and choice assortment of Transparencies, mounted, from 19s.; Holland Blinds, on plain or spring rollers, Outside Shades, Venetian and Sun Blinds of every description.

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MADE and GLAZED with CROWN GLASS at 9½d. per foot superficial; ditto, with Frames and Pulleys to hang double, and Sunk Oak Sills, at 1s. 2d. per foot superficial; Lap Lights for hot-houses, conservatories, &c., made and glazed at 8½d. per foot superficial. Address, W. PATTEN and Co. 20, Old Fish-street, Doctors' Commons, London; sole manufacturers of Anti-Corrosive and Mineral Paint.

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VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.

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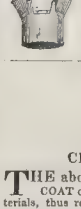
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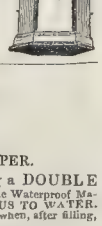
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SMOKY CHIMNEYS CURED
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THE cheapest, most ornamental, and most effective article of the kind yet presented to the public. It has a larger egress for the smoke than any similar invention, and no accumulation of soot can check its action; there being no machinery, it is free from noise, and cannot go out of repair; it offers no obstruction to sweeping-machines, and is warranted to cure all down-draft and smoky chimneys, of whatever nature, caused by wind; to draw off all obnoxious vapour from public buildings, churches, schools, club-houses, hospitals, sick chambers, ships, &c. Manufactured in iron, zinc, galvanized iron, and copper.

Wholesale Agents for London and its vicinity,
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By Her Majesty's Royal Letters Patent.

SEALED 7th OCTOBER, 1845.

CROGGON'S PATENT WATERPROOF DOUBLE BITUMINOUS PAPER.

THE above is Manufactured by the most Accurate Machinery, for Depositing a DOUBLE COAT of ASPHALTE between Two Sheets of Paper, ensuring an evenness of distribution of the Waterproof Materials, thus rendering EVERY MINUTE PORTION OF THE PAPER ENTIRELY IMPERVIOUS TO WATER. To prove that it perfectly resists water, it is only necessary to put it into such a form as to Hold Water, when, after filling, it, the water will evaporate without appearing in the least degree on the other side.

For ROOFS OF HOUSES it will be found very advantageous, being very cheap, admitting A GREAT SAVING OF TIMBERS; it may be painted of all colours, thus rendering it peculiarly applicable to any description of Roof. It is also an EFFECTUAL PREVENTATIVE against the effects of DAMP FROM WALLS, if put under the usual paper, and DAMP FLOORS, when under carpets.

It may be had in Rolls of any Length, to order, AT SIXPENCE PER SQUARE YARD, of
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CHEAP AND DURABLE ROOFING.

By Her Majesty's Royal Letters Patent.

F. McNEILL and Co. of Lamb's Buildings, Bunhill Row, London, Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronized by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST INDIA COMPANY,
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ROYAL BOTANICAL GARDENS, REGENT'S PARK.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover-square.

Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, as THE ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW, LONDON.

Roofs covered with the felt to be seen at the Factory, also the new Vice-Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the new Houses of Parliament.

A Liberal Discount allowed to the Trade.

On and after the First of June,

THE DAILY NEWS,

LONDON MORNING NEWSPAPER,

AT

TWOPENCE HALFPENNY.

THE Newspaper is the intellectual life of the Nineteenth Century—the great agent of modern civilisation. Not to speak of the moral and political safeguard which it affords, it places all, whatever their varieties of fortune and position, on a level as to information. By its means only the small capitalist is enabled to contend successfully against his wealthy rival for a knowledge of those changes which affect supply and demand—and therefore prices. Without the daily Newspaper, a man and his family might be located as well in the back settlements of Canada as within ten miles of the great centre of European Civilisation. These facts are felt—the gain is understood—and the number and character of the Newspaper press of any country are an admitted test of the enterprise and intelligence of the people. It is remarkable, then, that more than a century since, there were *eighteen* papers published in London, daily or three times a week—while now there are only *fifteen!* though the population of to-day bears a ratio to that of the period in question of more than 3 to 1; and by means of the post and other facilities, the whole kingdom has been brought within the easy range, and under the direct influence, of the London press. *In the single City of New York, more daily papers are published than in all England, Scotland, and Ireland, put together. The circulation of papers in Paris exceeds that of London twenty-fold. How is this? Of a fact so startling, where lies the explanation? what is the cause?*—PRICE!

That the public know the advantage of having a Daily Paper is manifest, from the thousands and tens of thousands who pay twopence for an hour's reading, and threepence for a paper the day after publication. What, then, are the causes which maintain the high price? First, the amount of capital required to be invested in a Newspaper speculation—with whose extent and proper application the man of business and the capitalist are for the most part unacquainted. Next, the various talent, knowledge, and experience which must combine to produce the result. The number and greatness of the requirements have, in truth, occasioned something very like a monopoly—and monopoly always commands its own price. Thus, whilst energy, enterprise, capital, and competition have been doing good service in all other things, including literature in various branches, nothing has been attempted, in the direction indicated, for the political, social, and intellectual wants of three great nations; and a Daily Paper still remains a costly luxury, in which only the wealthy can indulge. *In Paris within the last five years a reduction of one-half of their old price has been made in the most distinguished journals, with the result of increased efficiency, power, and interest. Any such attempt in London does not seem to have been thought of.*

The experiment is now about to be tried of establishing a LONDON DAILY NEWSPAPER, on the highest scale of completeness in all its departments, which shall look for support, not to comparatively few readers at a high price, but to many at a low price.

Its success depends upon the Public. In the first instance, however, it was necessary to prove that the projectors are capable of competing with the high priced—that in energy and ability they are able to perform all that is required; and of this the Public have now had sufficient experience. THE DAILY NEWS appeared in January last, and no one has hinted a suspicion that it is inferior to its contemporaries in any respect. The time has now come when the proprietors are prepared to develope their plans; whatever has hitherto attracted public favour to their enterprise, will be continued and extended, and working in the spirit of the age, they will publish,

On the First of June,

THE DAILY NEWS

AT TWOPENCE HALFPENNY.

The Paper will be of the same size as all other journals were within seven years; it will be larger than many of the high-priced daily journals are now; and in every particular of interest, it will contain as much information as the most successful amongst its contemporaries. But it will be expansive; and double sheets will be given whenever an important Debate, a pressure of News, or Advertisements, seems to require it.

THE DAILY NEWS, therefore, will contain everything that is to be found in other journals; and all accounts of Markets—all Trade information—will be so arranged, that the Merchant and Man of Business shall find what he wants always, as nearly as possible, in the same place, and in the fewest possible words. The modern Newspaper has not been devised and planned as judgment might have originally directed, but has grown up under circumstances which it could not control; and the establishment of a new paper affords the opportunity for a revision, which shall effect a saving of the reader's time, and present the information which he seeks in a more systematic form.

THE DAILY NEWS WILL BE PUBLISHED IN TIME FOR THE MORNING MAILS.

LET US REPEAT THE MARKING FEATURES OF OUR SCHEME. 1*st*. We give to the reader, in what we hope will be an improved and more convenient form, all that he can find in the most approved of our competitors; enlarging always our surface to embrace whatever of unusual interest the times may present. The difference between them and us will be only in that host of Advertisements, which we too will be happy to give in an additional sheet whenever the public shall supply us with the occasion. 2*ndly*. To the reader who now pays Fivepence for his paper, we offer the same thing at half the price; and to the man who hires his paper, a paper of his own at about the cost of the hire. It, then, only remains for the public to justify the experiment; remembering that their interest in the issue is no less than our own.

Let him who would support us in this seasonable attempt, subscribe *at once*. Where even the reduced price is beyond his means, let him *at once* join with a friend or neighbour in subscription. If, again, these friends can arrange with others in the country to receive the paper, by post, on the day of publication, at half price, the cost to each, of the New Daily Paper, will be little more than one *halfpenny*.

Every News Agent, will, we hope, supply the paper at Twopence-halfpenny, *where payment is made in advance;* the same proportionate allowance as with other papers—something more than twenty-four per cent.—being allowed by the proprietors to the trade. When credit is given, it is a matter of private arrangement, with which the proprietors have nothing to do. As, however, in an undertaking so bold and so novel it is advisable to guard against possible inconvenience, the proprietors of THE DAILY NEWS will undertake to get all persons supplied who shall forward a post-office order payable to JOSEPH SMITH Daily News Office, Whitefriars, London.

For THREE MONTHS.....16*s*. 4*d*.

Let all who are interested in the success of this undertaking—and who is not?—be active, and success is certain.

LONDON: Printed by CHARLES WYMAN, of 49, Cumming-street, Pentonville, in the County of Middlesex, Printer, at the Printing-office of J. & H. Cox, *Brothers*, 74 & 75, Great Queen-street, Lincoln's-Inn Fields, in the Parish of St. Giles-in-the-Fields, in the same County; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," 2, York-street, Covent-Garden, in the Parish of Saint Paul, Covent-Garden, in the said County.—Saturday, May 10, 1846.

The Builder,

A JOURNAL FOR

The Architect, Engineer, Operative & Artist.

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WANTED, by an active practical person, a SITUATION as Clerk of Works, or Builders' Clerk, or General Foreman; has had much experience in laying-out and superintending of works, is an excellent draughtsman in office or detail drawings; well understands specifications and measurement of artificers' work. No objection to the country. First-rate reference will be given.—Address to T. W., care of Mrs. Clark, 9, London-road, Southwark.

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A GENTLEMAN, who fully understands his profession, and has had considerable experience in designing and superintending buildings, in preparing bills of quantities, specifications, and making working drawings, is anxious to obtain an Engagement.—Apply by letter to P. K., 7, Ely-place.

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AN Experienced Person, who has for many years conducted the business of a Builder in an extensive way, in all its branches, would be glad to devote the whole of his time to any gentleman who may require assistance. He is thoroughly proficient in Book-keeping, Surveying, Estimating, or Superintending and Directing any Artificers' Work in the Building Business. Unexceptionable Testimonials can be given. Address to R. I. P., office of "The Builder," No. 2, York-street, Covent-garden.

PARTNERSHIP IN THE IRONMONGERY AND STOVE TRADE.

THE Advertiser is desirous of a PARTNER with capital (about 2,000*l.*) to join him in a profitable and increasing Business. The present income offers ample inducement, irrespective of the extended trade which increased capital would secure.—Applications to be addressed to C. W., care of Messrs. Barber and Andrews, 65, Johnstreet, Fitzroy-square.

FIRE BRICKS.

W. WARD, Honduras Wharf, Bankside, and St. Michael's-alley, Cornhill, has just landed a large quantity of his very superior manufactured Fire Bricks, of Stourbridge, Welsh, and Newcastle. Prices very low. Shipments made for the East and West Indies, &c., with the greatest promptness. Gas companies, engineers, builders, and all large consumers supplied from ships in the river at a much lower price. A very large stock on hand of Bricks, Lumps, Tiles, and Clays.

River sand and gravel by freight to any wharf and dock.

TO OWNERS OF HOUSES IN COURTS, ALLEYS, AND OTHER CONFINED LOCALITIES.

HER MAJESTY'S JUSTICES and COMMISSIONERS of SEWERS for the City and Liberty of WESTMINSTER, and part of Middlesex, hereby GIVE NOTICE, that they have approved a plan, whereby an efficient drainage, at a very moderate cost, may be obtained for property in the above situations, abutting on streets where there are sewers. The plans and sections may be seen at the office of the Commissioners, No. 1, Greek-street, Soho.

LEWIS C. HERTSLET,
Clerk to the Commission.

TO IRONFOUNDERS.

NOTICE IS HEREBY GIVEN, that Her Majesty's Justices and Commissioners of Sewers for Westminster, &c., will be ready at their Office, on Friday, the 5th of June next, at Two o'Clock, to receive sealed Tenders for the supply of 500 CAST IRON GULLY GRATES. Patterns, Forms of Tender, and all particulars, may be obtained at the Sewers Office, No. 1, Greek-street, Soho-square.

LEWIS C. HERTSLET, Clerk.

TO BRICKMAKERS.

NOTICE IS HEREBY GIVEN, that Her Majesty's Justices and Commissioners of Sewers for Westminster, &c., will be ready at their office on Friday, the 5th June next, at 2 o'clock, to receive sealed Tenders for the supply of 30,000 RADIATED BRICKS. Patterns, Forms of Tender, and all particulars may be obtained at the Sewers Office, No. 1, Greek-street, Soho-square.

LEWIS C. HERTSLET, Clerk.

TO BUILDERS.

PARTIES wishing to CONTRACT for Finishing Ten Third-rate Houses at Islington, may see the Specifications at Mr. WAGSTAFF'S Offices, Albion-terrace, Canonbury, from ten until five, daily. The Tenders to be delivered on or before Thursday, the 28th inst. at ten o'clock in the morning. Security will be required for the due completion of the works; and the proprietor will not bind himself to accept the lowest tender, or to pay any expenses attending the same.

CONTRACTS.

PLANS, &c., FOR BUILDING A NEW WORKHOUSE.
1, Canning-place, Kensington, May 20th, 1846.

TO ARCHITECTS. — NOTICE IS HEREBY GIVEN, that the Board of Guardians of the Parish of Kensington have EXTENDED THE TIME FOR RECEIVING PLANS, &c., for Building a New Workhouse for Kensington, from the 9th of June to the 7th of July next; and that the guardians will adjudicate on the same on the 14th of July aforesaid.

S. CORNELL, Clerk to the Guardians.

Guildhall, May 16, 1846.

THE COMMITTEE for LETTING the CITY'S LANDS will meet at Guildhall, on Wednesday, the 10th day of June next, at One o'clock precisely, to receive TENDERS for Letting, on Lease for Seven Years, from Midsummer next, a House, No. 57, on the south side of Fenchurch-street.—Further particulars may be obtained, and plans seen, by applying at the Office of Works, Guildhall.

THOS. SAUNDERS, Comptroller.

TO BUILDERS.—NATIONAL SCHOOLS, GREAT WALTHAM.

PERSONS desirous of CONTRACTING with the trustees for the building of the National Schools at Great Waltham, near Chelmsford, may see the drawings and specifications at the Vicarage House on and after the 25th day of May. The tenders are to be delivered at the Vicarage House on or before the 8 h day of June next, sealed, and indorsed "Tender for building of the National Schools." The trustees will not be bound to accept any tender if not approved of.

Great Waltham, May 14, 1846.

ASHBOURNE UNION WORKHOUSE.—TO BUILDERS.
Extension of Time for Delivery of Tenders.

THE GUARDIANS of the Ashbourne Poor Law Union HEREBY GIVE NOTICE, that they have EXTENDED THE TIME for the Delivery of Tenders for the Erection of the New Workhouse until Friday, the 29th day of May next. The Plans and Specifications are now lying for the inspection of parties, in the office of Mr. HENRY I. STEVENS, Architect, Friar-gate, Derby, where all further information will be obtained.

RICHARD HOLLAND, Clerk to the Union.
Ashbourne, May 9, 1846.

TO IRON FOUNDERS, BOILER MAKERS, AND OTHERS.

THE DIRECTORS of the COMMERCIAL GASLIGHT and COKE COMPANY will meet at the office at the works on Wednesday, the 3rd of June, to receive TENDERS for IRON WORK required in the construction of a Condenser and Tar-tank, according to plans and specifications, which may be seen and particulars obtained on application to the Company's Engineer, at the Works, previous to the day above mentioned, between the hours of 10 and 12 in the forenoon. Tenders sealed and endorsed, addressed to the secretary, to be forwarded by 12 o'clock on the day above mentioned. The Directors do not bind themselves to accept the lowest tender.

By order of the Board, HENRY AVERY, Secretary.
Commercial Gas Light and Coke Company's Offices,
Ben Jonson's Fields, Stepney, May 15, 1846.

PLANS, &c., FOR BUILDING A NEW WORKHOUSE.
1, Canning Place, Kensington, May 12, 1846.

TO ARCHITECTS. — The Board of Guardians of the Parish of Kensington, in the County of Middlesex, are desirous of receiving Plans, &c., for the erection of a Workhouse capable of accommodating 400 inmates, at a cost not exceeding 9,000*l.*, on ground in the occupation of Mr. Foster, in Wright's Lane, Kensington, Plans, Elevations, and Sections, giving the figured heights of Stories and dimensions, upon a scale of 1-8th of an inch to the foot, together with a Specification and Estimate, each to be distinguished by a cypher, to be referred to in a sealed Letter (to accompany the plans) containing the name of the Candidate, must be sent on or before the 9th day of June next, addressed to the Clerk, to the Board at his Office, No. 1, Canning Place, Kensington New Town, where a Plan of the site for the proposed Building, and a written Statement containing further particulars, may be seen. The Board of Guardians will adjudicate on the said Plans, &c., on the 16th day of June next. The Plan selected by the Guardians will be subject to the approval of the Poor Law Commissioners. The Architect whose Plan shall be approved, will be employed to erect the Workhouse upon the usual per centage; or if not so employed, will receive a premium of 50*l.*; and the Architect whose plan shall be considered by the Board of Guardians second in merit will receive a premium of 20*l.* The accepted Plans are to be the property of the Board of Guardians.

S. CORNELL, Clerk to the Guardians.

GREAVE'S LIAS CEMENT, stone-colour, free from vegetation, does not crack, and is well adapted for every description of modelling and casting.
GROUND LIAS LIME, for concrete, or as mortar for sewers, dock-walls, and hydraulic works generally; is superior to any other lime or cement.—Office, 2, South Wharf, Paddington, and Stratford-on-Avon.

Agent for Liverpool—Mr. Wylie, 56, Gloster-street.
Ditto, Manchester—Mr. J. Thompson, Back King-street.
Ditto, Chester—Mr. J. Harrison, Linen Hall-street.
N.B. Marble Floors. A large quantity of Vein and Black Marble on sale at reduced prices.

ROMAN CEMENT, &c.
REMOVAL.
THOMAS JOHN CROGGON
Begs to inform the Trade that he has removed to
3, LAWRENCE POUNTNEY-HILL and
THREE CRANES WHARF, 69, Upper Thames-street.
Orders addressed to either place for ROMAN CEMENT of genuine quality will be executed with promptitude and the strictest regard to quality and economy.

KEENE'S PATENT MARBLE CEMENT.
WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.
Patentees and manufacturers, J. B. WHITE & SONS, Milbank-street, Westminster,

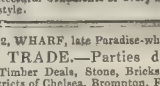
MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.
CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against compounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—
1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.
It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.
For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.
For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.
Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

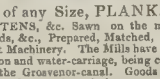
TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.
JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.
Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.
Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,
JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

PLASTERING LIME, that may be used immediately without risk of blistering, manufactured expressly for Plastering, and sold at the usual price, at FORREST'S WHARF, Earl-street, Blackfriars. Sheds for the slacking and mixing of lime. Accommodation for loading and landing bricks, sand, ballast, &c.

CHAS. GOODWIN, Plaster of Paris and Hair Manufacturer, 67, Great Guildford-street, Borough, is enabled to supply Plaster, Hair, &c., at the following reduced prices:—Coarse Plaster per ton 3l. 10s., Fine 3l. 10s., Hair 8l. to 10l. cash, at Manufactory. G. G. can also supply Architectural Ornaments of every description in a most superior style.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.
TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Pantiles.

MUIR'S PATENT  PLANING MACHINERY.
SAW MILLS, GILLINGHAM-STREET, PIMLICO.
TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.
Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.
N.B. Estimates given for Sawing and Planing.


THE GENERAL WOOD CUTTING COMPANY, TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.—SAWING in all its branches executed with the greatest precision and despatch. PLANING by the most approved Machinery, reducing the Boards to a parallel width and thickness, and grooving or matching with undeviating accuracy. The operation economizes time, money, and material.

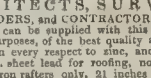
SIR WILLIAM BURNETT'S PATENT for the Preservation of Timber, Canvas, Cordage, Cotton, Woollen, &c., from Decay.
TESTIMONIALS.
From THOMAS GRAHAM, Esq., M.A., F.R.S., L. and E., Professor of Chemistry, University College, London.
"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.
"The wood appears to be fully and deeply penetrated by the metallic salt. I have found it in the centre of a large prepared paving block.
"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the crystallisable salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.
"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Toplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.
"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotised principles it contains, by entering into chemical combination with them.
(Signed) "THOMAS GRAHAM."
"University College, 25th October, 1843.
From Professors BRANDE and COOPER.
"London, 4th November, 1845.
"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.
"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.
"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.
"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to express our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.—Signed "WILLIAM THOMAS BRANDE,
"JOHN THOMAS COOPER."
"To Sir William Burnett, K.C.H., F.R.S., &c. &c."
Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 53, King William-street, London-bridge.

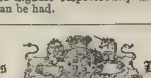
PREPARED FLOORING BOARDS.
AT REDUCED PRICES.
ALWAYS ON SALE, a LARGE ASSORTMENT of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¾ inch to 1¼ inch thick. Rough Boarding for Flats,
TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.
Apply at W. CLEAVE'S Timber Yard, Smith-street, Westminster.

PREPARED FLOORING BOARDS.
ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, Old-Barge-Wharf, Upper Ground-street, Blackfriars, and at his Depôt, H. Casseles', Ship-yard, Millbank, Westminster, a very large stock of well-seasoned Floor Boards of every variety.
A. R., in calling the attention of builders and consumers, confidently presumes on his being able to supply them on such advantageous terms, as will ensure and merit their favours and approbation.

PORTER'S CORRUGATED, and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanizing Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway, and other Iron and Smith's work Manufactured of the best quality. Iron Fence and Hurdles as usual.—The Trade Supplied.

MOREWOOD AND ROGERS' PATENT GALVANIZED TINNED IRON.
T. W. BEALE begs to acquaint the public that he is prepared to lay roofing, plain or corrugated, fix pipes, gutters, &c. Also chimney-tops and ventilating cowls of every description; also water and oil cisterns, of this incorrodible and fireproof metal. He manufactures all kinds of baths, as hip, shower, Roman, open, slipper, sponging, foot, children's, and self-heating baths; also toilet-cans and pails, slop-pails, coal-scuttles, cash and deed-boxes, and fire-proof safes of every description, 10 per cent. cheaper than any house in London.
The PATENT GALVANIZED TINNED IRON is applicable to the following uses:—The Lining of Ships' Store Rooms, Ships' Water Buckets, Water Jugs and Receivers, and for almost every purpose to which zinc, tin, copper, brass, or any other metal is now applied; is more durable, and manufactured at much less expense. An experienced workman sent to any part of the kingdom. All orders punctually attended to. For particulars, apply to T. W. BEALE, 46, Bridge House-place, Newington Causeway.


PATENT GALVANISED TINNED IRON, (MOREWOOD AND ROGERS' PROCESS.)
ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipes, heads, eave gutter, baths, stove and funnel pipe, cisterns and water-closets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 90z. to any required weight per foot, and can be had either plain or corrugated.
Please apply to CHARLES GELL, Junior, No. 5, Quickset-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

By Her Majesty's  Royal Letters Patent.
MOREWOOD and ROGER'S PATENT GALVANIZED TINNED METAL.—This article was at first sold under the name of Galvanised Tin Plates, but the Patentees finding that the public, in some instances, overlooking the word Tin, confounded the article with Galvanised Iron, and that the character of their metal has thereby sustained injury, are desirous of giving it a name so distinctive as to prevent such mistakes, and consequent disappointment to purchasers in future. They therefore respectfully request purchasers to inquire for MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON. In order to enable the public readily and at first sight to distinguish between the two metals, it may be well to inform them, that Galvanized Iron has a plain zinc-like appearance, while M. and R.'s Patent Galvanized Tinned Iron has a smooth crystalline surface.
MOREWOOD and ROGER'S 'PATENT GALVANIZED TINNED IRON, Patronized by the Admiralty and the Honourable Board of Ordnance, being extensively used in her Majesty's Dock-yards, at the Tower, and elsewhere, for every variety of Roofing, and other purposes where a strong, light, cheap, and durable material is required.
It has been found by experience that this article is beyond all comparison superior to zinc; possessing, as it does, all the advantages arising from the strength and firmness of iron, combined with perfect immunity from rust; whilst it is free from the very serious objection which applies to zinc viz. its contraction and expansion, consequent upon every change of temperature, and from which circumstances leakage must of course result.
This material is not likely to be destroyed by fire, as is the case with zinc and lead, which melt and run down, thus freely admitting fresh air to the fire, and causing it to burn more fiercely. It is, therefore, obviously well adapted for all the purposes above-named, and most importantly so when there is the possibility of fire. It is also peculiarly suitable for chimney-tops, gutters, spouting, and out-door work generally, possessing the strength of iron, without its liability to corrosion. It is by far the most economical metal roofing that can be obtained, in consequence of its strength as it may be laid without boards, and upon the lightest rafters.
This mode of preserving metal from rust does not only apply to sheet-iron, but also to manufactured iron in any forms as bolts, nuts, hinges, nails, &c. &c.
For full Particulars apply to S. HOLLAND, 34, Grace church-street.

NEWLY-INVENTED WATER-CLOSET.

Registered by Act of Parliament, No. 669.

J. C. STOKES, successor to W. R. MARSTON, respectfully begs to call the attention of architects, merchants, factors, and the public to his newly-invented WATER-CLOSET. Among its many advantages may be noticed, its extreme simplicity and durability; the expense and annoyance of frequent repairs being altogether obviated; it may be fixed in almost any situation, and is the cheapest and most efficient Water-Closet extant.

Drawings, with every information, may be obtained on application, personally or by letter, at the warehouse, 2, Monmouth-street, Birmingham.

WILSONS PATENT
VENTILATING
SPIRAL CHIMNEY POT,



For the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success.

This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance.

The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory,

Southwark-bridge Iron Roofing Works.

DAY'S PATENT WINDGUARD, for ventilating

Churches,	Shops,	Kitchens,
Hospitals,	Bed-rooms,	Offices,
Factories,	Smoking-rooms,	Ships,
Theatres,	School-rooms,	Mines,
Breweries,	Nurseries,	Vaults,
Malt-houses,	Stables,	Tunnels,
Club-houses,	Larders,	&c. &c.

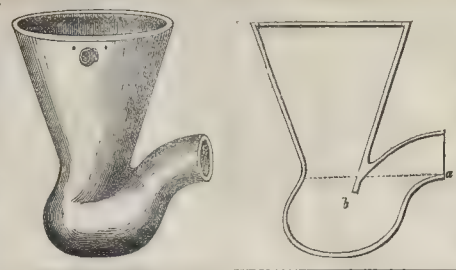
Also for preventing down draft; and is guaranteed to cure all smoky chimneys caused by wind; and entirely supersedes the use of revolving cowls, or any thing moveable or unsightly on the tops of chimneys or ventilators.

The object of this invention is to create a draft where otherwise it would not exist, by the spontaneous action of the external air. The Windguard forms a pleasing octagonal pillar, and by its peculiar construction to carry out the principle on which it is based, which consists of the wind giving a disposition for a vacuum within, thereby causing a continual upward current about equal to the velocity of the wind at the time acting upon it, which averages about six feet per second thirty days out of thirty-one; therefore, will nearly at all times ensure a continual change of air, being no impediment to spontaneous ventilation, even on a perfectly calm day. One five feet square will ventilate a building containing upwards of 1,000 persons. The Windguard applied to ships and steam vessels, in the form of a sky-light, prevents rain or the sea entering within, however boisterous the weather may be, thereby affording excellent ventilation as well as light. The Windguard is simply applied for effectually ventilating bed-rooms, nurseries, smoking-rooms, offices, &c., causing the air of the apartment to be at all times as pleasant as can be desired. It is fixed at the top of the chimney, in addition to which a cast-iron frame and valve (about one foot area), made to open or shut at pleasure, is let into the flue, near the ceiling of the room to allow the constant ascending vitiated air being immediately carried off. The opening is guarded by a neat venetian blind or grating; and so powerful is the effect on a windy day that if a handkerchief be thrown up to the grating, it will remain there—i. e. if the valve be open. In winter the valve would be only partially open, to allow the smoke from the fire to ascend, but if the room be found too cold, can be entirely closed. The Windguard applied to the tops of chimneys prevents all annoyance from smoke (caused by wind); indeed, where it does not, nothing else applied at top will (of the same size); care, therefore should be taken to have the proper size applied. It is simple in its application, reasonable in price, ornamental in appearance; no machinery or anything moveable in it, therefore, cannot get out of order: free from noise or any unpleasantness whatever; not liable to choke up with soot; no obstacle to the machines used for sweeping chimneys. May be had of all respectable ironmongers in town and country; and may be seen daily in operation, where its powers and usefulness are exhibited by the severest tests, at THE PATENT VENTILATING WORKS, COMMERCIAL-ROAD, PIMLICO, LONDON; where also may be seen Mr. G. T. DAY'S plans (illustrating the different applications of his Patent Archimedian Ventilator and his Portable Water Apparatus) for effectually Ventilating, Warming, and Cooling the Air of Buildings, Ships, Mines, &c. &c. By the use of these inventions many thousand cubic feet, or any quantity of pure warm or cold air, can be guaranteed to be continually exchanged per minute, day and night, winter and summer; thereby insuring, at all times, free ventilation to the rooms and passages of buildings, &c. from the basement to the roof, at the same time in such a manner as shall not be inconveniently perceptible. The size of the apparatus depends on the nature and use of the building and its occupants. The Patentee has been honoured by his inventions being applied at the following places:—

Windsor Castle,	Trinity House,
Buckingham Palace,	Ordnance,
Saint James's Palace,	Greenwich Hospital,
Claremont Palace,	Christ's Hospital,
Walmer Castle	Westminster Hospital,
The Houses of Parliament,	Bethlehem Hospital,
New Conservative Club,	Surrey Lunatic Asylum,
White's Club,	New Royal Exchange,
Travellers' Club,	Mansion House,
Oxford and Cambridge,	Goldsmiths' Hall,
Parthenon,	Fishmongers' Hall,
Wyndham,	Haberdashers' Hall,
Army and Navy,	Dyers' Hall,
Senior United Service,	Grocers' Hall,
Junior United Service,	Armourers' Hall,
Admiralty,	Weigh-house Meeting-house
British Museum,	Hanover Square Rooms,
Somerset House,	Theatre of the Westminster Literary and Scientific Institution,
Custom House,	
Mint,	
Hon. Artillery Company,	Grand Cigar Divan, Strand,
H. M. S. Salamander,	City Club,

And many other Public Buildings in Town and Country, as well as to the Mansions of many Noblemen and Gentlemen. Licenses granted for Manufacturing the above.

Drawings and Plans made for Ventilating and Warming Buildings of every description.



CHEAP PAN FOR WATER CLOSETS,
With Trap, in One Piece.
DOULTON AND WATTS,
LAMBETH POTTERY, LONDON,

Manufacturers of the annexed in superior glazed STONE WARE,

Price 7s. 6d. each.

They are of the most durable ware, and are recommended in preference to iron on account of their cleanliness and cheapness.

If preferred, they can be had in two parts, the Pan at 4s. 6d., and the Trap at 3s. 6d.

N.B. Manufacturers of RAIN WATER PIPING for houses.

REMOVED TO LAWRENCE POUNTNEY HILL, CANNON STREET.

By Her Majesty's Royal Letters Patent.

CROGGON'S PATENT ASPHALTE ROOFING FELT,

With which the Committee Rooms of the Houses of Parliament are entirely Covered.

THE above Material has been used and highly approved by the Nobility, Gentry, and Agriculturists generally, and Patronized by many Members of the Royal Agricultural Societies of England, Scotland and Ireland. It has been used for several Years at the Royal Horticultural Society's Gardens, Chiswick; the Swiss Gardens, Shoreham, Sussex; on the Duke of Buccleuch's, and the Marquis of Anglesea's Property, &c., &c., and (under slate) at the Royal Agricultural Society's House, Hanover-square; its advantages are—CHEAPNESS, LIGHTNESS, DURABILITY, and ECONOMY. Being a Non-Conductor, it has been proved an efficient "Protective Material" to Plants.

PRICE ONE PENNY PER SQUARE FOOT.



WILLIAM BUCKWELL,
IMPORTER, TIMBER AND DEAL MERCHANT,
BOROUGH ROAD, SOUTHWARK, AND COMMERCIAL WHARF, OLD KENT ROAD.

TIMBER and DEALS cut to any Scantling or thickness at a few hours' notice. A LARGE STOCK of uncut, cut, and wrought stuff, kept at Saw Mills ready for delivery or sawing.

OAK, ASH, ELM and BEECH, PLANK and QUARTERING, in great variety.

VENETIAN BLIND STUFF, PLASTERERS', WINE, PANTILE, and other LATHS.

MOULDINGS, in large quantities, wrought to pattern by Steam Power.

N.B. Dry Seasoned prepared FLOORING, MATCHED BOARDING, and GROOVED LININGS, with every thickness and scantling of SAWN Goods always on sale, or cut to order, and delivered with dispatch.



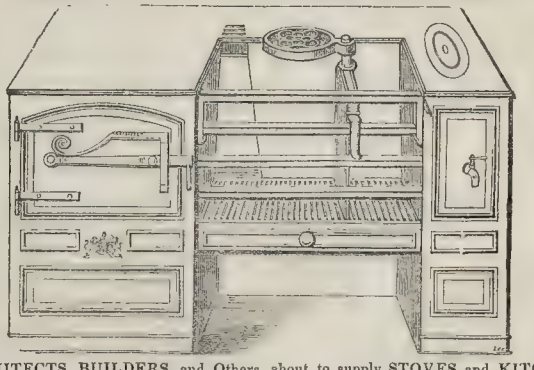
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TO BE LET OR SOLD, One or Two Acres, near Richmond. This is probably one of the most eligible sites on the Banks of the Thames.—Apply personally, for view of plans, &c., to Mr. TRIMENS, 9, Adam-street, Adelphi.

A BARGAIN.

TO BE LET OR SOLD, several remaining Plots of Freehold Ground, Land-tax redeemed; each Plot 100 feet frontage; Ninety-nine Years' Lease will be granted direct from the Freeholder, from Midsummer-day next; suitable for building genteel detached cottages, near the celebrated Willow Vale Subscription Fishery, in that delightful and very improving neighbourhood, Shepherd's Bush, near the Adelaide-inn, 3¼ miles from Oxford-street, at the very low rent of 1*s.* 6*d.* per foot frontage. There are upwards of 30 choice Fruit Trees now in full bearing, with the under crops, for 20*l.*; or the Freehold to be Sold, including all the Trees, &c., for 170*l.*, the lowest price.—Inquire of Mr. BARKER, on the premises.

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TO LET, for a long term of Years, situate at the West end of St. Marylebone, well adapted for an Extensive Washing and Baths Establishment, being in a densely populated Neighbourhood; or for Manufactories, Warehouses, or for other purposes requiring much room. Apply to Mr. MANNING, Builder, 16, Bell-street, St. Marylebone, who will show the ground referred to.

BUILDING GROUND.

TO BE LET, direct from the Freeholder, on Building Leases, HARLESDON PARK, three miles from Victoria Gate, Hyde Park, consisting of thirty-five Acres of Meadow Land, with a Frontage of 1,800 feet to the Turnpike Road. The Ground commands extensive Prospects, with south and west Aspects; the whole lies admirably for Draining, and is situate close to the first Station on the London and Birmingham Railway. The Plans may be seen, and particulars obtained, by application to Mr. H. E. KENDALL, junior, Architect, 33, Brunswick square.

TO BUILDERS.—MATERIALS AND MONEY ADVANCED.

TO BE LET, on BUILDING LEASES, for ninety-six years, several very eligible plots of Freehold Building Ground, land-tax redeemed, situated in the Shrubland-road, leading from the Queen's-road, Dalston, to Lansdown-place. This is one of the most rapidly improving neighbourhoods near London, and will be the principal thoroughfare from all parts westward to the new Victoria Park, from which it is only a quarter of a mile distant.—Apply to Mr. PALMER, on the premises.

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BUILDING PLOTS TO BE LET in this most desirable and salubrious situation !! commanding picturesque views of the surrounding beautiful neighbourhood, and elevated within a few feet of the summit of the monument, with the best approaches of any suburban district near the metropolis, and greatest facilities of access to all the fashionable resorts and promenades of the West End and the City!—For particulars and plans, apply to W. H. TWENTYMAN, Esq., 11, Regent's-villas, Avenue-road, Regent's-park.

SPACIOUS BUILDING GROUND, in the heart of the City, to be LET on a BUILDING LEASE. The site comprises Old Founders' Hall, Lothbury extending from east to west seventy feet and from north to south thirty feet), and a further space in connection with it suitable for purposes of an additional entrance to the Premises. Persons willing to tender for these Premises on a Building Lease are hereby informed that a Committee will meet here on Thursday, the 4th of June next, at one o'clock precisely, to take such Tenders into consideration. —Particulars may be obtained by applying at Founders' Hall, or to J. B. GARDINER, Esq., Architect, 4, Bank Chambers, Lothbury, where a Plan of the Premises may be seen.—By Order, J. GRAY, Jun., Clerk.
Founders' Hall, 7th May, 1846.

TO BUILDERS AND OTHERS.
Valuable Freehold Building Land, Brixton.

MR. SPEARMAN is instructed TO LET several desirable Plots of Building Ground, having frontages in the whole of about 1,550 feet to well-made Roads in important thoroughfares, eminently adapted for the erection of detached and semi-detached villas, and delightfully situate, contiguous to the Brixton Road, in a populous and rapidly improving neighbourhood. An abundance of sand and gravel may be obtained from the Land. Lease 97 years. Further particulars on application to Mr. SPEARMAN, Auctioneer and Surveyor, 77, Old Broad-street, City; or to Mr. BLENKARN, No. 6, Stockwell-Park-road, Brixton, who will show the ground.

TO TIMBER DEALERS, BUILDERS, &c.

AT the West End of London, to be disposed of, a BUSINESS in the above line, with a large Shop, Sheds, and extensive Premises.—For further particulars, apply to Mr. PEACOCK, Surveyor, &c., Clarence House, High-street, Kensington.

BRICKS.—One Million of New Stock and other Bricks for sale, in Wanstead Park, Essex, adjoining the high road to Stratford, and within a mile and a half of railway and water conveyance,—Apply to Mr. J. C. PETRIE, on the premises.

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A NUMBER of MARBLE CHIMNEY PIECES, consisting of Statuary, some of which are of elegant design, got up in a superior manner, suitable for Drawing Rooms, &c., and some of moderate dimensions, suitable for second and third rate houses. Also, some Bastard Statuary, in Slab. TO BE SOLD CHEAP, under peculiar circumstances. Apply, 34, Chichester-place, King's Cross.

FREEHOLD ESTATES AND OTHER PROPERTY TO BE SOLD.

TO BE SOLD in Lots, pursuant to an Order of the High Court of Chancery, made in a certain cause of Hamilton against Viscount Lismore, with the approbation of Samuel Duckworth, Esq., one of the Masters of the said court at Gray's Inn Coffee House, Holborn, in the month of June next, a FREEHOLD ESTATE, consisting of 27 acres of building-ground, known as the Gospel Oak Field and Five Acre Field, situate between Kentish Town and Hampstead, and adjoining the land of the Earl of Mansfield and the land recently sold by Lord Southampton. Also, a rent charge in perpetuity of 100*l.* per annum from the chapel and burial-ground of the parish of St. James, Westminster, situate in the Hampstead-road. Also, a PLOT OF GROUND in the Hampstead-road, containing the reservoir and premises of the New River Company, and now on lease to the said company for an unexpired term of 946 years, at a clear rent of 200*l.* per annum.—Particulars and conditions of sale may shortly be had at the said Master's Chambers, Southampton-buildings, Chancery-lane; of Messrs. WALKER, GRANT, and Co., Solicitors, 13, King's-road, Gray's Inn; and Messrs. LIGHTFOOT, ROBSON, and LIGHTFOOT, Solicitors, 26, Castle-street, Leicester-square.
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King's-road, Gray's Inn.

SALES BY AUCTION.

VERY SUPERIOR OAK AND OTHER TIMBER, on the Southhill-park Estate, East Hampstead, Berks, within 28 miles of London, including clean and straight Trees, containing from two or three loads in each.

MESSRS. DAVIS and VIGERS will SELL by AUCTION, on the Estate, on Monday, the 25th inst., at 12, about 500 TREES; consisting of extraordinary fine oak, ash, lime, alder, chestnut, beech, &c., of various sizes, and about 1,200 fir poles, the whole thrown, and the principal part drawn together aside the high road from Bracknell to Cæsar's Camp, and lying in the park very conveniently for getting away. Southill-park is close to Bracknell, and midway between the towns of Ascot, Bagshot, and Oakingham, and only seven miles from the South Western and Great Western Railways. The trees may be seen three days before the sale. Catalogues may be had at the Castle Inn, Windsor; the principal inns in the neighbourhood; of the bailiff, JAMES KING, Southill-park; and of Messrs. HEWITT DAVIS and FRANCIS VIGERS, Land Agents, &c., 3, Frederick's-place, Old Jewry.

BUILDING LAND, KENSINGTON PARK,
Adapted for the erection of small Villas.

MR. FREDERICK CHINNOCK will SELL by AUCTION, at the Auction Mart, on TUESDAY, June 2, 1846, at Twelve o'Clock, Four Lots of Building Land, adapted for the erection of small Villas, each lot presenting a frontage of 50 feet to Sommerset Terrace, by a depth of 160 feet, held under an agreement direct from the Freeholder, at a trifling Ground Rent. Particulars may be obtained at the Mart; of Messrs. TILSON and SQUANCE, Solicitors, 29, Coleman-street, City; and at Mr. F. CHINNOCK'S Auction and Estate Offices, 28, Regent-street, Waterloo-place.

KENSINGTON PARK, NOTTING HILL.—Highly Valuable BUILDING LAND, on the most important and eligible part of this rapidly improving and highly picturesque Estate, presenting Sites for the Erection of about Eighty detached and semi-detached Villas, embracing about Nine Acres of Land, held direct from the Freeholder.

MR. FREDERICK CHINNOCK has been directed to SELL by AUCTION peremptorily, at the Auction Mart, City, on TUESDAY, June 2, at Twelve, the valuable PLOTS of BUILDING LAND described above, in Lots suitable for either the Capitalist, Builder, or to gentlemen desirous of erecting their own residences. The land is situate on the north side of the intended noble road, 60 feet wide, leading from St. John's Church to Westbourne-grove, to which it presents a frontage of 760 feet; it is on the highest points of ground on the estate, commanding a perfect panoramic view of great beauty and extent, upon which about 80 villas may be erected, giving to each sufficient space for appropriate pleasure-grounds; the sewer, for which notice has been given, will be made at the expense of the proprietor.—A bird's-eye view of the Estate, showing villas in different styles of architecture, will be prepared, and may be seen at Mr. CHINNOCK'S Offices, 28, Regent-street, Waterloo-place, where lithographic plans and particulars may be obtained; and of E. ELDERTON, Esq., Solicitor, 3, Lothbury, City; Messrs. BAYLEY and JANSON, Solicitors, 4, Basinghall-street; and at the Auction Mart.

LANSDOWN TERRACE, KENSINGTON PARK, NOTTING HILL.—NOTICE of SALE of SIX FIRST-CLASS RESIDENCES, most delightfully situated, commanding charming and extensive Panoramic Views of the surrounding Country, held for long Terms at exceedingly low Ground-rents; affording a most desirable opportunity for either occupation or for a safe Investment.

MR. FREDERICK CHINNOCK begs to announce he has been favoured with instructions to SELL by AUCTION, at the Auction Mart, on WEDNESDAY, June 3, at Twelve, SIX newly-erected FIRST-CLASS RESIDENCES, situate on the highest and best portion of this interesting and picturesque estate, and but a short distance from St. John's Church; the houses are most substantially built, and five of them are finished, with the exception of decoration, which is left to the taste of the purchaser, fit for the reception of, and having accommodation for, large families. They are approached by a bold carriage sweep, screened from the road by a massive ornamental balustrade; and are entered by a lofty portico of the Doric order, with commanding staircase, noble reception and numerous best and secondary bed-chambers, together with a promenade in a pleasure-garden most tastefully laid out.—May be viewed, and descriptive particulars obtained of E. M. ELDERTON, Esq., Solicitor, 3, Lothbury; at the Auction Mart; and at Mr. CHINNOCK'S Auction and Estate Offices, 28, Regent-street, Waterloo-place.

WOODFORD, ESSEX.—Three Copyhold Cottage Residences, alike eligible for occupation or investment, being quite equal to freehold, as they are subject only to a mere nominal fine and very trifling quit-rent; and Five truly desirable Plots of Building Ground adjoining.

MR. G. R. NOBLE has been favoured with instructions to SELL by AUCTION, at the Mart, London, on Thursday, June 4, at 12 o'clock, in Lots, THREE very neat, genteel COTTAGE RESIDENCES, in good repair, with fore courts, and gardens in the rear, delightfully situate in the most preferable part of this much admired and healthy village, being on Woodford-green, at an easy and pleasant remove from the high road, and will always ensure respectable tenants. The building ground commands pleasing and uninterrupted views, and offers very eligible sites for the erection of cottage or villa residences, which are much required in the neighbourhood. May be viewed 10 days prior to the sale by leave of the respective tenants, and descriptive particulars with plans obtained at the inns in the neighbourhood; at the Auction Mart; of Mr. CUTTS, Solicitor, Little Bardfield-hall, near Braintree, Essex; and of Mr. G. R. NOBLE, Auctioneer and Surveyor, Woodford, Essex.

Nineteen truly valuable Allotments of Building Ground, part of the Ray Lodge Estate, delightfully situate in Snake's-lane, in the picturesque and pleasing village of Woodford.—By Mr. G. R. NOBLE, at the Auction Mart, on Thursday, June 4, at 12, without reserve.

NINETEEN truly valuable Allotments, being the most desirable and interesting sites for building in this favoured village. When it is considered that building operations are on the eve of commencement, coupled with the advantage of early railway communication, the safety of investment on this estate will at once be manifest. The land contains very excellent brick earth. May be viewed, and printed particulars, with plans, obtained at the Horse and Groom Inn, Woodford; White Hart, Romford; Cock, Epping; Auction Mart, London; Mr. CUTTS, Solicitor, Little Bardfield Hall, near Braintree, and at the offices of Mr. G. R. NOBLE, Auctioneer and Surveyor, Woodford.

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WANTED a SITUATION (by a Person aged 26), for One Year, at a salary of 25s. per Week; of sober and steady habits, and possessed of a sufficient stock of tools. Has been used to the jobbing business. Address J. S., Office of "The Builder."

WANTED by the Advertiser a Situation either in a saw-mill, brewery or factory. Capable of taking the management of a steam-engine and do millwrights' work and the general repairs to machinery. No objection to the country.—Address, C. F., 14, Union-street, Clarendon-square, New-road.

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WANTED, a BRASS FOUNDER, fully competent to General Work, and if capable of making small castings in Iron would be preferred. Also an Iron Founder, competent to make malleable Iron Castings. Steady men of good character will have constant employ. Apply to BUNNETT and CORPE, Engineers, Deptford, Kent.

TO ARCHITECTS AND BUILDERS.

WANTED, by an active practical person, a SITUATION as Clerk of Works, or Builders' Clerk, or General Foreman; has had much experience in laying-out and superintending of works, is an excellent draughtsman in office or detail drawings; well understands specifications and measurement of artificers' work. No objection to the country. First-rate reference will be given.—Address to T. W., care of Mrs. Clark, 9, London-road, Southwark.

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WANTED, by Messrs. NEALE and WILSON, Builders, Grantham, Fifteen JOINERS. Good and steady workmen, possessing a sufficient stock of proper tools, may meet with employment without the least chance of delay for two years. In order to save correspondence, the wages for men as above will be 4s. per day, for ten hours; and no other than personal application will be attended to. No travelling expenses allowed.—Apply at the office of the above firm in Grantham.

Grantham, May 21, 1846.

TO PARENTS AND GUARDIANS.

WANTED, a well-educated Youth as an Apprentice, to a respectable and old-established Firm in the City, where he will obtain a knowledge of the business of a Plumber, Painter, Glazier, and Paperhanger, and be taught practically the higher branches of writing, graining, &c. He will, in addition, have the means of acquainting himself with the measuring, valuing, and counting-house departments of the business. A premium will be expected; and as the youth will acquire his freedom in a livery company, and be treated as one of the family, no one but of undoubted respectability will be accepted.—Communications (prepaid) to be addressed G. T., Mr. Paradise, Stationer, 40, Watling-street.

TO ARCHITECTS AND BUILDERS.

REQUIRED Employment by a Young Man, capable of performing the duties of the above offices, having had several years experience therein, and on works; is a neat draughtsman and designer; has prepared working, detail, and finished drawings, estimates, &c. Salary moderate.—Address, A. B., 6, John-street, London-fields, Hackney.

TO ARCHITECTS.

THE Friends of a respectable well-educated Youth, 17 years of age, are desirous of placing him in the office of an architect, where he would be remunerated according to his deserts; he has a natural good taste for drawing, which has been improved by instruction; has been twelve months in an architect's office, and can be highly recommended.—Letters to be addressed to W. H., 12, Hemus-terrace, King's-road, Chelsea.

TO ARCHITECTS AND SURVEYORS.

PARTNERSHIP.—A Gentleman of capital, and good practical knowledge of the Profession, wishes to invest, in addition to his services, a sum commensurate with the advantages to be derived, in a practice of a decidedly established character and respectability.—Address, with real name, to A. B., care of Mr. Bennett, 10, Richmond-street, St. James's.

PARTNERSHIP.—A Person of good address and persevering business habits, wishes to invest the sum of 500*l.* or more, in some old-established business where his active services would be required, and which would ensure him an income of (not less than) 200*l.* per annum; full particulars, with real name and address, to Mr. HENRY SOUTHAM, Sawing and Planing Mills, Gillingham-street, Pimlico. The utmost scrutiny will be observed.

TO IRONFOUNDERS.

NOTICE IS HEREBY GIVEN, that Her Majesty's Justices and Commissioners of Sewers for Westminster, &c., will be ready at this Office, on Friday, the 5th of June next, at Two o'Clock, to receive sealed Tenders for the supply of 500 CAST IRON GULLY GRATES. Patterns may be seen, and Forms of Tender and all particulars obtained, at the Sewers Office, No. 1, Greek-street, Soho-square. LEWIS C. HERTSLET, Clerk.

TO BRICKMAKERS.

NOTICE IS HEREBY GIVEN, that Her Majesty's Justices and Commissioners of Sewers for Westminster, &c., will be ready at this office on Friday, the 5th June next, at 2 o'clock, to receive sealed Tenders for the supply of 30,000 RADIATED BRICKS. Patterns may be seen, Forms of Tender and all particulars obtained, at the Sewers Office, No. 1, Greek-street, Soho-square.
LEWIS C. HERTSLET, Clerk.

CONTRACTS.

PLANS, &c., FOR BUILDING A NEW WORKHOUSE.

TO ARCHITECTS. — NOTICE IS HEREBY GIVEN, that the Board of Guardians of the Parish of Kensington have EXTENDED THE TIME FOR RECEIVING PLANS, &c., for Building a New Workhouse for Kensington, from the 9th of June to the 7th of July next; and that the guardians will adjudicate on the same on the 14th of July aforesaid.
S. CORNELL, Clerk to the Guardians.

TO BUILDERS AND OTHERS.

NOTICE IS HEREBY GIVEN, that the Commissioners of Sewers for the Holborn and Finsbury Divisions, Middlesex, will meet at their Office, in Hatton Garden, on Friday, the 12th day of June next, at One o'clock in the afternoon precisely, to receive TENDERS, in writing, for building Sewers in the following situations, viz. Clarence Road, Kentish Town, 1,500 feet; the New Road, St. Pancras, 560 feet; Goswell-street Road, 1,630 feet; King Henry's Walk, Islington, 1,150 feet; and in Liverpool Road, Islington, and Cumming-street, Pentonville, 910 feet; conformably to Plans and Specifications, which may be inspected daily, between the hours of Nine and Three. Five separate Tenders must be delivered for the above Works, and marked with the names of the situations to which they apply. The parties offering must attend at the above time of meeting, with their Tenders sealed up, which must contain the names and address of Two Sureties for the due execution of the Works. The Commissioners will not consider themselves bound to accept the lowest tenders.—By the Court.

STABLE and LUSH, Clerks.

Office of Sewers, Hatton Garden, 22nd May, 1846.

TO BUILDERS.

PERSONS desiring to offer TENDERS for building a New Chapel in Meeting-house Alley, Portsea, to accommodate 1,200 persons, may inspect the plans and specifications at the office of Mr. T. E. OWEN, Architect, Portsmouth, after the 3rd of June next. Tenders to be delivered at the vestry of the chapel on the 17th June, before 12 o'clock at noon. The contractor to provide sufficient sureties for the fulfilment of his contract.

Guildhall, May 16, 1846.

THE COMMITTEE for LETTING the CITY'S LANDS will meet at Guildhall, on Wednesday, the 10th day of June next, at One o'clock precisely, to receive TENDERS for Letting, on Lease for Seven Years, from Midsummer next, a House, No. 37, on the south side of Fenchurch-street.—Further particulars may be obtained, and plans seen, by applying at the Office of Works, Guildhall. THOS. SAUNDERS, Comptroller.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—Wyatt, Parker, and Co., Agents. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

PATENT ARCHITECTURAL TILES.

ARCHITECTS, BUILDERS, and others can now be supplied in any quantity with the Ornamental Tiles, which for security, beauty, and effect surpass every other kind of roofing, whilst their cost and weight but little exceed the covering with common pantiles, and their superiority over slating is at once apparent. They are hung on pantile laths, and admit of being effectually repaired with the greatest facility. Prospectuses and particulars may be obtained at the Company's offices, No. 158, Strand, or at the depot, Essex Wharf.—Boxes, containing twelve models of the various patterns, transmitted to the country on receipt of post-office order for 7s. 6d.

ORNAMENTAL TILES FOR COVERING BUILDINGS.

ROBERT BROWNE'S newly-invented CURVED ITALIAN TILES, for which invention the Society of Arts and Sciences awarded a medal. The Gothic Grooved Ridge Tile, with vertical ornaments, invented by R. B. in 1840; also a variety of plain Gothic Ridge Tiles adapted for tile or slate coverings; ornamental Plain Tiles of various patterns.

Tiles form in winter a warmer and in summer a cooler covering than slates or metal, and may be burnt of any desired colour. Address ROBERT BROWN, Tile Works, Surbiton Hill, near Kingston, Surrey.

DAVEY'S PATENT SLATE RIDGES and HIPS are very superior in appearance to lead, as well as more durable and much cheaper, and are admitted to be the most valuable articles for the purpose hitherto invented. They consist of two side pieces and a roll, either united together to form one solid piece, or in separate parts, and in lengths of from four to six feet. The roll is made of various sizes, perfectly round, and in the strongest way of the slate. They may be purchased of the patentee, W. DAVEY, Broad Quay, Bath, or of any slate dealer in London or the country. Parties ordering a cargo of roofing slates may procure these ridges at the cheapest rate from Mr. JAMES WYATT, Port Penrhyn, Bangor (where they are manufactured), of whom and of the patentee further particulars and prices may be obtained.—Be particular to order DAVEY'S Patent.

HIP TILES to suit slate roofs in colour; Ridges, with plain or rebated joints, roll tops, and vertical ornaments; drains, many sizes, with plain or socket joints; paving in squares, hexagons, octagons, &c., different colours; roofing, in Grecian or Italian styles, other devices also, or plain; conduits, which do not injure pure water; fire-bricks and tiles; clinkers, and out-door paving; sundry wall-coping, garden-borders, chimney-tops; also tubular and other flues of peculiar material. No agent, but a depôt at 22, WHITEFRIARS-STREET, FLEET-STREET, LONDON, under Mr. PEAKE'S personal care, to supply genuine TERRO-METALLIC goods at fair prices as per quality; also, additional Stock at No. 4 Wharf, Macclesfield-street, South, City Basin.

The TILERIES, TUNSTALL, STAFFORDSHIRE, are near the centre of England, whence boats are sent direct to any inland place; or to the Mersey for the coasts, the colonies, and elsewhere.

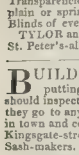
PATENT WINDOW BLINDS.

TYLOR and PACE manufacture every description of WINDOW BLINDS entirely upon their own premises, by the aid of steam machinery, insuring the best materials and workmanship, at the lowest cost. Patent metallic gauze and perforated Zinc Blinds, in mahogany frames, at 1s. 8d. per square foot; ditto, in metal frames, 1s. 2d. per square foot. A large and choice assortment of Transparencies, mounted, from 19s.; Holland Blinds, on plain or spring rollers, Outside Shades, Venetian and Sun Blinds of every description.

TYLOR and PACE'S Show-rooms, 53, Cornhill, entrance St. Peter's-alley.

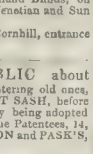
BUILDERS and the PUBLIC about putting in NEW WINDOWS or altering old ones, should inspect HERRING'S new PATENT SASH, before they go to any expense, which is universally being adopted in town and country.—Exhibited daily at the Patentees, 14, Kingsgate-street, Holborn, also at JOHNSON and PASK'S, Sash-makers.

SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.



JOHNSON & PASK,
1, AMWELL STREET,
Clerkenwell,

Beg to state that they continue to make Sashes, glazed complete, at 10½d. per foot; also, Shop Fronts to any design, and with the best British plate-glass. Every description of joinery on the lowest terms, and of the best materials and workmanship.



A full list of prices forwarded by return of post to any part of the country.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

TO THE PLATE GLASS TRADE.

THE BIRMINGHAM PLATE AND CROWN GLASS COMPANY, "Registered," beg to inform the Trade and Public, that the extension of their Works at Smethwick, near Birmingham, being now completed, their Warehouse, 141, Fleet-street, is now open for the Sale of their Crystal Plate Glass, which will be found to stand unrivalled by that of any other manufactory. They are also in a position to supply Rough Plate of any substance for Skylights or Floorings on the shortest notice.—Orders addressed to B. MOSS, 141, Fleet-street, will be promptly attended to.

SASHES primed, glazed, and sent to any part of London at 6d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.

FOREIGN SHEET 5d. per foot.
BRITISH CROWN 5d. per foot.

Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Shew-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.

Dry and Good Colours of the best quality; Brushes Dryers, and every article used in the Trade Warranted.

VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.

For complete lists priced.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

WINDOW GLASS, LEAD, VARNISH, and COLOUR MANUFACTORY.—Crown Window Glass, in squares under two feet, 4½d. per foot; glazing, 5d. per foot; sheet glass, 4d. per foot; best white lead, 26s.; seconds, 24s.; thirds, 22s. per cwt.; linseed oil, 2s. 2d.; boiled oil, 2s. 6d.; turpentine, 3s. 9d.; fine oak varnish, 10s.; carriage, 12s.; copal, 14s.; body copal, 20s.; gold size, 10s.; paper varnish, 10s.; linseed oil putty, 7s. 6d. per cwt. per firkin; patent dryers, 42s.; black paint, 28s.; lead colour, 24s.; Oxford ochre, 42s. per cwt.; best pan water-closet, 34s. complete; ½-brass cocks, 2s. 8d. each. Milled sheet lead, patent pipe, beer-machines, tapping-cocks, and brushes and colour of every description. Thomas Millington being the manufacturer, can supply a much better article than most other houses. Address, THOMAS MILLINGTON, 87, Bishopsgate-street Without, London.—Established upwards of 90 years.

TO ARCHITECTS AND BUILDERS.

DOOR SPRINGS AND HINGES.—GERISH'S PATENT DOOR SPRINGS, for CLOSING every description of DOOR, consists of Single and DOUBLE-ACTION BUTT HINGES in Brass and Iron for Doors to open one or both ways, and Rising Hinges for the convenience of Doors opening on uneven Floors. Likewise Swing Centres, which consist of a combination of power unequalled by any made at present. Manufactured by F. W. Gerish, East-road, City-road; and sold by all respectable Ironmongers in the United Kingdom.

TO ARCHITECTS AND BUILDERS.

COLLINGE'S PATENT HINGES.—Sole Manufactory, 64, BRIDGE-ROAD, LAMBETH, where a great variety are always on view, for Church, Park, Coach-house, and all other Doors and Gates, of large or small dimensions, a gate of a ton in weight moving with these hinges as easily as a wicket; they are also admirably adapted for drawing-rooms, being highly ornamental, and folding-doors fitted with them may be removed and replaced in an instant. Rising and spring Hinges, on the most improved principle, and very superior Fastenings for exterior Gates, at moderate prices. To be seen at Charles Collinge and Co.'s Patent Axletree, Sugar-mill and Spherical-hinge Manufactory, 64, Bridge-road, Lambeth.

FRENCH PAPER HANGINGS.—All the Newest and most Splendid Patterns at the Reduced Duty of 2d. per yard, on view; and orders taken at MARKS and Co.'s Warehouse, 59, Princes-street, Leicester-square. Carved Leather and Carton Pierre Ornaments, and Utrecht Velvets, at the same Reduced Duties.

TO PAPER-HANGERS, HOUSE-DECORATORS, BUILDERS, SHIPPERS, &c.

JOHN TODD MERRICK and Co., in removing to their new Manufactory in New Oxford-street, take the opportunity of soliciting the inspection of the trade to their extensive stock of paper-hangings, comprising every variety, from the cheapest to the most costly and elegant drawing-room patterns. They also invite attention to their complete assortment of decorations, suitable for every description of room; and they beg to announce that they are now ready to receive orders, furnish estimates, and enter into contracts in any situation, and to guarantee the execution of them in the first style.—J. T. M. and Co. wish particularly to call the attention of shippers to the fact, that they have made such arrangements as will enable them most fully to compete with French goods in price, quality, and design.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.

PATENT SAFETY IRON SLIDING SHUTTERS.





The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 115, Old Street, London; or at the Licensees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using BENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licenses Granted.

REDUCTION IN THE PRICE OF
BUNNETT AND CORPE'S
PATENT REVOLVING IRON SHUTTERS.

THE validity of this Patent being completely established, the Patentees have much pleasure in stating that the very extensive demand, and the employment of improved machinery in the manufacture, have given them an opportunity (of which they gratefully avail themselves) of making a considerable reduction in the price of this well-known and tried invention, thereby rendering them the cheapest as well as the best iron shutters in use. Every improvement suggested by practical skill and most extensive application has been adopted, and no effective REVOLVING IRON SHUTTER can be constructed without infringing B. and C.'s patent. The worm and wheel, as patented by them, being the only safe, durable, and efficient mode of raising and lowering such shutters, these shutters can be applied horizontally, either above or below the window, or vertically, as introduced by BUNNETT and CORPE, in some of the largest establishments: they are made with bent or corrugated laths, if required.

BUNNETT and CORPE also manufacture
REVOLVING WOOD SHUTTERS,

with their patent raising machinery, or with counterbalance weights, and with proper metallic hinges, without which no shutters can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop Fronts fitted in a superior manner with Iron Shutters, Patent Brass or Zinc Sashes, Moulded Engraved Stall Board Plates, best Plate Glass, and internal Brass Fittings of all kinds, on the most advantageous terms. Estimates given and contracts taken in Town or Country.—All kinds of metal works executed to any design. Metal Drawing, Rolling, and Stamping for the Trade. OFFICE, 26, LOMBARD STREET, LONDON. WORKS, at DEPTFORD, KENT.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery.

Best Patent Cut Clasp.
3d. 4d. 6d. 10d. 20d.
5d. 7d. 8d. 1s. 6d. 2s. per 1000.
Best Sheet Cut Floor Brads 16s. per cwt.
Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

Best Patent Sash Line.
1 2 3 4 5 6
4s. 3d. 5s. 6s. 6d. 7s. 6d. 10s. 12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6d., 7d., 8d. per inch. Self-acting Kitchen Ranges with Oven and Back Boiler. Wrought Bars and Bright Fittings.
3 ft., 3l. 3s. 3 ft. 6 in., 3l. 12s. 6d. 4 ft., 4l.

Lists of Prices had on application at the Warehouse; i by letter prepaid, inclosing postage stamp.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 108, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

IRON BRIDGES, PIERS, &c.

*** For the Numerical Explanation of DREDGE'S PRINCIPLE, see the "Mechanics' Magazine," No. 1172.

THIS system removes from the Arch to the horizonal line the horizontal force of the whole Bridge, which makes the roadway as powerful as the arch itself, and the arch, with half the material, more than double its original power. The pressure on the key-stone of the arch is the horizontal force of a Bridge, which acts directly on that point as a dead load of self-destruction; and it has thrown down, within the last eighteen months, nearly sixty arches of Viaducts and Bridges.

EXAMPLE:—The Menai Bridge, whose depth is 1-14th of its length, and the suspended weight 800 tons, its horizontal force is 2,800 tons of self-destruction on the centre; hence it would require but a small portion of the material and cost of that bridge to construct one over the Menai Straits on this plan, that would possess far greater power and stability than the present structure.

This principle has been fully tested nearly ten years, by the construction of fifteen public bridges for the Government and others in Great Britain. It is also established in India.

Bath, 3rd April, 1846.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 20s. per gallon.

STEPHENS'S LIQUID OAK, MAHOGANY, ROSE, and SATIN WOOD STAINS, for Staining various sorts of Inferior Woods, so as to give them the appearance and character of the more costly and ornamental kinds; also for reviving the natural colour of Wood Carvings and Panellings, and other ornamental Wood Work, when such has become faded from age or other causes.

IN THE BUILDING AND DECORATING NEW CHURCHES, where it is desirable to give to the cheaper kind of Woods the appearance of Antique Oak, or to make Deal assume the character of Oak Panelling, whereby the effect of the more costly may be produced by the use of a cheaper material, these Stains will be found more effective than any means hitherto employed.

IN OLD MANSIONS AND HALLS, where the Wood Carvings and Panellings have faded, the applications of these Stains will be found to revive and bring back the rich natural colour, and which colour may be varied from the lighter to the deeper shades of the most Antique Oak.

The BIRCH WOOD, which has a fine natural grain, with little colour, is particularly suited to the application of these Stains; and the appearance which it assumes after Staining is so near that of the natural wood, that is is only when the grain and colour of the latter is particularly fine that it is preferred. Beech, Birch, Elm, Ash, and other Woods, English and Foreign, receive the Stains and produce various imitations.

For the exposed Timbers of the inside of the ROOFS of CHURCHES, for which north country Timbers and Deals are generally used, by brushing them over with the Stain, which operation is very rapidly, and of course economically, effected, the appearance of an Oaken Roof will be produced. For colouring the backs of the Seats, Pews, the fronts of Galleries, the Pulpit, &c., it is equally advantageous.

Prepared by HENRY STEPHENS, and may be obtained at 54, Stamford-street; at the Office of "The Builder," 2, York-street, Covent-garden, and in Manchester, at DRAKE'S MARBLE WORKS, Garratt-bridge, Davidstreet, at which places specimens of their application may be seen.

OHIO MELODISTS.—MORNING and EVENING PERFORMANCE at the ROYAL ADELAIDE GALLERY. This original band of Nigger Harmonists continue to attract and delight large audiences by the drollery of their personation of negro life. The Concert, as usual, conducted by Mr. A. Sedgwick, and supported in the vocal department by the talented Miss Pearce, Miss Stuart, and Mr. Binge. In addition to the scientific attractions to this institution, a large model of a new method, invented by Mr. Austin, for obviating the difficulties of the Break of Gauge on Railways, a point of immense interest at the present moment. Nickel's Atmospheric Railway. Scientific Lectures, the Microscope, Dissolving Views, and Chromatrope, daily; and on Tuesdays, Thursdays, and Saturdays, at 3 o'clock, Major Beniowski's Lectures on his new system of Teaching the Blind to Read, and on Artificial Memory; and on the alternate days a Lecture on Phonography by Mr. Brookes. Admittance, 1s. Schools, half-price.

TO ARCHITECTS, BUILDERS, AND THE PUBLIC IN GENERAL.

C. DEBAUFER and SON beg to call the attention of architects, builders, &c., to their general assortment of Gas Lamps, Pendants, Hydraulic sliding Pendants, Gas Brackets, Pillars, and every article connected with gas apparatus, at their Manufactory and their Rooms, 10 and 11, Creed-lane, Ludgate-street.—A liberal discount allowed to architects and builders.

NEWLY-INVENTED WATER-CLOSET.
Registered by Act of Parliament, No. 669.

J. C. STOKES, successor to W. R. MARSTON, respectfully begs to call the attention of architects, merchants, factors, and the public to his newly-invented WATER-CLOSET. Among its many advantages may be noticed, its extreme simplicity and durability; the expense and annoyance of frequent repairs being altogether obviated; it may be fixed in almost any situation, and is the cheapest and most efficient Water-Closet extant.

Drawings, with every information, may be obtained on application, personally or by letter, at the warehouse, 2, Monmouth-street, Birmingham.

TO CONTRACTORS, RAILWAY DIRECTORS, ARCHITECTS, SURVEYORS, &c.

HUNT'S IMPROVED PATENT URINAL, for Railway Stations, Hospitals, Public Offices, &c., wholly free from metal, and thereby any deposit of ammonia is wholly prevented, and consequent tainting of the atmosphere. It is more sightly and much more economical than any article yet introduced for its intended purpose. References given to public offices, where it may be seen fixed.

"It is admirably adapted for its purpose, and cannot fail to be extensively adopted in railway stations and other places. Water is admitted through small holes all round the rim, whereby it is cleansed. It is superior to any thing of the kind yet seen, and deserves to be generally known."—*The Builder.*

Wholesale Depôt, Queen's-row, Pimlico.

FINE ARTS.

By Her Majesty's  Royal Letters Patent.

LORIMIER'S TRANSPARENT PLANES for Perspective Drawing; BENJAMIN WEST, Patentee.

"This Instrument will enable Artists and others to make any Drawing, whether from Nature or Models, in perfectly true perspective, so that a likeness or landscape may be taken in a few minutes absolutely perfect. It is used by her Majesty's Royal Sappers and Miners, Chatham. To Travellers it would be found serviceable, since it can be employed without the knowledge of drawing."—*Art Union.*

Price 18s. and 28s. Apply for Agents to BENJAMIN WEST, 2, St. James's-walk, Clerkenwell.—Sold by BARRITT and Co., 173, Fleet-street, London; GRIFFIN and Co., Glasgow, and by all Fancy Stationers, &c.

PAVING, 2s. 9d. PER SQUARE YARD Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27s. 6d. per ton.

TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorized CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced. I. FARRELL, Secretary,
Stangate, near Westminster Bridge, Jan., 1845. Seyssel Asphalte Company.

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

BRIGHT REGISTER STOVES, with Steel and Ormolu Ornaments, for 4*l.* 15s., cast at GREEN and CONSTABLES, 36, King William-street, five doors from London-bridge.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 190, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3*l.* 6s.	3*l.* 13s.	3*l.* 16s.	4*l.*	4*l.* 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5*l.*	5*l.* 15s.	6*l.* 5s.	6*l.* 10s.	7*l.*

Best Register Stoves, at 7*d.*, 8*d.*, and 9*d.* per inch.
Do. Elliptic do., at 3*d.*, and 4*d.* do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

BEDDING.

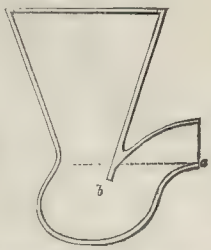
MIXED, 1s. per lb.
Grey Goose, 1s. 4d. per lb.
Foreign, ditto, ditto, 1s. 8d. per lb.

Best Foreign Grey Goose, 2s. per lb.
Best Irish White, ditto, 2s. 6d. per lb.
Best Dantzic, ditto, ditto, 3s. per lb.

Warranted sweet and free from dust.

A List of every description of Bedding, containing weights, sizes, and prices, sent free by post, on application to HEAL and SON, Feather-dressers and Bedding manufacturers, 196, opposite the Chapel, Tottenham Court-road.





CHEAP PAN FOR WATER CLOSETS,
With Trap, in One Piece.
DOULTON AND WATTS,
LAMBETH POTTERY, LONDON,

Manufacturers of the annexed in superior glazed STONE WARE,

Price 7s. 6d. each.

They are of the most durable ware, and are recommended in preference to iron on account of their cleanliness and cheapness.

If preferred, they can be had in two parts, the Pan at 4s. 6d., and the Trap at 3s.

N.B. Manufacturers of RAIN WATER PIPING for houses.

By Her Majesty's  Royal Letters Patent.

SEALED 7th OCTOBER, 1845.

CROGGON'S PATENT WATERPROOF DOUBLE BITUMINOUS PAPER.

THE above is Manufactured by the most Accurate Machinery, for Depositing a DOUBLE COAT of ASPHALTE between Two Sheets of Paper, ensuring an evenness of distribution of the Waterproof Materials, thus rendering EVERY MINUTE PORTION OF THE PAPER ENTIRELY IMPERVIOUS TO WATER. To prove that it perfectly resists water, it is only necessary to put it into such a form as to Hold Water, when, after filling, it, the water will evaporate without appearing in the least degree on the other side.

For ROOFS OF HOUSES it will be found very advantageous, being very cheap, admitting A GREAT SAVING OF TIMBERS; it may be painted of all colours, thus rendering it peculiarly applicable to any description of Roof. It is also an EFFECTUAL PREVENTATIVE against the effects of DAMP FROM WALLS, if put under the usual paper, and DAMP FLOORS, when under carpets.

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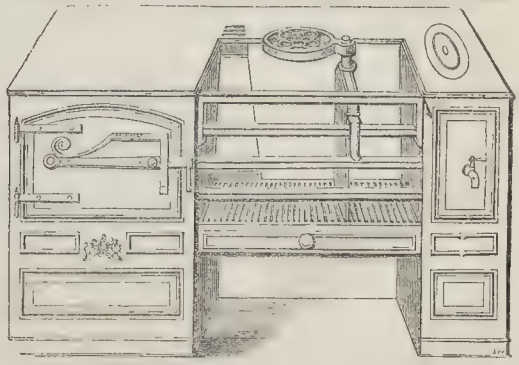
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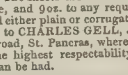
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COLLINGE'S PATENT HINGES,—Sole Manufactory, 64, BRIDGE-ROAD, LAMBETH, where a great variety are always on view, for Church, Park, Coach-house, and all other Doors and Gates, of large or small dimensions, a gate of a ton in weight moving with these hinges as easily as a wicket; they are also admirably adapted for drawing-rooms, being highly ornamental, and folding-doors fitted with them may be removed and replaced in an instant. Rising and spring Hinges, on the most improved principle, and very superior Fastenings for exterior Gates, at moderate prices. To be seen at Charles Collinge and Co.'s Patent Axletree, Sugar-mill and Spherical-hinge Manufactory, 64, Bridge-road, Lambeth.

TO BUILDERS.

PERSONS desiring to offer TENDERS for building a New Chapel in Meeting-house Alley, Portsea, to accommodate 1,200 persons, may inspect the plans and specifications at the office of Mr. T. E. OWEN, Architect, Portsmouth, after the 3rd of June next. Tenders to be delivered at the vestry of the chapel on the 17th June, before 12 o'clock at noon. The contractor to provide sufficient sureties for the fulfilment of his contract.

TO BUILDERS.

PARTIES wishing to CONTRACT for Finishing Four Third-rate Houses at Islington, may see the Specifications at Mr. WAGSTAFF'S Offices, Albion-terrace, Canonbury, from ten until five, daily. The Tenders to be delivered on or before Thursday, the 11th inst. at ten o'clock in the morning. Security will be required for the due completion of the works; and the proprietor will not bind himself to accept the lowest tender, or to pay any expenses attending the same.

CONTRACTS.

Guildhall, May 16, 1846.

THE COMMITTEE for LETTING the CITY'S LANDS will meet at Guildhall, on Wednesday, the 10th day of June next, at One o'clock precisely, to receive TENDERS for Letting, on Lease for Seven Years, from Midsummer next, a House, No. 57, on the south side of Fenchurch-street.—Further particulars may be obtained, and plans seen, by applying at the Office of Works, Guildhall. THOS. SAUNDERS, Comptroller.

TO BUILDERS AND OTHERS.

NOTICE IS HEREBY GIVEN, that the Commissioners of Sewers for the Holborn and Finsbury Divisions, Middlesex, will meet at their Office, in Hatton Garden, on Friday, the 12th day of June next, at One o'clock in the afternoon precisely, to receive TENDERS, in writing, for building Sewers in the following situations, viz. Clarence Road, Kentish Town, 1,500 feet; the New Road, St. Pancras, 560 feet; Goswell-street Road, 1,630 feet; King Henry's Walk, Islington, 1,150 feet; and in Liverpool Road, Islington, and Cumming-street, Pentonville, 910 feet, conformably to Plans and Specifications, which may be inspected daily, between the hours of Nine and Three. Five separate Tenders must be delivered for the above Works, and marked with the names of the situations to which they apply. The parties offering must attend at the above time of meeting, with their Tenders sealed up, which must contain the names and address of Two Sureties for the due execution of the Works. The Commissioners will not consider themselves bound to accept the lowest tenders.—By the Court.

STABLE and LUSH, Clerks.

Office of Sewers, Hatton Garden, 22nd May, 1846.

ASHBOURNE UNION WORKHOUSE.
TO BUILDERS.
Further Extension of Time for Delivery of Tenders.

THE GUARDIANS of the Ashbourne Poor Law Union HEREBY GIVE NOTICE, that they have determined upon a further EXTENSION of TIME for the Delivery of Tenders for the Erection of the New Workhouse. The Plans and Specifications will be open to the inspection of parties on and after the 15th of June, at the office of Mr. HENRY I. STEVENS, Architect, Friar-gate, Derby; and the Tenders must be delivered, sealed up and indorsed, "Tender for building the Workhouse," at the Union Office, Ashbourne, on or before Friday, the 26th of June. RICHARD HOLLAND,

Ashbourne, May 25, 1846. Clerk to the Union.

TO BUILDERS.

THE DIRECTORS of the City of London and Tower Hamlets' Cemetery Company intend to erect Two Chapels at the Cemetery, situate at South Grove, in the Mile-end-road, opposite Tredegar-square. Parties desirous of contracting for the erection of the same may inspect the drawings at the Cemetery on and after Saturday, the 6th day of June instant. The Tenders are to be delivered at the Cemetery by 10 o'clock on the 18th day of June instant. Any information respecting the buildings may be obtained at the offices of Messrs. WYATT and BRANDON, 77, Great Russell-street. The Directors do not bind themselves to accept the lowest tender. J. E. SHEARMAN,

1st June, 1846. Clerk to the Company.

ROYAL INSTITUTE OF BRITISH ARCHITECTS,
16, Lower Grosvenor-street, London,
28th May, 1846.
TO ARCHITECTS.

HER MAJESTY the QUEEN having been graciously pleased to grant to the Institute a ROYAL MEDAL for the promotion of Architecture, Notice is hereby Given, that the subject for the competition this year is, a design for a building suitable to the purposes of the Institute.

The drawings are to be delivered at the rooms of the Institute on or before the 31st of December next, where the requisite particulars may be obtained.

GEORGE BAILEY, } Hon. Secs.
J. J. SCOLES, }

ROYAL INSURANCE COMPANY,
1, Oldhall-street, Liverpool.

THE DIRECTORS hereby ANNOUNCE that they are ready to receive DESIGNS for their Building, proposed to be erected at the corner of North John-street and Dale-street, Liverpool: which designs are to be sent in to the Company's office on or before the 1st July next. The architect producing (in the opinion of the directors) the best plan, will receive a premium of 50*l.*; it being understood, that in the event of the Company employing the designer as their architect in erecting the building, no premium will be given. The architect producing the next best plan will receive a premium of 20*l.* Full particulars may be obtained on personal application to the manager, PERCY M. DOVE, Esq., Royal Insurance Office, Liverpool, or to the Company's Agent in London, C. T. JENKINSON, Esq., Temporary Office, 76, Cannon-street, City.

FRENCH PAPER HANGINGS.—All the Newest and most Splendid Patterns at the Reduced Duty of 2d. per Yard, on view, and orders taken at MARKS and Co.'s Warehouse, 59, Princes-street, Leicester-square. Carved Leather and Carton Pierre Ornaments, and Utrecht Velvets, at the same Reduced Duties.

TO PAPER-HANGERS, HOUSE-DECORATORS, BUILDERS, SHIPPERS, &c.

JOHN TODD MERRICK and Co., in removing to their new Manufactory in New Oxford-street, take the opportunity of soliciting the inspection of the trade to their extensive stock of paper-hangings, comprising every variety, from the cheapest to the most costly and elegant drawing-room patterns. They also invite attention to their complete assortment of decorations, suitable for every description of room; and they beg to announce that they are now ready to receive orders, furnish estimates, and enter into contracts in any situation, and to guarantee the execution of them in the first style.—J. T. M. and Co. wish particularly to call the attention of shippers to the fact, that they have made such arrangements as will enable them most fully to compete with French goods in price, quality, and design.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

REDUCTION IN THE PRICE OF
BUNNETT AND CORPE'S
PATENT REVOLVING IRON SHUTTERS.

THE validity of this Patent being completely established, the Patentees have much pleasure in stating that the very extensive demand, and the employment of improved machinery in the manufacture, have given them an opportunity (of which they gratefully avail themselves) of making a considerable reduction in the price of this well-known and tried invention, thereby rendering them the cheapest as well as the best iron shutters in use. Every improvement suggested by practical skill and most extensive application has been adopted, and no effective REVOLVING IRON SHUTTER can be constructed without infringing B. and C.'s patent. The worm and wheel, as patented by them, being the only safe, durable, and efficient mode of raising and lowering such shutters, these shutters can be applied horizontally, either above or below the window, or vertically, as introduced by BUNNETT and CORPE, in some of the largest establishments: they are made with bent or corrugated laths, if required.

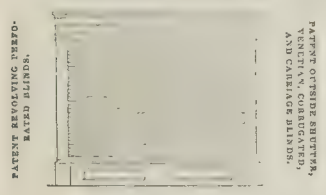
BUNNETT and CORPE also manufacture
REVOLVING WOOD SHUTTERS,
with their patent rusing machinery, or with counterbalance weights, and with proper metallic hinges, without which no shutters can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop Fronts fitted in a superior manner with Iron Shutters, Patent Brass or Zinc Sashes, Moulded Engraved Stall Board Plates, best Plate Glass, and internal Brass Fittings of all kinds, on the most advantageous terms. Estimates given and contracts taken in Town or Country.—All kinds of metal works executed to any design. Metal Drawing, Rolling, and Stamping for the Trade. OFFICE, 26, LOMBARD-STREET, LONDON. WORKS, at DEPTFORD, KENT.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.

PATENT SAFETY IRON SLIDING SHUTTERS.



The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 115, Old Street, London; or at the Licensees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using BENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licenses Granted.

BEDDING.

CONTAINING a full description of Weights, Sizes, and Prices, by which purchasers are enabled to judge the articles that are best suited to make a good set of bedding. Sent free by post, on application to their establishment, the largest in London, exclusively for the manufacture and sale of bedding (no bedsteads or other furniture being kept).

HEAL and SON, Feather Dressers and Bedding Manufacturers, 196 (opposite the Chapel), Tottenham Court Road.



WILLIAM BUCKWELL,

IMPORTER, TIMBER AND DEAL MERCHANT,

BOROUGH ROAD, SOUTHWARK, AND COMMERCIAL WHARF, OLD KENT ROAD.

TIMBER and DEALS cut to any Scantling or thickness at a few hours' notice. A LARGE STOCK of uncut, cut, and wrought stuff, kept at Saw Mills ready for delivery or sawing.

OAK, ASH, ELM and BEECH, PLANK and QUARTERING, in great variety.

VENETIAN BLIND STUFF, PLASTERERS', WINE, PANTILE, and other LATHS.

MOULDINGS, in large quantities, wrought to pattern by Steam Power.

N.B. Dry Seasoned prepared FLOORING, MATCHED BOARDING, and GROOVED LININGS, with every thickness and scantling of SAWN Goods always on sale, or cut to order, and delivered with dispatch.

ECONOMICAL RADIATING STOVE-GRATE
SHOW-ROOMS AND MANUFACTORY,
5, JERMYN STREET, REGENT STREET.

PIERCE and KOLLE solicit the inspection of an extensive variety of new and elegant STOVE GRATES, with FENDERS and FIRE-IRONS, *en suite* from the most *recherché* designs; just completed in the Grecian, Elizabethan, Louis Quatorze, and Gothic Styles, upon their much-improved

RADIATING PRINCIPLE.

These Grates combine the useful and ornamental, blend economy with comfort, display a cheerful fire with a clean hearth, diffuse a genial warmth throughout the apartment, retain the heat many hours after the fire is burnt out, and are adapted for general use. P. & K. being the sole manufacturers, are enabled to guarantee a select style with first-rate workmanship.

They also invite attention to their IMPROVED METHOD OF HEATING BY HOT WATER through large pipes, combining WARMTH WITH VENTILATION; being the most healthy, simple, and economical mode that can be adopted for warming Mansions, Halls, Churches, or other large Buildings; possessing also the important advantage of safety from fire, and freedom from dust or smell; and is so arranged as to warm the entire of a large mansion from one moderate fire, without excluding the use of the ordinary Grates.

Grates expressly made to cure Smoky Chimneys; references to noblemen, gentlemen, and architects furnished with them.

KITCHENS, LAUNDRIES, BREW-HOUSES, &c., fitted up in the most complete and efficient manner, with Ranges, Ovens, Coppers, Hot Hearths, Smoke-Jacks, and every other requisite, with the latest improvements.

BATHS of every description, comprising the Warm, Cold, Vapour, Shower, Douche, Fumigating, Hip, and Sponging, in great variety, both portable and otherwise.

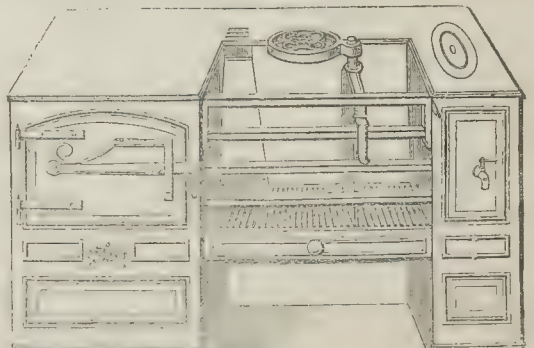
OPINIONS OF THE PRESS.

"ROYAL EXCHANGE.—Among the useful additions to Lloyd's Rooms, may be reckoned the hospitable-looking, yet really Elegant Stove Grates, that have been fitted up by Pierce and Kolle of Jermyn-street. To judge from the very powerful heat thrown out by the fires, these Grates appear to combine all the warmth of a German Stove with the cheerfulness as well as healthful ventilation of the open fire. These Stove-Grates, with their massive fenders, are really ornaments to Lloyd's Rooms, and are highly creditable to Pierce and Kolle."—*Morning Herald*, Dec. 30, 1844. See also the *Morning Post* and *Observer*, Jan. 5. 1845.

"FINE ARTS AS APPLIED TO GRATES.—A few months since we had occasion to speak with eulogium of the manner in which the works generally had been done at the new Royal Exchange, and more particularly alluded to the admirable way in which the warming and ventilation of its large rooms had been managed. The Grates, too, came in deservedly for their share of praise. They were from the Messrs. Pierce and Kolle, who have since been completing several splendid works for large mansions, and amongst others for Lord Francis Egerton, for his new mansion at Worsley Hall, which is now near completion; for Crewe Hall, the seat of Lord Crewe, one of the most perfect specimens of the earlier Elizabethan style of architecture in this country; and also for Merivale Hall and Coolhurst, in Sussex; and moreover for the banqueting-room of Beaufort House. All these Grates exhibit a correct taste, and it is highly creditable to the Manufacturers to find that Artists of unquestionable talent and standing have been employed thereon. It is really to be wished that such exquisite works of art were generally exhibited for sale, or duly lithographed, that the Public might possess some more accurate and detailed notion than the pen is capable of affording."—*Morning Post*, April 23, 1845. See also the *Morning Chronicle* and the *Standard*, April 28, 1845.

PIERCE AND KOLLE, FURNISHING IRONMONGERS,
No. 5, JERMYN STREET, REGENT STREET.

THE PANKLIBANON IRON WORKS,
WHOLESALE AND RETAIL, 58, BAKER STREET, PORTMAN SQUARE.



ARCHITECTS, BUILDERS, and Others, about to supply STOVES and KITCHEN APPENDAGES, will find at this Establishment the most unique and elegant assortment of STOVE-GRATES, FENDERS, and FIRE-IRONS ever offered to the Public, at prices considerably below the usual charges. The Proprietors at the same time beg to invite attention to their extensive Stock of FURNISHING IRONMONGERY, Tinned Copper, Tin and Iron Cooking Vessels, Block Tin Dish-Covers, Japanned Ware, Table Cutlery, and especially their Sheffield Plate and German Silver Wares, embracing every Article suitable for the Table, comprising Dish and Plate Covers, Liquor Frames, Epergnes, &c. &c. The plan adopted by the Proprietors of affixing the price to each article for cash, enables all purchasers to have the same advantage. The Patent Thermic Stove is in daily operation. Also Cundy's Improved Hot-air Stoves, for Heating and Ventilating Rooms.

THORPE, FALLOWS & COMPANY, 58, Baker-street, Portman-square, London.

THE BUILDER.

PATENT WOOD CARVING OFFICE.

THE Proprietors of the Patent Method of producing Wood Carvings beg to announce the removal of their Offices from No. 5, Henrietta-street, Covent Garden, to No. 444, West Strand, where specimens in every variety may be seen.

PORTER'S CORRUGATED, and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanizing Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway, and other Iron and Smith's work Manufactured of the best quality. Iron Fence and Hurdles as usual.—The Trade Supplied.

MOREWOOD AND ROGERS' PATENT GALVANIZED TINNED IRON.

T. W. BEALE begs to acquaint the public that he is prepared to lay roofing, plain or corrugated, fix pipes, gutters, &c. Also chimney-tops and ventilating cowls of every description; also water and oil cisterns, of this incorrodible and fireproof metal. He manufactures all kinds of baths, as hip, shower, Roman, open, slipper, sponging, foot, children's, and self-heating baths; also toilet-cans and pails, slop-pails, coal-scuttles, cash and deed-boxes, and fire-proof safes of every description, 10 per cent. cheaper than any house in London.

The PATENT GALVANIZED TINNED IRON is applicable to the following uses:—The Lining of Ships' Store Rooms, Ships' Water Buckets, Water Jugs and Receivers, and for almost every purpose to which zinc, tin, copper, brass, or any other metal is now applied; is more durable, and manufactured at much less expense. An experienced workman sent to any part of the kingdom. All orders punctually attended to. For particulars, apply to T. W. BEALE, 46, Bridge House-place, Newington Causeway.

PATENT GALVANISED TINNED IRON.
(MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and water-closets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 9oz. to any required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quicksett-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

By Her Majesty's Royal Letters Patent.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED METAL.—This article was at first sold under the name of Galvanized Tin Plates, but the Patentees finding that the public, in some instances, overlooking the word Tin, confounded the article with Galvanised Iron, and that the character of their metal has thereby sustained injury, are desirous of giving it a name so distinctive as to prevent such mistakes, and consequent disappointment to purchasers in future. They therefore respectfully request purchasers to inquire for MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON. In order to enable the public readily and at first sight to distinguish between the two metals, it may be well to inform them, that Galvanised Iron has a plain zinc-like appearance, while M. and R.'s Patent Galvanized Tinned Iron has a smooth crystalline surface.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON, Patronized by the Admiralty and the Honourable Board of Ordnance, being extensively used in her Majesty's Dock-yards, at the Tower, and elsewhere, for every variety of Roofing, and other purposes, where a strong, light, cheap, and durable material is required.

It has been found by experience that this article is beyond all comparison superior to zinc; possessing, as it does, all the advantages arising from the strength and firmness of iron, combined with perfect immunity from rust; whilst it is free from the very serious objection which applies to zinc, viz. its contraction and expansion, consequent upon every change of temperature, and from which circumstance leakage must of course result.

This material is not likely to be destroyed by fire, as is the case with zinc and lead, which melt and run down, thus freely admitting fresh air to the fire, and causing it to burn more fiercely. It is, therefore, obviously well adapted for all the purposes above-named, and most importantly so, when there is the possibility of fire. It is also peculiarly suitable for chimney-tops, gutters, spouting, and out-door work generally, possessing the strength of iron, without its liability to corrosion. It is by far the most economical metal roofing that can be obtained, in consequence of its strength, as it may be laid without boards, and upon the lightest rafters.

This mode of preserving metal from rust does not only apply to sheet-iron, but also to manufactured iron in any form, as bolts, nuts, hinges, nails, &c. &c.

For full Particulars apply to S. HOLLAND, 34, Grace-church-street.

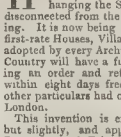
HOT WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories, and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises. BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

HERRING'S PATENT WINDOW for hanging the Sashes, whereby they may be instantly disconnected from the Frames, without removing the Beeding. It is now being applied in Palaces, Castles, Mansions, first-rate Houses, Villas, &c. It is universally approved and adopted by every Architect that has seen it. Builders in the Country will have a full-sized Window forwarded on receiving an order and reference, and taken back if returned within eight days free. To be seen daily. Licences and other particulars had of the Patentee, 14, Kingsgate-street, London.

This invention is exceedingly simple, increases the cost but slightly, and appears to answer the purpose well.—BUILDER, 28th February.

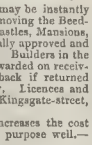
A Premium of £5 will be given to the first fitter-up of a first-rate House with this Patent, and in proportion for second, third, and fourth-rate Houses.—March 20, 1846.

SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.



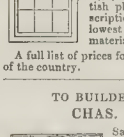
JOHNSON & PASK,
1, ANWELL STREET,
Clerkenwell,

Beg to state that they continue to make Sashes, glazed complete, at 10½d. per foot; also, Shop Fronts to any design, and with the best British plate-glass. Every description of joinery on the lowest terms, and of the best materials and workmanship.



A full list of prices forwarded by return of post to any part of the country.

TO BUILDERS AND CARPENTERS.
CHAS. W. WATERLOW,



Sash Maker and Joiner to the trade, 121, Bunhill-row, returns thanks for the liberal patronage awarded him, and begs to announce he has devoted a portion of his extensive premises to the sale of ready-made Doors, of which he has upwards of 400 always on view, and a variety of Sashes and Frames on the lowest scale of prices. Full lists may be had on application at the counting-house; if by letter, enclose postage stamp.—N.B. Glazed goods securely packed for the country.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

FOREIGN SHEET GLASS, GLASS TILES, &c.

C. JARVIS begs to inform his patrons and the public in general, that he has succeeded in making a large purchase of the above articles of the STOUTEST KIND from a new manufacturer abroad, at a very low rate, who from circumstances was compelled to make a sacrifice, and which he has just imported. In consequence of having effected so great a bargain, he can offer the same at a less price (for ready money only), than he has hitherto received from extensive purchasers for the thinest quality, at his old established Window Glass Warehouse, 33, Great Castle-street, a few doors from Regent-street. Every other description of window glass equally low in price.

TO THE PLATE GLASS TRADE.

THE BIRMINGHAM PLATE AND CROWN GLASS COMPANY, "Registered," beg to inform the Trade and Public, that the extension of their Works at Smethwick, near Birmingham, being now completed, their Warehouse, 141, Fleet-street, is now open for the Sale of their Crystal Plate Glass, which will be found to stand unrivalled by that of any other manufactory. They are also in a position to supply Rough Plate of any substance for Skylights or Floorings on the shortest notice.—Orders addressed to B. MOSS, 141, Fleet-street, will be promptly attended to.

SASHES primed, glazed, and sent to any part of London at 6d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.

FOREIGN SHEET 5d. per foot.
BRITISH CROWN 5d. per foot.

Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Shew-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.

Dry and Good Colours of the best quality; Brushes Dryers, and every article used in the Trade Warranted.

VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.

For complete lists priced.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

PAINTED GLASS.

THE Subscribers, who have been appointed to furnish the PAINTED GLASS for the WINDOWS of the HOUSE OF LORDS, are ready to prepare Designs adapted to every style of Ecclesiastical or Domestic Architecture, and to execute Work, to any extent, within the shortest possible period.
BALLANTINE and ALLAN, 42, George-street, Edinburgh.

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*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

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FREEHOLD ESTATES AND OTHER PROPERTY TO BE SOLD.

TO BE PEREMPTORILY SOLD IN LOTS, pursuant to an Order of the High Court of Chancery, made in a certain cause of Hamilton against Viscount Lismore, with the approbation of Samuel Duckworth, Esq., one of the Masters of the said Court, at the Gray's-Inn Coffee House, Holborn, on Tuesday, the seventh day of July next, between the hours of twelve and one in the afternoon. A Freehold Estate, consisting of Twenty-seven Acres of Building Ground, known as the Gospel Oak Field, and Five Acre Field, situate between Kentish Town and Hampstead, and adjoining the land of the Earl of Mansfield, and the land recently sold by Lord Southampton. Also, a Rent-charge in perpetuity of one hundred pounds per annum, from the Chapel and Burial-ground of the parish of St. James, Westminster, situate in the Hampstead Road. Also, a Plot of Ground in the Hampstead Road, containing the Reservoir and Premises of the New River Company, and now on lease to the said Company for an unexpired term of 946 years, at a clear rent of 200*l.* per annum. Particulars and conditions of sale may be had at the said Master's chambers, Southampton Buildings, Chancery Lane; of Messrs. WALKER, GRANT, and Co., 13, King's-road, Gray's-Inn, Solicitors; and Messrs. LIGHTFOOT, ROBSON, and LIGHTFOOT, Solicitors, 26, Castle-street, Leicester-square. WALKER, GRANT, and Co., 13, King's-road, Gray's-Inn, Vendor's Solicitors.

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TO ARCHITECTS, BUILDERS, AND THE GENTRY.

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HOLBORN AND FINSBURY SEWERS, MIDDLESEX.

THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persons about to Purchase or Rent Houses or Property, or take Land for Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Persons to apply for at the above Office.
By the Court,
STABLE and LUSH, Clerks.

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDDLESEX, No. 1, Greek-street, Soho-square.

TO BUILDERS and Others interested in buildings or in ground for building upon, within the district under the jurisdiction of this Court, drained by watercourses falling into the river Thames, between the city of London and the parish of Fulham.

The Commissioners hereby give notice, that by an Act of the 47th Geo. III. (chap. 7, local) it is required that, previously to the making of any new sewer in any street, lane, or public way, or in any part intended to become a street, lane, or public way, or to carry or drain off water from any house, building, yard, or ground, into any sewer under their management, or within their jurisdiction, a notice in writing shall be given to the Clerk to their Court at their office, and that such new sewer or sewers shall be constructed and made in such manner and form as shall be directed by the said Commissioners, and not otherwise.

And, in order to prevent the serious evils and inconveniences that must arise from ground proposed to be built upon being excavated at too great a depth, the Commissioners have directed that, upon application being made at this office previously to the excavation of such ground, information shall be given as to the lowest depth at which the same can be drained.

And the Commissioners do also give notice that, whenever the lower floors or pavements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any sewers, or drains into sewers, to be made for the service of such buildings.

It is recommended to all persons about to purchase or take house, or other premises, to ascertain whether such premises have separate and distinct drains into common sewers.

All petitions must be delivered at this office at least three clear days before they are presented to the commissioners; and all such petitions will be called on in the order of their application, and the owner or any party not present when called on to support the application will be struck out, and the proceedings must in consequence be commenced de novo.

All communications made with any sewer without leave of the Commissioners will be cut off, and the parties making the same will subject themselves to a fine.

The provisions of the Metropolitan Buildings Act (7 and 8 Victoria, c. 84) do not supersede the authority of the Commissioners of Sewers in the above respects, but their powers are expressly reserved, and their regulations made subservient to the purposes of the Act. The execution of such works, under the superintendence of the district surveyor alone, cannot therefore warrant the making of any sewers or drains within this commission, nor relieve the parties making them from the penalties above mentioned.

By order of the Court,
LEWIS C. HERTSLET, Clerk.

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THE Friends of a Young Man, aged 20, wish to transfer him for the remainder of his articleship (2½ years) to a gentleman in the profession, who would consider his services equivalent to the instruction he would receive. He is active and diligent, very accurate and neat in making plans and working drawings, and can be well recommended.—Apply, by letter, to R. Z., "Builder Office."

TO ARCHITECTURAL ASSISTANTS.

AN Architect in York is in immediate want of a CLERK fully qualified to get out General and Detail Working Drawings in the best manner. No one who does not perfectly answer this description need apply. Applications to state the writer's acquirements, as to preparation of Specifications and Estimates, also as to Perspective and Colouring; likewise age, previous engagement, and amount of Salary required.—Address to G. F. J., 52, Monkgate, York.—There is also a vacancy for an articled Pupil, who will be received at a moderate premium.

9th June, 1846.

CONTRACTS.

TO BUILDERS.—LINGFIELD CHURCH, SURREY.

TENDERS are required for the REPAIRS of this CHURCH; comprising principally repairs of Roof, Masonry, and new Paving. The lowest tender will not necessarily be accepted, and good security must be given for the performance of the work. Plans and particulars may be seen at the house of the Clerk of the Parish at Lingfield, or at the office of Messrs. LANSON and SON, 9, Lawrence Pountney-lane, London, between 9 and 5 o'clock on or after Monday, the 15th inst.; and tenders to be delivered on or before Monday, the 22nd inst.

TO BUILDERS, EXCAVATORS, AND OTHERS.

THE DIRECTORS of the COMMERCIAL GASLIGHT and COKE COMPANY are prepared to receive Tenders for the Excavation and Erection of a Gas-holder Tank, 81 feet in diameter. Plans and specifications may be seen, and particulars obtained, of the Company's Engineer, at the works, between the hours of 10 and 2.

Tenders, sealed and endorsed, to be forwarded to the secretary, by 12 o'clock on Wednesday, the 17th day of this present June. The Directors do not bind themselves to accept the lowest tender.—By order of the Board,

H. AVERY, Secretary.

Commercial Gas Light and Coke Company's Offices,
Ben Jonson's Fields, Stepney, June 3, 1846.

TO BOILER MAKERS, IRON FOUNDERS, AND OTHERS.

THE DIRECTORS of the COMMERCIAL GASLIGHT and COKE COMPANY will meet at the office at the works on Wednesday, the 24th of this present June, to receive Tenders for the Erection and Construction of a Gasholder of 80 feet diameter, with the columns, girders, &c. Plans and specifications may be seen, and particulars obtained, on application to the Company's Engineer, at the Works, between the hours of 10 and 2. Tenders, sealed and endorsed, addressed to the Secretary, must be delivered before 12 o'clock on the day above mentioned. The Directors do not bind themselves to accept the lowest tender.

By order of the Board, HY. AVERY, Secretary.

Commercial Gas Light and Coke Company's Office,
Ben Jonson's Fields, Stepney, June 3, 1846.

TO BUILDERS.

TENDERS will be received by the Honourable BOARD of ORDNANCE, Pall Mall, London, on Wednesday, the 1st July, 1846, from such persons as may be willing to undertake the erection of a NEW BARRACK, &c. for Officers at PORTSEA. Plans, specification, and conditions of the Contract may be seen, and every information obtained, on application at the Royal Engineers' Office, Mill Dam, Portsea, between the hours of 10 and 4 each day, Sundays excepted. Tenders to be sealed up and indorsed, "Tender for the Erection of the new Barrack for Officers at Portsea."—By order of the Board,

R. BYHAM, Secretary.

Office of Ordnance, 5th June, 1846.

TO BUILDERS.

PERSONS wishing to CONTRACT for building the FIRST PAIR OF HOUSES at Aden Grove, Stoke Newington, may see the plans, specifications, &c., at the office of Mr. ARTHUR ASHPITEL, Architect, 5, Crown Court, Old Broad-street, from 11 till 3 daily. The tenders to be delivered as above on Tuesday, 23rd of June, at 11 o'clock. The parties do not bind themselves to accept the lowest tender.

ASHBOURNE UNION WORKHOUSE.

TO BUILDERS.

Further Extension of Time for Delivery of Tenders.

THE GUARDIANS of the Ashbourne Poor Law Union HEREBY GIVE NOTICE, that they have determined upon a further EXTENSION of TIME for the Delivery of Tenders for the Erection of the New Workhouse. The Plans and Specifications will be open to the inspection of parties on and after the 15th of June, at the office of Mr. HENRY I. STEVENS, Architect, Friar-gate, Derby; and the Tenders must be delivered, sealed up and indorsed, "Tender for building the Workhouse," at the Union Office, Ashbourne, on or before Friday, the 26th of June.

RICHARD HOLLAND,
Ashbourne, May 26, 1846. Clerk to the Union.

ST. GILES-IN-THE-FIELDS AND ST. GEORGE, BLOOMSBURY.

TO STONE MERCHANTS AND OTHERS.

NOTICE IS HEREBY GIVEN, that the Committee for Paving, Cleansing, and Lighting these Parishes, will meet in the Vestry-room of St. Giles-in-the Fields, on THURSDAY, the 25th day of June instant, at Ten o'clock in the Forenoon precisely, to RECEIVE PROPOSALS from such person or persons as may be willing to CONTRACT for all or any of the following Materials, pursuant to the order to be given by the Committee for supplying the Committee with the best new squared Aberdeen, Mount Sorrell, and other Granite, of certain widths and depths, at per ton for each sort; also best Eland Edge, Yorkshire, and other Foot-paving, at per yard superficial. A full particular of the several widths, and depths, and thickness of the Granite and York to be supplied may be had by applying at the Clerk's Office, No. 21, Hart-street, Bloomsbury-square; or of Mr. Birch, Surveyor to the Committee, at his office, No. 33, Little Russell-street; the said several articles to be delivered in such quantities, at such times, and in such places within the said parishes, or either of them, as the Committee may direct. Persons sending tenders are required to attend at the Vestry-room at the time of the meeting. The contractor or contractors not to let or assign his or their contract, or any part or parts thereof respectively, without the special consent of the Committee. Security, to the satisfaction of the Committee, will be required for the performance of the contract or contracts; and the names, places of abode, &c., of the persons to be offered as sureties, to be sent with the proposals, sealed. The draft of the contract may be seen at the Clerk's Office. The Committee will not bind themselves to accept the lowest tender, and will defray the charge for the contract or contracts and bond or bonds. Payments to be made quarterly.—Printed particulars may be had of the Clerk or Surveyor as above.—By order of the Committee,

ROBERT FINNIS, Clerk to the Committee.

June 8, 1846.

ROYAL INSURANCE COMPANY,

1, Oldhall-street, Liverpool.

THE DIRECTORS hereby ANNOUNCE that they are ready to receive DESIGNS for their Building, proposed to be erected at the corner of North John-street and Dale-street, Liverpool: which designs are to be sent in to the Company's office. The architect producing (in the opinion of the directors) the best plan, will receive a premium of 50*l.*; it being understood, that in the event of the Company employing the designer as their architect in erecting the building, no premium will be given. The architect producing the next best plan will receive a premium of 20*l.* Full particulars may be obtained on personal application to the manager, PERCY M. DOVE, Esq., Royal Insurance Office, Liverpool, or to the Company's Agent in London, C. T. JENKINSON, Esq., Temporary Office, 76, Cannon-street, City.

N.B. The Directors have EXTENDED THE TIME for the receipt of plans from the 1st July to the 1st August next, on or before which latter day it is requisite that candidates should deposit their plans.

9th June, 1846.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.

Manufactured by J. B. WHITE and SONS, of Millbank-street, Westminster; and sold at their warehouses, Fair-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

ROMAN CEMENT, &c.
REMOVAL.

THOMAS JOHN CROGGON

Begs to inform the Trade that he has removed to 3, LAWRENCE POUNTNEY-HILL and THREE CRANES WHARF, 69, Upper Thames-street.

Orders addressed to either place for ROMAN CEMENT of genuine quality will be executed with promptitude and the strictest regard to quality and economy.

KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park; where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Millbank-street, Westminster,

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

PREPARED FLOORING BOARDS.
AT REDUCED PRICES.

ALWAYS ON SALE, a LARGE ASSORTMENT of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from 5 inch to 1¼ inch thick. Rough Boarding for Flats.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

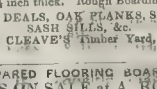
Apply at W. CLEAVE'S Timber Yard, Smith-street, Westminster.

PREPARED FLOORING BOARDS

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, Old-Barge-Wharf, Upper Ground-street, Blackfriars, and at his Depot, H. Castle's, Ship-yard, Millbank, Westminster, a very large stock of well-seasoned Floor Boards of every variety.

A. R., in calling the attention of builders and consumers, confidently presumes on his being able to supply them on such advantageous terms, as will ensure and merit their favours and approbation.

MUIR'S PATENT PLANING MACHINERY.



SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.



THE GENERAL WOOD CUTTING COMPANY, TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.—SAWING in all its branches executed with the greatest precision and despatch. PLANING by the most approved Machinery, reducing the Boards to a parallel width and thickness, and grooving or matching with undeviating accuracy. The operation economizes time, money, and material.

SIR WILLIAM BURNETT'S PATENT for the Preservation of Timber, Canvas, Cordage, Cotton, Woollen, &c., from Decay.

TESTIMONIALS.

From THOMAS GRAHAM, Esq., M.A., F.R.S., L. and E., Professor of Chemistry, University College, London.

"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.

"The wood appears to be fully and deeply penetrated by the metallic salt; I have found it in the centre of a large prepared paving block.

"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the other soluble salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.

"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Teplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotised principles it contains, by entering into chemical combination with them.

(Signed "THOMAS GRAHAM."

"University College, 25th October, 1845.

From Professors BRANDE and COOPER.

"London, 4th November, 1845.

"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.

"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles tinder.

"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.

"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound. (Signed) "WILLIAM THOMAS BRANDE,

"JOHN THOMAS COOPER."

"To Sir William Burnett, K.C.H., F.R.S., &c. &c."

Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 53, King William-street, London-bridge.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Pantiles.

TO ARCHITECTS, BUILDERS, AND THE GENTRY.

ALL Gentlemen who are now erecting a Mansion or Villa should supersede the ordinary common fir deal flooring by one made of WAINSCOT OAK; which, besides possessing greater durability, combines a certain degree of elegance, and is, in proportion, much less expensive. It is surprising that architects and builders do not represent to the gentlemen by whom they are employed the many advantages possessed by an oak flooring, for they must be convinced that a wainscot oak flooring, manufactured of Baltic oak pipe staves, which pay no duty, is in every respect cheaper than a common fir deal flooring, of which the raw materials alone pay a duty of 60 to 100 per cent. Plain battens, suitable for the centre of an apartment, may be obtained from 7d. per square foot, and ornamental borders, which are very much in request, from 2s. to 3s. and upwards. The designs of the parquetage are registered; a pattern sheet will be forwarded per post on application. Patterns may be viewed, and prospectuses obtained, at the London Parquetierie, 10, Berners-street, Commercial-road East, or at the Cabinet de Lecture, No. 67, in the Strand.

PORTER'S CORRUGATED, and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanizing Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway, and other Iron and Smith's work Manufactured of the best quality. Iron Fence and Hurdles as usual.—The Trade Supplied.

MOREWOOD AND ROGERS' PATENT GALVANIZED TINNED IRON.

T. W. BEALE begs to acquaint the public that he is prepared to lay roofing, plain or corrugated, fix pipes, gutters, &c. Also chimney-tops and ventilating cowls of every description; also water and oil cisterns, of this incorrodible and fireproof metal. He manufactures all kinds of baths, as hip, shower, Roman, open, slipper, sponging, foot, children's, and self-heating baths; also toilet-cans and pails, slop-pails, coal-scuttles, cash and deed-boxes, and fire-proof safes of every description, 10 per cent. cheaper than any house in London.

The PATENT GALVANIZED TINNED IRON is applicable to the following uses:—The Lining of Ships' Store Rooms, Ships' Water Buckets, Water Jugs and Receivers, and for almost every purpose to which zinc, tin, copper, brass, or any other metal is now applied; is more durable, and manufactured at much less expense. An experienced workman sent to any part of the kingdom. All orders punctually attended to. For particulars, apply to T. W. BEALE, 46, Bridge House-place, Newington Causeway.



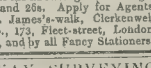
PATENT GALVANISED TINNED IRON.
(MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, bath, stove and funnel pipe, cisterns and water-closets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 9oz. to any required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quick-set-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

FINE ARTS.

By Her Majesty's Royal Letters Patent.



LORIMIER'S TRANSPARENT PLANES for Perspective Drawing; BENJAMIN WEST, Patentee.

"This Instrument will enable Artists and others to make any Drawing, whether from Nature or Models, in perfectly true perspective, so that a likeness or landscape may be taken in a few minutes absolutely perfect. It is used by her Majesty's Royal Keepers and Miners, Chatham. To Travellers it would be found serviceable, since it can be employed without the knowledge of drawing."—*Art Union.*

Price 18s. and 26s. Apply for Agents to BENJAMIN WEST, 2, St. James's-walk, Clerkenwell.—Sold by BARRITT and Co., 173, Fleet-street, London; GRIFFIN and Co., Glasgow, and by all Fancy Stationers, &c.

RAILWAY SURVEYING, Levelling, Plotting, Drawing Sections, Use of the Theodolite, and other first-rate Instruments, PRACTICALLY TAUGHT, by Messrs. SMITH and LEWIS, Civil Engineers and Surveyors, of extensive Practice, who are now devoting their attention to the instruction of Gentlemen for Railway Surveyors, Levellers, &c., to go on the Line.—Proficiency guaranteed.—Reference to Pupils given.—Offices, 21, New North-street, Red-Lion-square, Holborn, London.

Railway Surveying, Levelling, Plotting, Computing, use of Theodolite, &c., PRACTICALLY TAUGHT.

THE Advertiser (an Engineering Surveyor of Extensive Practice), is now devoting his time to the instruction of persons for Railway Surveyors, &c., &c., undertaking to make them SELF EVIDENTLY COMPETENT to Survey, Level, Plot, Compute, Determine Heights and Distances, give Curves and Gradients, &c., &c., on all sorts of Ground. Terms Five Guineas; proficiency guaranteed and references given.—Apply, if personally between 5 and 10 P.M., to G. T., 117, Park-street, Camden-town.—N.B. The above imparted in as short a period as possible consistent with a thorough instruction.

PATENT WOOD CARVING OFFICE.

THE Proprietors of the Patent Method of producing Wood Carvings beg to announce the removal of their Offices from No. 5, Henrietta-street, Covent Garden, to No. 444, West Strand, where specimens in every variety may be seen.

RAIN WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from ½ in. to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, and No. 6, Bunksido, Southwark.

WILSONS PATENT
VENTILATING
SPIRAL CHIMNEY POT,



For the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success.

This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance.

The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory,

Southwark-bridge Iron
Roofing Works.

DAY'S PATENT WINDGUARD, for ventilating

Churches,	Shops,	Kitchens,
Hospitals,	Bed-rooms,	Offices,
Factories,	Smoking-rooms,	Ships,
Theatres,	School-rooms,	Mines,
Breweries,	Nurseries,	Vaults,
Malt-houses,	Stables,	Tunnels,
Club-houses,	Larders,	&c. &c.

Also for preventing down draft; and is guaranteed to cure all smoky chimneys caused by wind; and entirely supersedes the use of revolving cowls, or any thing moveable or unsightly on the tops of chimneys or ventilators.

The object of this invention is to create a draft where otherwise it would not exist, by the spontaneous action of the external air. The Windguard forms a pleasing octagonal pillar, and by its peculiar construction to carry out the principle on which it is based, which consists of the wind giving a disposition for a vacuum within, thereby causing a continual upward current about equal to the velocity of the wind at the time acting upon it, which averages about six feet per second thirty days out of thirty-one; therefore, will nearly at all times ensure a continual change of air, being no impediment to spontaneous ventilation, even on a perfectly calm day. One five feet square will ventilate a building containing upwards of 1,000 persons. The Windguard applied to ships and steam vessels, in the form of a sky-light, prevents rain or the sea entering within, however boisterous the weather may be, thereby affording excellent ventilation as well as light. The Windguard is simply applied for effectually ventilating bed-rooms, nurseries, smoking-rooms, offices, &c., causing the air of the apartment to be at all times as pleasant as can be desired. It is fixed at the top of the chimney, in addition to which a cast-iron frame and valve (about one foot area), made to open or shut at pleasure, is let into the flue, near the ceiling of the room, to allow the constant ascending vitiated air being immediately carried off. The opening is guarded by a neat venetian blind or grating; and so powerful is the effect on a windy day that if a handkerchief be thrown up to the grating, it will remain there—i. e. if the valve be open. In winter the valve would be only partially open, to allow the smoke from the fire to ascend, but if the room be found too cold, can be entirely closed. The Windguard applied to the tops of chimneys prevents all annoyance from smoke (caused by wind); indeed, where it does not, nothing else applied at top will (of the same size); care, therefore should be taken to have the proper size applied. It is simple in its application, reasonable in price, ornamental in appearance; no machinery or anything moveable in it, therefore, cannot get out of order; free from noise or any unpleasantness whatever; not liable to choke up with soot; no obstacle to the machines used for sweeping chimneys. May be had of all respectable ironmongers in town and country; and may be seen daily in operation, where its powers and usefulness are exhibited by the severest tests, at THE PATENT VENTILATING WORKS, COMMERCIAL-ROAD, PIMLICO, LONDON; where also may be seen Mr. G. T. DAY'S plans (illustrating the different applications of his Patent Archimedian Ventilator and his Portable Water Apparatus) for effectually Ventilating, Warming, and Cooling the Air of Buildings, Ships, Mines, &c. &c. By the use of these inventions many thousand cubic feet, or any quantity of pure warm or cold air, can be guaranteed to be continually exchanged per minute, day and night, winter and summer; thereby insuring, at all times, free ventilation to the rooms and passages of buildings, &c. from the basement to the roof, at the same time in such a manner as shall not be inconveniently perceptible. The size of the apparatus depends on the nature and use of the building and its occupants. The Patentee has been honoured by his inventions being applied at the following places:—

Windsor Castle,	Trinity House,
Buckingham Palace,	Ordnance,
Saint James's Palace,	Greenwich Hospital,
Claremont Palace,	Christ's Hospital,
Walmer Castle	Westminster Hospital,
The Houses of Parliament,	Bethlehem Hospital,
New Conservative Club,	Surrey Lunatic Asylum,
White's Club,	New Royal Exchange,
Travellers' Club,	Mansion House,
Oxford and Cambridge,	Goldsmiths' Hall,
Parthenon,	Fishmongers' Hall,
Wyndham,	Haberdashers' Hall,
Army and Navy,	Dyers' Hall,
Senior United Service,	Grocers' Hall,
Junior United Service,	Armourers' Hall,
Admiralty,	Welsh-house Meeting-house
British Museum,	Hanover Square Rooms,
Somerset House,	Theatre of the Westminster
Custom House,	Literary and Scientific Institution,
Mint,	Grand Cigar Divan, Strand,
Hon. Artillery Company,	City Club,
H. M. S. Salamander,	

And many other Public Buildings in Town and Country, as well as to the Mansions of many Noblemen and Gentlemen. Licenses granted for Manufacturing the above.

Drawings and Plans made for Ventilating and Warming Buildings of every description.

TO ARCHITECTS AND BUILDERS.

DOOR SPRINGS AND HINGES.—GERISH'S PATENT DOOR SPRINGS, for CLOSING every description of DOOR, consists of Single and DOUBLE-ACTION BUTT HINGES in Brass and Iron for Doors to open one or both ways, and Rising Hinges for the convenience of Doors opening on uneven Floors. Likewise Swing Centres, which consist of a combination of power unequalled by any made at present. Manufactured by F. W. Gerish, East-road, City-road; and sold by all respectable Ironmongers in the United Kingdom.

TO ARCHITECTS AND BUILDERS.

COLLINGE'S PATENT HINGES.—Sole Manufactory, 64, BRIDGE-ROAD, LAMBETH, where a great variety are always on view, for Church, Park, Coach-house, and all other Doors and Gates, of large or small dimensions, a gate of a ton in weight moving with these hinges as easily as a wicket; they are also admirably adapted for drawing-rooms, being highly ornamental, and folding-doors fitted with them may be removed and replaced in an instant. Rising and spring Hinges, on the most improved principle, and very superior Fastenings for exterior Gates, at moderate prices. To be seen at Charles Collinge and Co.'s Patent Axletree, Sugar-mill and Spherical-hinge Manufactory, 64, Bridge-road, Lambeth.

TO BUILDERS, UPHOLSTERERS, CARPENTERS, HOUSE AGENTS, &c.

C. TIFFIN, BUG DESTROYER to the ROYAL FAMILY, 17, Somer's-place, New Road, St. Pancras, begs to suggest to the above trades generally the advantages of employing him in the above branch of Upholstery in preference to their own men, who not having had the necessary experience, cannot be expected to give satisfaction. C. T. having been upwards of forty years in constant practice can with confidence recommend his plans being efficient. He deems it useless to dilate to those who know him, and to those who do not, any reference can be given, his connection being of 150 years' standing amongst the Nobility, Gentry, &c. Those who employ him will therefore run no risk of being imposed on by adventurers and high-sounding advertisements.

C. T. will thoroughly eradicate them from Rooms, Bedsteads, or Furniture, without offensive odour or removal from the room. Ten per cent. is allowed to the trade. And will ensure to keep them free at 3s. each per year if done regularly, but not otherwise. Should any complaint arise during the same season it will be rectified without additional charge, coach fare for country work excepted. Orders attended to at any distance.

Houses infested with punaises should be cured of them previous to their being renovated, as Papering, Painting, or Whitewashing, are inefficient.

MIXED, 1s. per lb.
Grey Goose, 1s. 4d. per lb.
Foreign, ditto, ditto, 1s. 8d. per lb.

Best Foreign Grey Goose, 2s. per lb.
Best Irish White, ditto, 2s. 6d. per lb.
Best Dantzic, ditto, ditto, 3s. per lb.

Warranted sweet and free from dust.

A List of every description of Bedding, containing weights, sizes, and prices, sent free by post, on application to HEAL and SON, Feather-dressers and Bedding manufacturers, 196, opposite the Chapel, Tottenham Court-road.

By Her Majesty's Royal Letters Patent.

SEALED 7th OCTOBER, 1845.

CROGGON'S PATENT WATERPROOF DOUBLE BITUMINOUS PAPER.

THE above is Manufactured by the most Accurate Machinery, for Depositing a DOUBLE COAT of ASPHALTE between Two Sheets of Paper, ensuring an evenness of distribution of the Waterproof Materials, thus rendering EVERY MINUTE PORTION OF THE PAPER ENTIRELY IMPERVIOUS TO WATER. To prove that it perfectly resists water, it is only necessary to put it into such a form as to Hold Water, when, after filling, it, the water will evaporate without appearing in the least degree on the other side.

For ROOFS OF HOUSES it will be found very advantageous, being very cheap, admitting A GREAT SAVING OF TIMBERS; it may be painted of all colours, thus rendering it peculiarly applicable to any description of Roof. It is also an EFFECTUAL PREVENTATIVE against the effects of DAMP FROM WALLS, if put under the usual paper, and DAMP FLOORS, when under carpets.

It may be had in Rolls of any Length, to order, AT SIXPENCE PER SQUARE YARD, of
THOS. JNO. CROGGON,
8, Laurence Pountney Hill, Cannon-street.

CHEAP AND DURABLE ROOFING.

By Her Majesty's Royal Letters Patent.

F. McNEILL and Co. of Lamb's Buildings, Bunhill Row, London, Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING
HOUSES, VERANDAHS, SHEDS, &c.
Patronized by

HER MAJESTY'S WOODS AND FORESTS,	HONOURABLE BOARD OF ORDNANCE,
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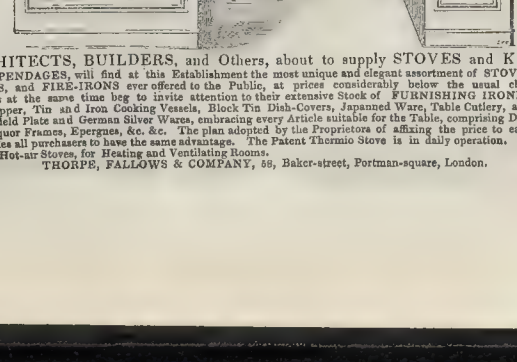
And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover-square.

Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, as THE ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW, LONDON.

Roofs covered with the felt to be seen at the Factory, also the new Vice-Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the new Houses of Parliament.

A Liberal Discount allowed to the Trade.

THE PANKLIBANON IRON WORKS,
WHOLESALE AND RETAIL, 58, BAKER STREET, PORTMAN SQUARE.



ARCHITECTS, BUILDERS, and Others, about to supply STOVES and KITCHEN APPENDAGES, will find at this Establishment the most unique and elegant assortment of STOVE-GRATES, FENDERS, and FIRE-IRONS ever offered to the Public, at prices considerably below the usual charges. The Proprietors at the same time beg to invite attention to their extensive Stock of FURNISHING IRONMONGERY, Tinned Copper, Tin and Iron Cooking Vessels, Block Tin Dish-Covers, Japanned Ware, Table Cutlery, and especially their Sheffield Plate and German Silver Wares, embracing every Article suitable for the Table, comprising Dish and Plate Covers, Liquor Frames, Epergnes, &c. &c. The plan adopted by the Proprietors of affixing the price to each article for cash, enables all purchasers to have the same advantage. The Patent Thermio Stove is in daily operation. Also Cundy's Improved Hot-air Stoves, for Heating and Ventilating Rooms.

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TO LANDLORDS, BUILDERS, AND OTHERS.

JOHN HARRIS is desirous of informing his Friends and the Public, that he has REMOVED his Offices from 13A, Hertford-street, Fitzroy-square, to 12, Wellington-street North, eleven doors from the Strand, where Estate and House Property of every description are afforded every possible publicity, by the gratuitious and extensive distribution of a "Monthly List" of property to be let and for sale. J. Harris has also a variety of plots of building ground in choice situations for sale and to let, and several sums of from 200*l.* to 8,000*l.* to advance on mortgage of ample security, or to invest on advantageous terms in the purchase of freholds or leaseholds.—Apply to JOHN HARRIS, Auctioneer and Estate Agent, at the above address.

WHARF TO BE LET, near Waterloo-bridge, Commercial-road, Lambeth, suitable for a large Builder, Coal-merchant, Stone-merchant, and others. —For address, apply to Mr. DRUCE, at the Feathers, Commercial-road.

TO BUILDERS AND OTHERS.

SOME excellent BUILDING GROUND TO BE LET, at Croydon. Money advanced as the Work proceeds.—Apply to Mr. Francis E. H. Fowler, Architect, 28, Sackville-street, Piccadilly.

TO BUILDERS.

TO BE LET, on long Building Leases, direct from the freeholder, together or in plots, a considerable extent of valuable LAND. The situation is elevated, and commands extensive views. The neighbourhood is highly respectable, and is remarkable for its healthiness, and being within a short distance of the Anerly station, on the Croydon Railway, it presents a fine opportunity for a building speculation on a large scale.—Apply to Mr. VERE, 85, Upper Stamford-street.

TO BUILDERS.—MATERIALS AND MONEY ADVANCED.

TO BE LET, on BUILDING LEASES, for ninety-six years, several very eligible plots of Freehold Building Ground, land-tax redeemed, situated in the Shrubland-road, leading from the Queen's-road, Dalston, to Lansdown-place. This is one of the most rapidly improving neighbourhoods near London, and will be the principal thoroughfare from all parts westward to the new Victoria Park, from which it is only a quarter of a mile distant.—Apply to Mr. PALMER, on the premises.

TO BRICKLAYERS, BUILDERS, AND OTHERS.

TO BE LET on Lease, or Sold, most desirable premises in Burnham, Buckinghamshire, in a populous and healthy locality, where any industrious young man could obtain a good business. The premises are well adapted for a bricklayer and plasterer, being in that line for the last twenty years. No premium required or stock to purchase. Situated three miles from the town of Maidenhead, twelve from the station, and five from Windsor.—Further particulars to be had of Mr. WILLIAMS, Builder, 11, King-street, Grosvenor-square; or Mr. THOMAS EVARETT, Post-office, Beaconsfield, Bucks.

TO BUILDERS AND OTHERS.

TO BE LET, by TENDER, for a term of Sixty Years, an eligible PLOT OF GROUND, for building houses, in Dudley-court, leading from High-street, St. Giles's, to Brown-street, Soho. The neighbourhood is extremely populous, and houses for the working classes in great request, in consequence of the number lately taken down for the improvements in the immediate vicinity. The plans and particulars may be seen on application to Mr. WILLIAMS, Solicitor, 31, Alfred-place, Bedford-square, or Mr. ANGELL, 18, Gower-street, between the hours of Ten and Four.

ST. JOHN'S WOOD PARK!!! IMMEDIATE CONNECTION WITH REGENT'S PARK.

BUILDING PLOTS TO BE LET in this most desirable and salubrious situation!! commanding picturesque views of the surrounding beautiful neighbourhood, and elevated within a few feet of the summit of the monument, with the best approaches of any suburban district near the metropolis, and greatest facilities of access to all the fashionable resorts and promenades of the West End and the City!—For particulars and plans, apply to W. H. TWENTYMAN, Esq., 11, Regent's-villas, Avenue-road, Regent's-park.

Desirable Opportunity, Capital Situation for Respectable Houses and a Suburban Tavern.

TO BUILDERS.

TO LET, in a most excellent and picturesque situation, within three miles of the New Post Office, where there is a great demand for Houses in consequence of there being no building operations, SEVERAL CAPITAL PLOTS OF GROUND, one of which is admirably adapted for a Respectable SUBURBAN TAVERN, and where a license would be almost certainly obtained. The ground is freehold and land-tax is redeemed.—For particulars, apply to Mr. A. ASHPITEL, Architect, 5, Crown-court, Old Broad-street.

To Builders, and to the Nobility and Gentry especially, Members of Yacht Clubs and Botanic Societies, and others.

EAST COWES PARK, adjoining Osborne Park, the Marine Residence of HER MAJESTY, Isle of Wight.—BUILDING GROUND TO BE LET on Lease for 800 years: rent, 3*s.* 6*d.* per foot frontage; depth, 324 feet, with right of access to a Botanic Garden of 22 acres adjoining. The roads are 66 feet in width. Several miles of iron railing, with carriage-gates, have been fixed; also the principal gates opposite the two entrances into Osborne Park. Liberal advances for money or materials if required. The sea and land views scarcely to be equalled: capital drainage, excellent water, white brick, and stock brick earth.—Further particulars may be had of J. H. WEBBER, Esq., Solicitor, 3, Caroline-street, Bedford-square; of Messrs. BLOXAM and ELLISON, Solicitors, 1, Lincoln's-inn Fields; and of Mr. BANTING, East Cowes Park Estate-office, East Cowes.

TO BE DISPOSED OF, in consequence of the ill health of the Proprietor, the Lease of an old-established Builder's Premises and Business, together with Houses attached, situate in the most populous part of Lambeth, producing a clear income of 75*l.* per annum. This property is well suited for a small capitalist.—Apply for full particulars to Messrs. BARTON and SON, Auctioneers, No. 7, Cheltenham-place, Westminster-road, Lambeth.

TO BUILDERS.

TO BE SOLD, an old-established and highly respectable Builder's Business. Price 1000*l.*, one-half of which may remain at interest, on security being given to the satisfaction of the Proprietor, who is retiring.—Apply to A'BECKETT, SON, and SYMPSON, Solicitors, No. 1, Golden-square.

A NUMBER of MARBLE CHIMNEY PIECES, consisting of Statuary, some of which are of elegant design, got up in a superior manner, suitable for Drawing Rooms, &c. Also some Vein, of moderate dimensions, suitable for second and third-rate Houses; also some Bastard Statuary, in Slab; TO BE SOLD cheap, under peculiar circumstances.—Apply, 34, Chichester-place, Gray's Inn Road.

FREEHOLD ESTATES AND OTHER PROPERTY TO BE SOLD.

TO BE PEREMPTORILY SOLD IN LOTS, pursuant to an Order of the High Court of Chancery, made in a certain cause of Hamilton against Viscount Lismore, with the approbation of Samuel Duckworth, Esq., one of the Masters of the said Court, at the Gray's-Inn Coffee House, Holborn, on Tuesday, the seventh day of July next, between the hours of twelve and one in the afternoon. A Freehold Estate, consisting of Twenty-seven Acres of Building Ground, known as the Gospel Oak Field, and Five Acre Field, situate between Kentish Town and Hampstead, and adjoining the land of the Earl of Mansfield, and the land recently sold by Lord Southampton. Also, a Rent-charge in perpetuity of one hundred pounds per annum, from the Chapel and Burial-ground of the parish of St. James, Westminster, situate in the Hampstead Road. Also, a Plot of Ground in the Hampstead Road, containing the Reservoir and Premises of the New River Company, and now on lease to the said Company for an unexpired term of 946 years, at a clear rent of 200*l.* per annum. Particulars and conditions of sale may be had at the said Master's chambers, Southampton Buildings, Chancery Lane; of Messrs. WALKER, GRANT, and Co., 13, King's-road, Gray's-Inn, Solicitors; and of Messrs. LIGHTFOOT, ROBSON, and LIGHTFOOT, Solicitors, 26, Castle-street, Leicester-square. WALKER, GRANT, and Co., 13, King's-road, Gray's-Inn, Vendor's Solicitors.

SALES BY AUCTION.

TO PAPER-HANGERS, HOUSE DECORATORS, BUILDERS, AND OTHERS.

MR. BRAY, Jun., will SELL at his ROOMS, 259, High Holborn, on Wednesday, June 17th, 1846, at Twelve o'clock, upwards of 3,500 Pieces of PAPER-HANGINGS of excellent workmanship and modern design, including drawing and dining-room satins, rich crimson and other flocks, mockflock, damask, and embossed satins; oak, Elizabethan and Morpeth, parlour and bedroom papers, shaded and plain; Trellis Berlin and bouquet, hall, and staircase, in gothics, granites, painted, and other marbles, scagliola, &c.—May be viewed one day prior and morning of sale, and catalogues had at the rooms as above.

To Timber Merchants, Cabinet Makers, Coachmakers, Musical Instrument Makers, and others.

MESSRS. LESLIE and SON will SELL by AUCTION, upon the premises, 336, Oxford-street, on TUESDAY, June 23, and following day, at Eleven, by order of the proprietor, the well-selected and seasoned stock of about 50,000 feet of Spanish and Honduras mahogany, oak, beech, ash, elm, pine, lime tree, sycamore, walnut, pear tree, American birch and ash, blackwood and zebra wood, several tons of rosewood, and many hundreds of deals, red and yellow battens and planks, maple planks and veneers, fine lime tree cutting boards, mahogany piano-forte legs and other quartering, saws, rollers, screws, trade utensils, and various effects on the premises (which are to be let or the lease sold). The stock may be viewed two days prior to the sale, and catalogues had of Messrs. LESLIE and SON, 45, Margaret-street, Cavendish-square.

SAW MILLS FOR SALE.

To Timber Merchants, Builders, Millers, and others requiring spacious Water-side Premises, and near to the Great Western Railway Station at Oxford.

TO BE SOLD BY AUCTION, by Mr. FISHER, at the Star Hotel, Oxford, on TUESDAY, the 16th day of June, at Twelve o'clock, all those valuable FREEHOLD and well-arranged PREMISES, called the CITY SAW MILLS, consisting of Dwelling House, Workshops, and Sheds, and powerful high pressure Steam-engine and Saw Mills, now in the occupation of Mr. Thomas Wyatt, who is giving up the timber business.

The site comprises a quarter of an acre of land, having a water frontage of 100 feet, adjoining a branch of the River Thames, and immediately opposite the Wharfs and Station of the Great Western Railway, and an approach from Speedwell-street, Saint Aldate's, by a newly-formed street, 30 feet wide. This property consists of a substantial brick-built Dwelling-House, of handsome elevation, forming the termination of the new street, and containing entrance passage, a kitchen in front, and dining-room, 17 feet square, with window opening to the garden; a spacious and well-constructed staircase and china closet. On the one-pair floor, a drawing-room, bed-room, and water-closet; and communicating with this floor are also three convenient rooms over the gateway, used as offices and store-rooms. On the two-pair floor are four principal bed-rooms and water-closet, spacious linen closet, Pantry, &c. &c.—The principal apartments have a southern aspect, and command interesting views of the railway station and adjacent country.

The business part of the premises comprise an entrance gateway, 12 feet wide, and offices adjoining; large workshop, 50 feet long, and 26 feet wide, under which are stores for deals and boards. At the west end is the engine-house, smith's shop, stoke-hole and boiler, with drying-house over, and substantially-built brick shaft, 80 feet high. Beyond is a deal shed and two-stall stable, with loft over.

The Machinery consists of a beautiful action twelve-horse high-pressure portable steam-engine, in prime working condition, with 12½-inch cylinder, three feet stroke; the boiler (also quite new) of the most approved make, 21 feet long, 4 feet diameter, plates 3-8ths thick. Connected with the engine by four-inch turned shafting and drum-wheels is a powerful and well-constructed vertical saw frame and circular saw bench; the whole forming a most complete arrangement either as public saw mills, or in connection with a timber merchant or builder's trade; and the shafting is so constructed that by counter-gear work, and at a very moderate outlay, four pair of stones might be attached, and part of the building converted into a STEAM FLOUR MILL.

Mr. Wyatt will afford every information as to the cost of working and earnings of the Mills, which may be viewed any time previous to the sale; and particulars obtained on the premises, or at the office of Mr. BRUNNER, Solicitor, or of the auctioneer, Oxford.

TO BUILDERS AND OTHERS.

WANTED, by a Young Man of undeniable Character, and a connection with some of the first nobility, a NEW PUBLIC HOUSE, where there is a probability of getting a spirit license. It must not be in any way connected with any brewer.—Direct to T. D., Post-office, Erith, Kent.

FURNITURE.

WANTED to PURCHASE, from 200*l.* to 800*l.* worth of Second-hand FURNITURE, in large or small quantities, for which a fair price will be given in cash, without any deduction for valuation, and removed at the purchaser's expense; linen, china, glass, books, pictures, and musical instruments included, if required.—Apply to Mr. J. CHAPMAN, 6, Great Russell-street, Covent-garden. Valuations made for the legacy duty, rents collected, &c.

PUBLICATIONS

TO HEIRS AT LAW AND NEXT OF KIN.

A complete List of the Advertisements that have appeared during the present century is now publishing in

THE CRITIC, the largest and cheapest literary journal in Europe, every Saturday, 32 folio pages, price 4*d.*, or 5*d.* stamped. THE CRITIC contains also many new and original features. A copy, as specimen, sent to any person transmitting three postage stamps to the Critic Office, 29, Essex-street, Strand. To be had by order of all booksellers and newsmen.

N.B. The fourth monthly part for the present year is now ready, containing 128 large pages of amusing and instructive matter for eighteen-pence only.

Just published, in 12mo., price 14*s.*

THE LAW of FIXTURES with reference to Real Property and Chattels of a Personal Nature; to which is added, the Law of Dilapidations, Ecclesiastical and Lay. By STANDISH GROVE GRADY, Esq., of the Middle Temple, Barrister-at-Law.

"We recommend this volume to the notice of our readers; well-arranged indexes serve to complete its practical utility." —Times.

London: Owen Richards, Law Bookseller, &c., 194, Fleet-street.

CAEN STONE.

LUARD and BEEDHAM have a quantity of the above stone, of the best quality, direct from their Quarries at Allemange, which may be inspected at the Norway Sufferance Wharf, Greenwich.—Further particulars at Mr. G. GATES', 18, SOUTHWARK-SQUARE, SOUTHWARK.

KENTISH RAG.

ANY Quantity of the above Stone, of the best quality, and of any description, at lowest terms, can be had on application to Mr. YATES, 41, Holywell-street, Millbank, Westminster.—N.B. The above stone, in its rough state, is admirably adapted for foundations, walls, areas, &c., and at one-third the price of brick.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

SAMUEL CUNDY begs to inform Architects, &c., that every description of Stone, Marble, and Granite work is executed at the cheapest possible rate.

Estimates given for Mason's Work in all its branches. Gothic Work, Tombs, Monuments, &c.

MARBLE WORK for Halls, Dairies, Tables, Columns, Vases, at most reasonable prices.

A large collection of Designs for Mural and other Monuments.

CHIMNEY PIECES from Twelve Shillings upwards.

Depôt for CAEN STONE, &c.

CLIFF AND HUSLER, STONE AND TILE MERCHANTS, Victoria Stone-wharf, Isle of Dogs.

JOHN TRICKETT, Agent, respectfully calls the attention of masons, stone-merchants, contractors, and builders, to his large stock of STONE and TILES on the above Wharf. Portland stone of large dimensions selected at the Quarries, and arrivals every week of Yorkshire stone in billy-buoys, which can discharge their cargoes above or below bridges, in lots from 30 tons at wholesale prices in the river. Special orders to dimensions for Landings, Bramley Fall, Harehills, and other stone, fulfilled in two or three weeks, shipped direct to any wharf, or to order for barges. Moulded and self-faced paving always alongside or in stock on the Wharf. A very fine stock (some of very large dimensions) of York Landings on hand. Pan, plain, and paving tiles, fire-bricks, and clay, at wholesale prices; vein marble in slab, and sawn Robin Hood, Greenmoor, and Harehill slab and head-stones; sawn Portland Landings, &c.

CHEAP PAN FOR WATER CLOSETS, With Trap, in one Piece.

DOULTON and WATTS, Lambeth Pottery, London, Manufacturers of the above in superior glazed STONE WARE, price 7*s.* 6*d.* each. They are of the most durable ware, and are recommended in preference to iron on account of their cleanliness and cheapness. If preferred, they can be had in two parts, the pan at 4*s.* 6*d.*, and the Trap at 3*s.* 6*d.* N.B. Manufacturers of RAIN WATER PIPING for houses.

NOTICE TO INVENTORS.

OFFICE for PATENTS of INVENTIONS and REGISTRATIONS of DESIGNS, 14, LINCOLN'S-INN-FIELDS.—The printed Instructions gratis, and every information upon the subject of PROTECTION for INVENTIONS, either by Letters Patent or the Designs Act, may be had by applying personally, or by letter (prepaid) to Mr. Alexander Prince, at the office, 14, Lincoln's-inn-fields. Where may be had, price 12*s.*, or, through any bookseller in the United Kingdom, of Wm. BENNING and Co., law booksellers, 43, Fleet-street, the LAW of PATENTS and REGISTRATIONS, with all Forms and Cases up to the present time, by SIDNEY BILLING, Esq., barrister-at-law, and ALEXANDER PRINCE, of the Office for Patents, 14, Lincoln's-inn-fields.

LONDON: Printed by CHARLES WYMAN, of 49, Cumming-street, Pentonville, in the County of Middlesex, Printer, at the Printing-office of J. & H. COX, *Brothers*, 74 & 75, Great Queen-street, Lincoln's-Inn Fields, in the Parish of St. Giles-in-the-Fields, in the same County; and published by the said CHARLES WYMAN, at the office of "THE BUILDER," 2, York-street, Covent Garden, in the Parish of Saint Paul, Covent Garden, in the said County.—Saturday, June 13, 1846.

The Builder,

A JOURNAL FOR

The Architect, Engineer, Operative & Artist.

VOL. IV.—No. 176. | JUNE 20, 1846. | *Price* ..... 3*d.* *Stamped* ..... 4*d.*

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CLIFTON UNION.—TO ENGINEERS AND OTHERS. EXTENSION OF TIME.

THE BOARD of GUARDIANS of the CLIFTON UNION are desirous to receive Plans and Estimates for Lighting and Warming the new Workhouse belonging to that Union, and also for providing and fixing a Cooking Apparatus, for an establishment to consist of about 1,200 persons; such plans to combine (so far as may be practicable) the Lighting, Warming, and Cooking, or each of them separately. The plans and estimates to be delivered at the office of the Clerk, in Pennywell-road, Bristol, on or before Nine o'clock in the morning of the 3rd of July next. Persons proposing to tender may see the plans of the workhouse at the office of the clerk, and any further information may be obtained by application at the office of S. I. WEECH, Architect; No. 11, Park-street, Bristol.

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Clyde Trustees' Chambers, Glasgow, June 9, 1846.

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TO STONE MERCHANTS AND OTHERS.

NOTICE IS HEREBY GIVEN, that the Committee for Paving, Cleansing, and Lighting these Parishes, will meet in the Vestry-room of St. Giles-in-the Fields, on THURSDAY, the 25th day of June instant, at Ten o'clock in the Forenoon precisely, to RECEIVE PROPOSALS from such person or persons as may be willing to CONTRACT for all or any of the following Materials, pursuant to the order to be given by the Committee for supplying the Committee with the best new squared Aberdeen, Mount Sorrell, and other Granite, of certain widths and depths, at per ton for each sort; also best Eland Edge, Yorkshire, and other Foot-paving, at per yard superficial. A full particular of the several widths, and depths, and thickness of the Granite and York to be supplied may be had by applying at the Clerk's Office, No. 21, Hart-street, Bloomsbury-square; or of Mr. Birch, Surveyor to the Committee, at his office, No. 33, Little Russell-street; the said several articles to be delivered in such quantities, at such times, and in such places within the said parishes, or either of them, as the Committee may direct. Persons sending tenders are required to attend at the Vestry-room at the time of the meeting. The contractor or contractors not to let or assign his or their contract, or any part or parts thereof respectively, without the special consent of the Committee. Security, to the satisfaction of the Committee, will be required for the performance of the contract or contracts; and the names, places of abode, &c., of the persons to be offered as sureties, to be sent with the proposals, sealed. The draft of the contract may be seen at the Clerk's Office. The Committee will not bind themselves to accept the lowest tender, and will defray the charge for the contract or contracts and bond or bonds. Payments to be made quarterly.—Printed particulars may be had of the Clerk or Surveyor as above.—By order of the Committee,

ROBERT FINNIS, Clerk to the Committee.

June 8, 1846.

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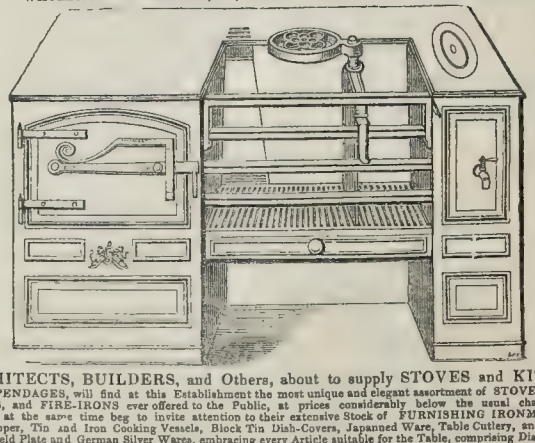
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GRANITE of SUPERIOR QUALITY. A quarry of inexhaustible contents and some years working, from which an order to any extent can be executed at very moderate prices; the material is superior to any yet know in England; the harbour accessible at all seasons to vessels of any draught. Pecuniary considerations not materially in question. The proprietor is willing to accept a partner or agent upon advantageous terms, if able to promote the concern and procure orders of considerable extent, and some years continuation.—Address, with real name, to C. A. K., care of H. J. Lindgre, 12, John-street, America-square.

CHEAP PAN FOR WATER CLOSETS, With Trap, in one Piece.

DOULTON and WATTS, Lambeth Pottery, London, Manufacturers of the above in superior glazed STONE WARE, price 7s. 6d. each. They are of the most durable ware, and are recommended in preference to iron on account of their cleanliness and cheapness. If preferred, they can be had in two parts, the pan at 4s. 6d., and the Trap at 3s. 6d. N.B. Manufacturers of RAIN WATER PIPING for houses.

BEST PAN WATER-CLOSETS, with Round Valve, complete, 30s. each.
WASHING COPPERS, above 12lb., 1s. 1d. per lb.
COCKS, Bib, Bail, and Stop, ¾-in. 1s. 8d., 2-in. 2s. 4d.
Lifting Force Pumps, 2½-in., 4l. 4s., and every description of Copper and Brass Work equally low, at Messrs. MACGLASHAN & CO., 16, Long Acre, London.

PAVING, 2s. 9d. PER SQUARE YARD Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27s. 6d. per ton.

TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorized CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced. I. FARRELL, Secretary.
Stangate, near Westminster Seyssel Asphalte Company.
Bridge, Jan., 1845.

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

IRON BRIDGES, PIERS, &c.

*** For the Numerical Explanation of DREDGE'S PRINCIPLE, see the "Mechanics' Magazine," No. 1172.

THIS system removes from the Arch to the horizonal line the horizontal force of the whole Bridge, which makes the roadway as powerful as the arch itself, and the arch, with half the material, more than double its original power. The pressure on the key-stone of the arch is the horizontal force of a Bridge, which acts directly on that point as a dead load of self-destruction; and it has thrown down, within the last eighteen months, nearly sixty arches of Viaducts and Bridges.

EXAMPLE:—The Menai Bridge, whose depth is 1-14th of its length, and the suspended weight 800 tons, its horizontal force is 2,800 tons of self-destruction on the centre; hence it would require but a small portion of the material and cost of that bridge to construct one over the Menai Straits on this plan, that would possess far greater power and stability than the present structure.

This principle has been fully tested nearly ten years, by the consrtuction of fifteen public bridges for the Government and others in Great Britain. It is also established in India.

Bath, 3rd April, 1846.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,
Manufactory, 95, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

REDUCTION IN THE PRICE OF
BUNNETT AND CORPE'S
PATENT REVOLVING IRON SHUTTERS.

THE validity of this Patent being completely established, the Patentees have much pleasure in stating that the very extensive demand, and the employment of improved machinery in the manufacture, have given them an opportunity (of which they gratefully avail themselves) of making a considerable reduction in the price of this well-known and tried invention, thereby rendering them the cheapest as well as the best iron shutters in use. Every improvement suggested by practical skill and most extensive application has been adopted, and no effective REVOLVING IRON SHUTTER can be constructed without infringing B. and C.'s patent. The worm and wheel, as patented by them, being the only safe, durable, and efficient mode of raising and lowering such shutters, these shutters can be applied horizontally, either above or below the window, or vertically, as introduced by BUNNETT and CORPE, in some of the largest establishments: they are made with bent or corrugated laths, if required.

BUNNETT and CORPE also manufacture
REVOLVING WOOD SHUTTERS,
with their patent rasing machinery, or with counterbalance weights, and with proper metallic hinges, without which no shutters can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop Fronts fitted in a superior manner with Iron Shutters, Patent Brass or Zinc Sashes, Moulded Engraved Stall Board Plates, best Plate Glass, and internal Brass Fittings of all kinds, on the most advantageous terms. Estimates given and contracts taken in Town or Country.—All kinds of metal works executed to any design. Metal Drawing, Rolling, and Stamping for the Trade. OFFICE, 26, LOMBARD-STREET, LONDON. WORKS, at DEPTFORD, KENT.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.
PATENT SAFETY IRON SLIDING SHUTTERS.



The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 115, Old Street, London; or at the Licensees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using BENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licenses Granted.

SMITH'S PATENT SASH-CORD SHIELD FOR HANGING SASHES.—By the application of this simple and effectual mode of Hanging Windows, the Sashes can be removed from their Frames for the purposes of cleaning, repairing, or painting, and may be replaced again in their Frames with ease and safety (by any domestic) in one minute. In cases of Fire, the Sashes hung on this plan, makes it very convenient for an easy escape. Each Window fitted up complete for the small sum of Five Shillings. ALEX. REID, Agent, 70, Lower Thames-street.

N.B.—Builders treated with, and instructions given for improving Sash-frames.

SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.



JOHNSON & PASK,
1, AMWELL STREET,
Clerkenwell,

Beg to state that they continue to make Sashes, glazed complete, at 10½d. per foot; also, Shop Fronts to any design, and with the best British plate-glass. Every description of joinery on the lowest terms, and of the best materials and workmanship.



A full list of prices forwarded by return of post to any part of the country.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

BRITISH and FOREIGN SHEET GLASS for Horticultural purposes, &c., may be had at JAMES BROMLEY'S, 215, Oxford-street, London, at the following reduced prices:—

In crates, containing about 260 feet, of coarse 13 oz., at 4½d. per foot, or fourth quality, 5d. per foot; ditto, 16 oz. coarse, 5½d.; ditto, fourth quality, 6d.; or cut to any size not exceeding 40 inches long by 16 inches wide at ½d. per foot extra. Also Microscopical Glass, French Shades, Plate and Crown Window Glass.—A discount to the trade.

TO THE PLATE GLASS TRADE.

THE BIRMINGHAM PLATE AND CROWN GLASS COMPANY, "Registered," beg to inform the Trade and Public, that the extension of their Works at Smethwick, near Birmingham, being now completed, their Warehouse, 141, Fleet-street, is now open for the Sale of their Crystal Plate Glass, which will be found to stand unrivalled by that of any other manufactory. They are also in a position to supply Rough Plate of any substance for Skylights or Floorings on the shortest notice.—Orders addressed to B. MOSS, 141, Fleet-street, will be promptly attended to.

SASHES primed, glazed, and sent to any part of London at 6d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.
FOREIGN SHEET 8d. per foot.
BRITISH CROWN 8d. per foot.
Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Shew-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.
Dry and Good Colours of the best quality; Brushes Dryers, and every article used in the Trade Warranted.
VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.
For complete lists priced.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

WINDOW GLASS, LEAD, VARNISH, and COLOUR MANUFACTORY.—Crown Window Glass, in squares under two feet, 4½d. per foot; gazing, 5d. per foot; sheet glass, 4d. per foot; best white lead, 26s.; seconds, 24s.; thirds, 22s. per cwt.; linseed oil, 2s. 2d.; boiled oil, 2s. 6d.; turpentine, 3s. 9d.; fine oak varnish, 10s.; carriage, 12s.; copal, 14s.; body copal, 20s.; gold size, 10s.; paper varnish, 10s.; linseed oil putty, 7s. 6d. per cwt. per firkin; patent dryers, 42s.; black paint, 28s.; lead colour, 24s.; Oxford ochre, 42s. per cwt.; best pan water-closet, 34s. complete; ½-brass cocks, 2s. 8d. each. Milled sheet lead, patent pipe, beer-machines, tapping-cocks, and brushes and colour of every description. Thomas Millington being the manufacturer, can supply a much better article than most other houses. Address, THOMAS MILLINGTON, 87, Bishopsgate-street Without, London.—Established upwards of 90 years.

OHIO MELODISTS.—ROYAL ADELAIDE GALLERY.—Every evening at half-past Eight o'clock.—These inimitable artists continue to delight crowded houses by the drollery of their personation of negro life. The Concert conducted by Mr. J. Sedgwick. Vocalists—Miss Stuart and Mr. Binge. Also the juvenile dancers, Miss Palser and Master Waite. A large model of a new method, invented by Mr. Austin, for obviating the difficulties of the Break of Gauge on Railways. Nickel's Compressed Air Railway, Lecture on Chemistry, Microscope, Dissolving Views, and Chromatrope daily. On Tuesday, Thursday, and Saturday, at Three o'clock, Major Beniowski's Lecture on Artificial Memory, and on Tuesday and Friday, a Lecture on Phonography. Admission, 1s.

ROYAL POLYTECHNIC INSTITUTION.—Dr. RYAN'S new and interesting Lecture on the Chemistry and Philosophy of Diving, at half-past three daily, and on the Evenings of Mondays, Wednesdays, and Fridays. Prof. Bachhoffner's Lectures on Natural Philosophy, with brilliant experiments, daily. Macintoshe's Revolving Engine, Coleman's Patent Locomotive Engine for ascending and descending inclined planes, Farrell's Archimedean Railway, the Atmospheric Railway, an Envelope Cutting Machine, all in action. New Dissolving Views. Portraits of distinguished Men in the Government and Army of Lahore, magnified by the Opaque Microscope. The Oxy-hydrogen Microscope, exhibiting a fine Collection of Living Objects, &c. &c.—Admission, 1s.; Schools, Half-price.

MIDDLESEX FREEHOLD.

TO BE SOLD, a Plot of Freehold Building Ground, 180 feet Frontage by 80 feet in depth. Land Tax redeemed. Situate in Wood-street, Devonshire-road, Chiswick. Price £100. Address, W. T., No. 5, John-street, Roupell-street, Lambeth.

TO BUILDERS AND OTHERS.

EXCELLENT BUILDING LAND TO LET in the vicinity of London, and in the country, near one of her Majesty's residences, at low ground rents, on building leases for 99 and 800 years; bricks, timber, and money advanced by way of assistance, if required. For particulars apply personally, or by letter, to Mr. BANTING, Surveyor, No. 5, Stanley-place, Paddington-green, London.

TO BUILDERS.—MATERIALS AND MONEY ADVANCED.

TO BE LET, on BUILDING LEASES, for ninety-six years, several very eligible plots of Freehold Building Ground, land-tax redeemed, situated in the Shrubland-road, leading from the Queen's-road, Dalston, to Lansdown-place. This is one of the most rapidly improving neighbourhoods near London, and will be the principal thoroughfare from all parts westward to the new Victoria Park, from which it is only a quarter of a mile distant.—Apply to Mr. PALMER, on the premises.

TO BRICKLAYERS, BUILDERS, AND OTHERS.

TO BE LET on Lease, or Sold, most desirable premises in Burnham, Buckinghamshire, in a populous and healthy locality, where any industrious young man could obtain a good business. The premises are well adapted for a bricklayer and plasterer, being in that line for the last twenty years. No premium required or stock to purchase. Situated three miles from the town of Maidenhead, two from the station, and five from Windsor.—Further particulars to be had of Mr. WILLIAMS, Builder, 11, Kingstreet, Grosvenor-square; or Mr. THOMAS EVERETT, Post-office, Beaconsfield, Bucks.

TO LIME, CEMENT, BRICK, OR COAL MERCHANTS.

TO BE LET on LEASE, an extensive WHARF and PREMISES, in the King's-road, Camden-town, having a frontage of 187 feet on the Regent's-canal. A large trade in lime and cement has been carried on upon the premises for many years, and an extensive connection formed, of which the incoming tenant will have the advantage. The premises comprise a spacious manufactory, warehouse, sheds, mill-house, drying kilns, counting-house, stabling, &c.; the whole enclosed by high brick walls and folding gates opening into the main road.—For particulars, apply to Messrs. BROWN and ROBERTS, Surveyors, 22, Throgmorton-street.

TO BUILDERS AND OTHERS.

TO BE LET, by TENDER, for a term of Sixty Years, an eligible PLOT OF GROUND for building houses, in Dudley-court, leading from High-street, St. Giles's, to Crown-street, Soho. The neighbourhood is extremely populous, and houses for the working classes in great request, in consequence of the number lately taken down for the improvements in the immediate vicinity. The plans and particulars may be seen on application to Mr. WILLIAMS, Solicitor, 31, Alfred-place, Bedford-square, or Mr. ANGELL, 18, Gower-street, between the hours of Ten and Four.

ST. JOHN'S WOOD PARK!!! IMMEDIATE CONNECTION WITH REGENT'S PARK.

BUILDING PLOTS TO BE LET in this most desirable and salubrious situation!! commanding picturesque views of the surrounding beautiful neighbourhood, and elevated within a few feet of the summit of the monument, with the best approaches of any suburban district near the metropolis, and greatest facilities of access to all the fashionable resorts and promenades of the West End and the City!—For particulars and plans, apply to W. H. TWENTYMAN, Esq., 11, Regent's-villas, Avenue-road, Regent's-park.

SALES BY AUCTION.

To Timber Merchants, Cabinet Makers, Coachmakers, Musical Instrument Makers, and others.

MESSRS. LESLIE and SON will SELL by AUCTION, upon the premises, 336, Oxford-street, on TUESDAY, June 23, and following day, at Eleven, by order of the proprietor, the well-selected and seasoned stock of about 50,000 feet of Spanish and Honduras mahogany, oak, beech, ash, elm, cedar, lime tree, sycamore, walnut, pear tree, American birch and ash, black-wood and zebra wood, several tons of rosewood, and many hundreds of deals, red and yellow battens and planks, maple planks and veneers, fine lime tree cutting boards, mahogany piano-forte legs and other carvetering, saws, rollers, screws, trade utensils, and various effects on the premises (which are to be let or the lease sold). The stock may be viewed two days prior to the sale, and catalogues had of Messrs. LESLIE and SON, 45, Margaret-street, Cavendish-square.

CHURCH-ROAD, EDMONTON.—FREEHOLD RESIDENCES, and numerous Plots of Building Ground.

MR. ROBERTS (of Old Jewry) will SELL by AUCTION, at the Mart, on FRIDAY, June 26, at Twelve, in Lots, a commodious FAMILY RESIDENCE, with portico entrance, and the offices and grounds attached thereto, advantageously situate in Church-road, Edmonton, suitable for a boarding establishment or private institution, and a neat Cottage Residence, with large garden, let to Mrs. Leggett, who has been in possession many years, also Thirty Plots of exceedingly valuable Building Ground adjoining. The whole of the above property is freehold. The building ground is seated high and dry, within a few paces of the High-street, possessing a rich loamy soil, well stocked with fruit and other trees, with efficient drainage, and divided into plots of various sizes, presenting excellent frontages for shops and cottage residences, part having delightful views over the extensive park of J. Snell, Esq., thereby offering eligible investments to builders and capitalists.—Particulars and plans may be had at the Bell, Edmonton; Swan, Tottenham; Three Crowns, Newington; of J. SCARBOROUGH, Esq., 19, Tokenhouse-yard; Mr. LAMBERT, Surveyor, Coleman-street; at the Mart; and of the Auctioneer, 7, Old Jewry.

SALES BY AUCTION.

ISLE OF WIGHT.

The most Romantic Estate at the Undercliff, comprising 97a. 2r. 34p. of Freehold Land, for Sale by Auction, in Thirteen Lots.

MR. F. PITTIS begs to announce that he has been favoured with instructions to submit to SALE by PUBLIC AUCTION, at the Royal Sandrock Hotel, which is a short distance from the property, on THURSDAY, July 9th, 1846, at Two o'clock in the afternoon (unless previously disposed of by private contract, of which due notice will be given), the KNOWLES ESTATE, the most singularly beautiful and remarkable tract of land in the FAMED UNDERCLIFF, comprising 97a. 2r. 34p., with Homestead and Farm Buildings, embracing the whole of the Coast from the Lighthouse to Chale Common, and possessing Sites the most picturesque and diversified imaginable. The property is freehold, and land-tax redeemed, and will be sold in Thirteen Lots, varying in extent from 2 to 21 acres; presenting the most advantageous opportunity for the erection of marine villas which can possibly offer itself on the coast of the Isle of Wight. The Buddle Estate, recently subdivided and quickly disposed of for building purposes, and on part of which baths and reading-rooms have been recently erected, is immediately adjoining.

Particulars, with lithographic plans of the estate, may be obtained on application at the Royal Sandrock Hotel; of the Auctioneer; Mr. HEARN, Solicitor, Newport and Ryde; Messrs. FRERE and Co., 6, New-square, Lincoln's Inn; or of Messrs. FOSTERS and WESTMACOTT, 28, John-street, Bedford-row, London.

KENSINGTON-PARK, NOTTING-HILL.

Highly valuable Building Land, on the most important and eligible part of this rapidly improving and highly picturesque Estate, presenting sites for the erection of about eighty detached and semi-detached villas, embracing about nine acres of land, held direct from the freeholder.

MR. FREDERICK CHINNOCK has been directed to SELL by AUCTION peremptorily, at the Auction Mart, on Wednesday, June 24th, at twelve, the valuable PLOTS of BUILDING LAND described as above, in lots suitable for either the capitalist, builder, or to gentlemen desirous of erecting their own residences. The land is situate on the north side of the intended noble road, 60 feet wide, leading from St. John's Church to Westbourne-grove, to which it presents a frontage of 730 feet; it is on the highest points of ground on the estate, commanding a perfect panoramic view of great beauty and extent, upon which about 80 villas may be erected, giving to each sufficient space for appropriate pleasure grounds; the sewer, for which notice has been given, will be made at the expense of the proprietor. Plans and particulars may be obtained at the Auction Mart; of E. ELDERTON, Esq., solicitor, 3, Lothbury, City; Messrs. BAYLEY and JANSON, solicitors, 4, Basinghall-street; and at Mr. CHINNOCK'S Auction and Estate offices, 28, Regent-street, Waterloo-place.

WHITE KNIGHT'S PARK, near Reading, Berks, Freehold, the greater part Land-Tax Redeemed, and nearly all Tithe-free.

NOTICE of SALE of this UNRIVALLED ESTATE, sub-divided into plots for the erection of an assemblage of MANSIONS and VILLAS, agreeably to a plan which will ensure its becoming a nucleus for the residence of families of the highest respectability; affording to capitalists, builders, and gentlemen desirous of erecting their own private residences, an opportunity for investment rarely to be obtained; and for the sale of the whole estate in one lot, previously.

MR. FREDERICK CHINNOCK begs to announce that he has been honoured with instructions from the Proprietors to SUBMIT to PUBLIC COMPETITION, at the Great Western Railway Hotel, Reading, Berks, on THURSDAY, July 2, this exceedingly valuable and highly picturesque ESTATE, unless the whole estate, which will be previously offered in One Lot, comprising the beautifully undulating park, the well-known and much-admired botanical and American gardens, the charming and romantic wilderness, the splendid lake of water abounding with fish, the noble avenue of trees through which it is approached, with the rich pasture and park land, embracing together upwards of 284 acres, shall be sold. The greatest possible care has been taken in apportioning and lotting this truly interesting and picturesque property for sale, so as not only to preserve and retain the natural beauties of the particular spot so lotted, but also to afford that extent of ground necessary to surround the villas or houses which may be erected on its site; and at the same time to preserve intact the leading features of the estate, by offering in one lot the site of the old mansion, the lake of water, the botanical and kitchen gardens, the avenue of trees, and the home park, containing together about 100 acres, and thus afford an opportunity for erecting a mansion on the old foundation of a spot already formed by nature and art to give every characteristic of an ancient family mansion, and render it one of the most compact, delightful, and inexpensive seats in the county of Berks. The Wilderness, containing about 36 acres, will be offered in one lot, together with about 30 acres of park land, in the hope that there will be found, in the town of Reading or the county, a purchaser, who will erect a house on its site, and keep up this romantic and charming retreat in the same state of order and cultivation in which it at present stands. Detached villa residences are much needed in this locality, and there are few spots in England presenting such attractions and affording such facilities for this object, whether from the new church, which has lately been erected close to the estate, from its contiguity to the town of Reading, from its easy access from London, and shortly will be by railway communication from every part of the kingdom (which must materially enhance the value of the land in the neighbourhood, and of this estate in particular), from the known salubrity of the air, from the delightful drives in the neighbourhood, but above all from the natural and artificial beauties of the estate, which are so well known and highly appreciated by all who have had the good fortune to see it, and which nought but a bold and noble conception, combined with the most refined taste, alone could produce. In order to afford facilities and encouragement to purchasers, arrangements have been made whereby the conveyance of each purchase shall be fixed at a definite and low sum.

Descriptive particulars, with lithographic plans of the estate, are now ready, and may be obtained at the Great Western Railway Hotel; of T. ROGERS, Esq., Solicitor, Friar-street, Reading; of Messrs. SMITH and ALLISTONS, Solicitors, Warnford-court, City; of Messrs. HILLIER, LEWIS, and HILLIER, 6, Raymond's-buildings, Gray's-inn; at the White Hart, Bath; of Messrs. FOWLER, Clifton, near Bristol; and at Mr. CHINNOCK'S Offices, 28, Regent-street, Waterloo-place.

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TO HEIRS AT LAW AND NEXT OF KIN.

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N.B. The fourth monthly part for the present year is now ready, containing 128 large pages of amusing and instructive matter for eighteen-pence only.

FOR 1846.

KELLY'S PRACTICAL BUILDER'S PRICE BOOK, or Safe Guide to the Valuation of all kinds of Artificers' Work; with the Modern Practice of Measuring, and an Abstract of the New Building Act for regulating the Construction of Buildings. Revised and corrected by New Calculations upon the Present Value of Materials and Labour. Arranged by an Architect of eminence, assisted by several experienced Measuring Surveyors. Illustrated and exemplified by steel Engravings and numerous Woodcuts. Royal 8vo., price 8s. neatly bound.

London: Published by T. KELLY, Paternoster-row; SIMPKIN and MARSHALL, and may be had of all Booksellers.

TO ARCHITECTS, ENGINEERS, BUILDERS, AND ALL DESIGNERS.

JOHN WILLIAMS & CO., (late of Great Russell-street, now of 193, Strand), invite gentlemen in the above professions to inspect their extensive STOCK of ARCHITECTURAL and ENGINEERING WORKS. From several thousand, the following are selected:—

Piranesi—brilliant old impressions, 80 guineas.
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The works of Britton, Pugin, Stuart, Taylor, Cresey, Telford, Rennie, and all the Standard Foreign and English Publications, including new works, due notice of which will be given every month in THE BUILDER.—Now ready,

	£.	s.	d.
Bartholomew's Specifications	1	8	0
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Italian Villas	1	1	0
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New Work on Elizabethan Ornament	1	0	0
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Several Portfolios of Single Plates on Engineering and Architecture, cheap.

WORKING DRAWINGS.—One complete set of a church, by Frances Goodwin; one of a lunatic asylum; one of a workhouse.

These drawings are invaluable, from their clever construction.

THE LIVERPOOL FIRE AND LIFE INSURANCE COMPANY. Established in 1836.—Empowered by special Act of Parliament. Offices, No. 8, Water-street, Liverpool, and No. 3, Charlotte-row, Mansion House, London.

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Hon. F. Ponsonby.	J. M. Rossetter, Esq.

Swinton Boult, Esq., Secretary of the Company.

MEDICAL REFEREES.

Marsh Hall, M.D. F.R.S.
Alex. Anderson, Esq., F.R.C.S.

SOLICITORS.

Messrs. Palmer, France, and Palmer, Bedford-row.

By the Act of Parliament obtained by the Company, it is expressly conditioned that the liability of the shareholders under the policies shall not be restricted by special contract or otherwise.

In the Deed of Constitution it is provided, that until a reserved fund of 100,000*l.* be accumulated, and unless it be kept up, no greater dividend than 5 per cent. shall be paid to the proprietors in any one year.

At the commencement of the present year, the reserved fund amounted to 117,925*l.*; and, in addition, the sum of 31,504*l.* 11*s.* 6*d.* was retained out of the fire premiums of the year, as a guarantee, or re-insurance fund, against current risks. The premiums received in the life department form no portion of either of those two funds.

The Directors having thus succeeded in establishing a substantial and highly-flourishing institution, with a steadily increasing business, have been induced to form a junction with the London, Edinburgh, and Dublin Life Assurance Company, by the assistance to be derived from whose connections and proprietors they hope to acquire a firmer and more extensive hold on the metropolis and the country generally.

Proposals for the Insurance of Property against Fire in the United Kingdom, the British Colonies, and in Foreign Countries, and for the Assurance of Lives, the Purchase of Annuities, and the Sale of Reversionary Interests, will be received at the offices as above, or by any of the Company's Agents. ALEX. ROBERTSON, Resident Secretary.

LONDON: Printed by CHARLES WYMAN, of 49, Camming-street, Pentonville, in the County of Middlesex, Printer, at the Printing-office of J. & H. COX, *Brothers*, 74 & 75, Great Queen-street, Lincoln's-Inn Fields, in the Parish of St. Giles-in-the-Fields, in the same County; and published by the said CHARLES WYMAN, at the office of "THE BUILDER," 2, York-street, Covent Garden, in the Parish of Saint Paul, Covent Garden, in the said County.—Saturday, June 20, 1846.

The Builder,

A JOURNAL FOR

The Architect, Engineer, Operative & Artist.

VOL. IV.—No. 177. | JUNE 27, 1846. | *Price* ..... 3*d.* *Stamped* ..... 4*d.*

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THE ENGRAVER to THE BUILDER has a VACANCY for a respectable youth as a pupil for four or five years. A taste for drawing indispensable.—For address apply to "The Builder" office, York-street, Covent-garden.

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THE Monthly General Meeting of the NORTH LONDON BUILDING and TRADING COMPANY, will be held at the Office of the Company, No. 13, Great College-street, Camden Town, on FRIDAY, the 3rd day of July next, to receive subscriptions and report the progress of the Company's Concerns. The objects and purposes of the Company, are to perform the General Business of a Builder, and they are now ready to receive offers of Land or to contract for Buildings, &c.—By Order of the Directors. GEORGE WATERFIELD, Secretary.

June 23rd, 1846.

HYDE PARK MUTUAL ACCUMULATING FUND ASSOCIATION. Shares 6*l.* per annum, or 10*s.* monthly.

Second Monthly Meeting on Monday, the 29th July, at Seven o'clock in the evening, at the Office, Warwick Arms, Commercial Inn, Harrow Road.

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Mr. Robert Woollaston, Conduit-street West, Paddington.
Mr. William Hughes, Albany-street.

BANKERS—Sir Claude Scott, Bart. and Co.

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TO BUILDERS.

PARTIES desirous to CONTRACT for BUILDING a CRESCENT of Thirty-five Houses at New Peckham, can see the drawings and specifications at the office of Mr. FRANCIS E. H. FOWLER, Architect, 28, Sackville-street, Piccadilly, from June 24th next to July 1st, on which day tenders are to be delivered.—The proprietor will not bind himself to accept any tender unless fully approved of.

CONTRACTS.

TO BUILDERS.

THE COMMISSIONERS of SEWERS for WESTMINSTER, and part of MIDDLESEX, will be ready at their Office, No. 1, Greek-street, Soho-square, on Friday next, the 3rd of July, at Two o'clock precisely, to open Tenders for building about 800 feet of 18 inch drain, in the old line of the Ranelagh Main Sewer, adjoining (northward) to the Uxbridge Road, at Bayswater. A specification, form of tender, and other particulars may be obtained at this Office from 9 to 4 o'clock. Sureties for the due performance of the works will be required.

LEWIS C. HERTSLET, Clerk.

Sewers Office, Greek-street, 25th June, 1846.

TO BUILDERS AND OTHERS.

NOTICE IS HEREBY GIVEN, that the Commissioners of Sewers for Holborn and Finsbury Divisions, Middlesex, will meet at their Office in Hatton Garden, on Friday, the 10th day of July next, at One o'clock in the afternoon precisely, to receive TENDERS in writing for building a sewer in George-street, &c., Hampstead-road, for a length of 1550 feet, and a sewer in Ball's Pond road, Islington, for a length of 650 feet, conformably to Plans and Specifications, which may be inspected daily, between the hours of Nine and Three. Separate tenders must be delivered for the above works, and marked with the name of the situation to which they apply. The parties offering must attend at the above time of meeting, with their tenders sealed up, which must contain the names and address of two sureties for the due execution of the works. The Commissioners will not consider themselves bound to accept the lowest tender.—By the Court,

STABLE and LUSH, Clerks.

Office of Sewers, Hatton Garden, 20th June, 1846.

TO BUILDERS.—Such builders as may be desirous of offering TENDERS for the erection of St.....'s Church, Portswood, near Southampton, may see the drawings and specification at the offices of Messrs. RAPHAEL and J. A. BRANDON, Architects, 41, Beaufort-buildings, Strand, on and after Monday, the 29th inst., between the hours of 9 and 5. The tenders to be sealed up and endorsed "Tender for the Erection of St.....'s Church, Portswood, Hants," and to be delivered at the Rev. W. D. HARRISON'S, South Stoneham Vicarage, near Southampton, on or before the 11th July, 1846, and they will be opened on the 13th July, 1846, at 1 o'clock. The committee do not pledge themselves to accept the lowest tender, and sufficient sureties will be required for the performance of the work.

PLANS, &c., FOR A NEW WORKHOUSE AT KENSINGTON.

1, Canning-place, June 24th, 1846.

NOTICE IS HEREBY GIVEN, that architects who may be desirous of sending in plans, &c., for building a new Workhouse at Kensington, must forward the same, as stated in a previous advertisement, to the clerk's office, 1, Canning-place, Kensington, or to the board room at the workhouse, on Tuesday the 7th day of July next, at Ten o'clock in the forenoon.

S. CORNELL, Clerk to the Guardians.

TO BUILDERS AND EXCAVATORS.

PERSONS willing to CONTRACT with the Directors of the Canterbury Commercial Gas-light and Coke Company, for the excavation and construction of Two Gas-holder Tanks 46 feet in diameter, may see the plans and specifications at the office of Mr. GEORGE HURST, Architect, St. Alphage, Canterbury. The tenders to be forwarded to the Board-room, No. 25, St. Margaret's-street, addressed to the directors on or before the 7th day of July next. The directors do not bind themselves to accept the lowest tender that may be offered.

GRAVESEND AND MILTON UNION WORKHOUSE. TO BUILDERS.

THE GUARDIANS of the Gravesend and Milton Union are ready to receive TENDERS for the Erection of a New Workhouse in the Parish of Gravesend. The Drawings, Specifications, and Conditions may be seen at the Board Room of the present Workhouse, in the said parish, after Thursday next, the 25th day of June instant, between the hours of Ten and Six o'clock, until Thursday, the 16th day of July next.—Tenders are to be delivered at my Office, in Milton, next Gravesend, before Eleven o'clock on that day, sealed, and indorsed "Tender for New Workhouse"

Any information that may be required in respect of the said drawings, specifications, conditions and works may be obtained on application to Mr. JNO. GOULD, jun., surveyor, Bath-street, Gravesend, surveyor to the guardians. The guardians do not pledge themselves to accept the lowest or any tender.—By order of the Board of Guardians,

FRAS. SOUTHGATE, Clerk to the Board.

Gravesend, 22nd June, 1846.

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THREE CRANES WHARF, 69, Upper Thames-street.
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WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Millbank-street, Westminster,

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2ndly.—"Its freedom (when properly applied) from those cracks and flaws, by which the cements generally used for external stuccoing are so frequently disfigured.

3dly.—"The total absence of the unsightly tint produced by vegetation.

4thly.—"The increased hardness which it acquires from exposure to atmospheric influences.

5thly.—"The great beauty, accuracy, and durability of the mouldings, capitals of columns, crockets, finials, and other architectural enrichments and decorations formed of it, the smallest and most delicate members of which, as well as the sharpest arises, have withstood uninjured the severities of our climate during many winters, and now present the same perfect and highly finished appearance as would be produced by stone carvings carefully executed.

6thly.—"The excellent and agreeable tone of colour which it assumes naturally, and retains without the aid of any colouring or painting.

"And lastly, its extreme hardness and almost entire incompressibility when used as a mortar in the construction of inverted or relieving arches, foundations under important superstructures, and small bearing piers, which have to sustain great weights. For all these purposes it has been extensively used under my directions, and in some cases has been exposed to very severe trials. The results have, however, without one exception, been most satisfactory; and I do not believe that there are any known substances so well adapted for the execution of works, in which the greatest strength and durability are essential."

Further information will be given, and specimens shewn, on application to Mr. C. K. DYER, 4, New Broad-street, and at the Metallic Cement Wharf, King's-road (opposite Pratt-street), Camden New Town, London.

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Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, produceable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.
CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

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It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

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SIR WILLIAM BURNETT'S PATENT for the Preservation of Timber, Canvas, Cordage, Cotton, Woollen, &c., from Decay.

TESTIMONIALS.

From THOMAS GRAHAM, Esq., M.A., F.R.S., L. and E., Professor of Chemistry, University College, London.

"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.

"The wood appears to be fully and deeply penetrated by the metallic salt; I have found it in the centre of a large prepared paving block.

"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the crystallizable salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.

"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc, which I confirmed by Mr. Teplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotised principles it contains, by entering into chemical combination with them.

(Signed) "THOMAS GRAHAM."

"University College, 25th October, 1845.

From Professors BRANDE and COOPER.

"London, 4th November, 1845.

"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.

"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.

"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.

"In regard to the several examples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.—(Signed) "WILLIAM THOMAS BRANDE,
"JOHN THOMAS COOPER."

"To Sir William Burnett, K.C.H., F.R.S., &c. &c."

Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 53, King William-street, London-bridge.

PREPARED FLOORING BOARDS.
AT REDUCED PRICES.
ALWAYS ON SALE, a LARGE ASSORTMENT of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ½ inch to 1¼ inch thick. Rough Boarding for Flats.

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Apply at W. CLEAVE'S Timber Yard, Smith-street, Westminster.

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ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE. Old-Barge-Wharf, Upper Ground-street, Blackfriars, and and at his Depôt, H. Castle's, Ship-yard, Millbank, Westminster, a very large stock of well-seasoned Floor Boards of every variety.

A. R., in calling the attention of builders and consumers, confidently presumes on his being able to supply them on such advantageous terms, as will ensure and merit their favours and approbation.

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TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Pantiles.

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SAW MILLS, GILLINGHAM-STREET, PIMLICO.
TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.

THE GENERAL WOOD CUTTING COMPANY, TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.—SAWING in all its branches executed with the greatest precision and despatch. PLANING by the most approved Machinery, reducing the Boards to a parallel width and thickness, and grooving or matching with undeviating accuracy. The operation economizes time, money, and material.

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N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

ORNAMENTAL TILES FOR COVERING BUILDINGS.
ROBERT BROWNE'S newly-invented CURVED ITALIAN TILES, for which invention the Society of Arts and Sciences awarded a medal. The Gothic Grooved Ridge Tile, with vertical ornaments, invented by R. B. in 1840; also a variety of plain Gothic Ridge Tiles adapted for tile or slate coverings; ornamental Plain Tiles of various patterns.

Tiles form in winter a warmer and in summer a cooler covering than slates or metal, and may be burnt of any desired colour. Address ROBERT BROWN, Tile Works, Surbiton Hill, near Kingston, Surrey.

HIP TILES to suit slate roofs in colour; Ridges, with plain or rebated joints, roll tops, and vertical ornaments; drains, many sizes, with plain or socket joints; paving in squares, hexagons, octagons, &c., different colours; roofing, in Grecian or Italian styles, other devices also, or plain; conduits, which do not injure pure water; fire-bricks and tiles; clinkers, and out-door paving; sundry wall-coping, garden-borders, chimney-tops; also tubular and other flues of peculiar material. No agent, but a depôt at 22, WHITEFRIARS-STREET, FLEET-STREET, LONDON, under Mr. PEAKE'S personal care, to supply genuine TERRO-METALLIC goods at fair prices as per quality; also, additional Stock at No. 4 Wharf, Macclesfield-street, South, City Basin.

The TILERIES, TUNSTALL, STAFFORDSHIRE, are near the centre of England, whence boats are sent direct to any inland place; or to the Mersey for the coasts, the colonies, and elsewhere.

ROOFING SLATES: CASH PRICES.

	£. s. d.
Bangor Blue Duchesses, 24 by 12.....	9 17 6
Ditto Countesses, 20 by 10.....	6 10 0
Marchionesses, Ladies, Doubles, Slabs, &c. &c.	

JAMES KAYE, Bridge Wharf, Pimlico.

DAVEY'S PATENT SLATE RIDGES and HIPS are very superior in appearance to lead, as well as more durable and much cheaper, and are admitted to be the most valuable articles for the purpose hitherto invented. They consist of two side pieces and a roll, either united together to form one solid piece, or in separate parts, and in lengths of from four to six feet. The roll is made of various sizes, perfectly round, and in the strongest way of the slate. They may be purchased of the patentee, W. DAVEY, Broad Quay, Bath, or of any slate dealer in London or the country. Parties ordering a cargo of roofing slates may procure these ridges at the cheapest rate from Mr. JAMES WYATT, Port Penrhyn, Bangor (where they are manufactured), of whom and of the patentee further particulars and prices may be obtained.—Be particular to order DAVEY'S Patent.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery

Best Patent Cut Clasp.

3d.	4d.	6d.	10d.	20d.
5d.	7d.	8d.	1s. 6d.	2s. per 1000.

Best Sheet Cut Floor Brads 16s. per cwt.
Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

Best Patent Sash Line.

1	2	3	4	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s. 12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6d., 7d., 8d. per inch.
Self-acting Kitchen Ranges with Oven and Back Boiler.
Wrought Bars and Bright Fittings.
3 ft., 3l. 3s. 3 ft. 6 in., 3l. 12s. 6d. 4 ft., 4l.
Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3l. 6s.	3l. 13s.	3l. 16s.	4l.	4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5l.	5l. 15s.	6l. 5s.	6l. 10s.	7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 3½d., and 4d. do.
Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.
Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 16a, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

TO ARCHITECTS, BUILDERS, & BRICK MAKERS.

PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Roads, Gardens, and for Liquid Manure. BRICKMAKERS' PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to 12-inch bore, kept for Hire.
BENJ. FOWLER, 63, Dorset-street, Fleet-street

TO ARCHITECTS AND BUILDERS.

DOOR SPRINGS AND HINGES.—GERISH'S PATENT DOOR SPRINGS, for CLOSING every description of DOOR, consists of Single and DOUBLE-ACTION BUTT HINGES in Brass and Iron for Doors to open one or both ways, and Rising Hinges for the convenience of Doors opening on uneven Floors. Likewise Swing Centres, which consist of a combination of power unequalled by any made at present. Manufactured by F. W. Gerish, East-road, City-road; and sold by all respectable Ironmongers in the United Kingdom.

TO ARCHITECTS AND BUILDERS.

COLLINGE'S PATENT HINGES.—Sole Manufactory, 64, BRIDGE-ROAD, LAMBETH, where a great variety are always on view, for Church, Park, Coach-house, and all other Doors and Gates, of large or small dimensions, a gate of a ton in weight moving with these hinges as easily as a wicket; they are also admirably adapted for drawing-rooms, being highly ornamental, and folding-doors fitted with them may be removed and replaced in an instant. Rising and spring Hinges, on the most improved principle, and very superior Fastenings for exterior Gates, at moderate prices. To be seen at Charles Collinge and Co.'s Patent Axletree, Sugar-mill and Spherical-hinge Manufactory, 64, Bridge-road, Lambeth.

PAVING, 2s. 9d. PER SQUARE YARD Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27s. 6d. per ton.

TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorized CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced.
1, FARRELL, Secretary.
Stangate, near Westminster Seyssel Asphalte Company.
Bridge, Jan., 1845.

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

FRENCH PAPER HANGINGS.—The Trade are respectfully informed, that at the Depôt of Messrs. MARKS and CO. is concentrated all the newest and most elegant patterns in Piece Paper and Decorations, at Parisian prices, with the reduced duty of 2d. per yard.—59, Princes-street, Leicester-square. Established 1834.

TO PAPER-HANGERS, HOUSE-DECORATORS, BUILDERS, SHIPPERS, &c.

JOHN TODD MERRICK & Co., having removed to their new Manufactory in New Oxford-street, take the opportunity of soliciting the inspection of the trade to their extensive stock of paper-hangings, comprising every variety, from the cheapest to the most costly and elegant drawing-room patterns. They also invite attention to their complete assortment of decorations, suitable for every description of room; and beg to announce that they are now ready to receive orders, furnish estimates, and enter into contracts in any situation, and to guarantee the execution of them in the first style.

J. T. M. and Co. wish particularly to state that they will execute any French pattern that may be brought to them, fully equal in quality, at the same price that can be purchased in Paris, thereby effecting a saving of the duty and carriage to the purchaser. They have recently imported a most complete assortment of French patterns.

TO BUILDERS, PAINTERS, DECORATORS, AND OTHERS.

MESSRS. WOOD AND COMPANY, Grainers and Writers to the Trade only, by contract, measure, or otherwise.
62, Waterloo Bridge-road. All letters post paid.
N.B. Workmen sent to any part of the kingdom.
*** An Apprentice wanted.

ARCHITECTURAL ENRICHMENTS.—BIELEFELD'S improved PAPIER MACHE, which has been almost universally adopted for architectural decorations, has been patronised by her Majesty, by the Hon. Commissioners of Board of Works, by the highest of the Nobility and Gentry, and by the most eminent architects of the day. It has been used at the Royal Palaces, at the present House of Lords, at Drayton Manor, the new Conservative Club House, &c., also at the British Museum, and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier mache ornaments with a tariff of prices, price 1l. Works, 15, Wellington-street, North, Strand.

FEATHERS

MIXED, 1s. per lb.
Grey Goose, 1s. 4d. per lb.
Foreign, ditto, ditto, 1s. 8d. per lb.

Best Foreign Grey Goose, 2s. per lb.
Best Irish White, ditto, 2s. 6d. per lb.
Best Dantzic, ditto, ditto, 3s. per lb.

Warranted sweet and free from dust.
A List of every description of Bedding, containing weights, sizes, and prices, sent free by post, on application to HEAL and SON, Feather-dressers and Bedding manufacturers, 196, opposite the Chapel, Tottenham Court-road.

By Her Majesty's Royal Letters Patent.

SEALED 7th OCTOBER, 1845.

CROGGON'S PATENT WATERPROOF DOUBLE BITUMINOUS PAPER.

THE above is Manufactured by the most Accurate Machinery, for Depositing a DOUBLE COAT of ASPHALTE between Two Sheets of Paper, ensuring an evenness of distribution of the Waterproof Materials, thus rendering EVERY MINUTE PORTION OF THE PAPER ENTIRELY IMPERVIOUS TO WATER. To prove that it perfectly resists water, it is only necessary to put it into such a form as to Hold Water, when, after filling, it, the water will evaporate without appearing in the least degree on the other side.

For ROOFS OF HOUSES it will be found very advantageous, being very cheap, admitting A GREAT SAVING OF TIMBERS, it may be painted of all colours, thus rendering it peculiarly applicable to any description of Roof. It is also an EFFECTUAL PREVENTATIVE against the effects of DAMP FROM WALLS, if put under the usual paper, and DAMP FLOORS, when under carpets.

It may be had in Rolls of any Length, to order, AT SIXPENCE PER SQUARE YARD, of
THOS. JNO. CROGGON,
8, Laurence Pountney Hill, Cannon-street.

CHEAP AND DURABLE ROOFING.

By Her Majesty's Royal Letters Patent.

F. McNEILL and Co. of Lamb's Buildings, Bunhill Row, London, Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING

HOUSES, VERANDAHS, SHEDS, &c.

Patronized by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE BOARD OF ORDNANCE,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover-square.

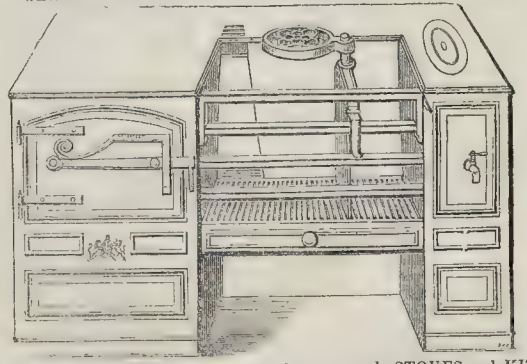
Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, as THESE ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW, LONDON.

Roofs covered with the felt to be seen at the Factory, also the new Vice-Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the new Houses of Parliament.

A Liberal Discount allowed to the Trade.

THE PANKLIBANON IRON WORKS,

WHOLESALE AND RETAIL, 58, BAKER STREET, PORTMAN SQUARE.



ARCHITECTS, BUILDERS, and Others, about to supply STOVES and KITCHEN APPENDAGES, will find at this Establishment the most unique and elegant assortment of STOVE-GRATES, FENDERS, and FIRE-IRONS ever offered to the Public, at prices considerably below the usual charges. The Proprietors at the same time beg to invite attention to their extensive Stock of FURNISHING IRONMONGERY, Tinned Copper, Tin and Iron Cooking Vessels, Block Tin Dish-Covers, Japanned Ware, Table Cutlery, and especially their Sheffield Plate and German Silver Wares, embracing every Article suitable for the Table, comprising Dish and Plate Covers, Liquor Frames, Epergnes, &c. &c. The plan adopted by the Proprietors of affixing the price to each article for cash, enables all purchasers to have the same advantage. The Patent Thermio Stove is in daily operation. Also Cundy's Improved Hot-air Stoves, for Heating and Ventilating Rooms.

THORPE, FALLOWS & COMPANY, 58, Baker-street, Portman-square, London.

FURNITURE.

WANTED to PURCHASE, from 200*l.* to 500*l.* worth of Second-hand FURNITURE, in large or small quantities, for which a fair price will be given in cash, without any deduction for valuation, and removed at the purchaser's expense; linen, china, glass, books, pictures, and musical instruments included, if required.—Apply to Mr. J. CHAPMAN, 6, Great Russell-street, Coventgarden. Valuations made for the legacy duty, rents collected, &c.

BECKWITH and SALMON, Auctioneers, Surveyors, and Estate Agents, 25, Bucklersbury. Property for sale registered and inspected free of expense, and no charge made until a sale is accomplished. This is well and quickly done at a moderate commission. Purchasers of property will do well to consult their register just published of Freehold and Leasehold Investments to the extent of 300,000*l.* in varied amounts, to suit every class of buyers. The register can be had with every information free of charge.

TO BUILDERS AND OTHERS.

TO BE LET, by TENDER, for a term of Sixty Years, an eligible PLOT OF GROUND, for building houses, in Dudley-court, leading from High-street, St. Giles's, to Crown-street, Soho. The neighbourhood is extremely populous, and houses for the working classes in great request, in consequence of the number lately taken down for the improvements in the immediate vicinity. The plans and particulars may be seen on application to Mr. WILLIAMS, Solicitor, 31, Alfred-place, Bedford-square, or Mr. ANGELL, 18, Gower-street, between the hours of Ten and Four.

TO BUILDERS.—MATERIALS AND MONEY ADVANCED.

TO BE LET, on BUILDING LEASES, for ninety-six years, several very eligible plots of Freehold Building Ground, land-tax redeemed, situated in the Shrubland-road, leading from the Queen's-road, Dalston, to Lansdown-place. This is one of the most rapidly improving neighbourhoods near London, and will be the principal thoroughfare from all parts westward to the new Victoria Park, from which it is only a quarter of a mile distant.—Apply to Mr. PALMER, on the premises.

ST. JOHN'S WOOD PARK!!! IMMEDIATE CONNECTION WITH REGENT'S PARK.

BUILDING PLOTS TO BE LET in this most desirable and salubrious situation!! commanding picturesque views of the surrounding beautiful neighbourhood, and elevated within a few feet of the summit of the monument, with the best approaches of any suburban district near the metropolis, and greatest facilities of access to all the fashionable resorts and promenades of the West End and the City!—For particulars and plans, apply to W. H. TWENTYMAN, Esq., 11, Regent's-villas, Avenue-road, Regent's-park.

A NUMBER of MARBLE CHIMNEY PIECES, consisting of Statuary, some of which are of elegant design, got up in a superior manner, suitable for Drawing Rooms, &c. Also some Vein, of moderate dimensions, suitable for second and third-rate Houses. TO BE SOLD CHEAP, under peculiar circumstances.—Apply, 34, Chichester-place, Gray's Inn Road. A good Spring Cart for Sale, cheap.

CHURCH ORGAN.

TO BE SOLD CHEAP, a fine toned instrument, recently removed from a church that has been taken down for the City Improvements, adapted for a large Church or Public Institution; the quality of tone is rich, melodious, and powerful, comprises 17 stops of the usual church order, with swell and three rows of keys; stands 20 feet high, and 12 feet 6 inches wide, in solid oak case with gilt front pipes of three noble towers of the Grecian order, has been thoroughly repaired and may be removed at a trifling outlay.—For further particulars, apply to Mr. PEACHEY, Panoforte Manufacturer, 74, Bishopsgate-street-within.

FREEHOLD ESTATES AND OTHER PROPERTY TO BE SOLD.

TO BE PEREMPTORILY SOLD IN LOTS, pursuant to an Order of the High Court of Chancery, made in a certain cause of Hamilton against Viscount Lismore, with the approbation of Samuel Duckworth, Esq., one of the Masters of the said Court, at the Gray's-Inn Coffee House, Holborn, on Tuesday, the seventh day of July next, between the hours of twelve and one in the afternoon. A Freehold Estate, consisting of Twenty-seven Acres of Building Ground, known as the Gospel Oak Field, and Five Acre Field, situate between Kentish Town and Hampstead, and adjoining the land of the Earl of Mansfield, and the land recently sold by Lord Southampton. Also, a Rentcharge in perpetuity of one hundred pounds per annum, from the Chapel and Burial-ground of the parish of St. James, Westminster, situate in the Hampstead Road. Also, a Plot of Ground in the Hampstead Road, containing the Reservoir and Premises of the New River Company, and now on lease to the said Company for an unexpired term of 946 years, at a clear rent of 200*l.* per annum. Particulars and conditions of sale may be had at the said Master's chambers, Southampton Buildings, Chancery Lane; of Messrs. WALKER, GRANT, and Co., 13, King's-road, Gray's-Inn, Solicitors; and Messrs. LIGHTFOOT, ROBSON, and LIGHTFOOT, Solicitors, 26, Castle-street, Leicester-square. WALKER, GRANT, and Co., 13, King's-road, Gray's-Inn, Vendor's Solicitors.

TWICKENHAM COMMON, MIDDLESEX. TO BUILDERS AND OTHERS.

MR. CAIN is instructed to SELL by AUCTION, at the King's Head Inn, Twickenham, on TUESDAY, the 30th of June, 1846, at Three o'clock precisely, Five Leasehold Brick-built Houses, with slated roofs, the whole more or less in an unfinished state. They are of modern elevation, and adjoin each other, and at a moderate outlay will become most comfortable residences. The depth of land intended as garden ground, from the front to the back boundary is 227 feet, with a frontage to the road of 150 feet; east, 123 feet, and back front 111 feet. The property is held direct from the freeholder, for the unusually long term of 150 years, at a ground rent of 31*l.* 10*s.*, but the lease contains a proviso that each house shall be liable only to its own ground rent, and which is apportioned at six guineas each. The improving neighbourhood of Twickenham Common will entail to the purchaser a safe investment.—Particulars to be had of the principal inns at Isleworth, Brentford, Mortlake, Kew; of F. H. BOULTON, Esq., 1, Walbrook-buildings, City, and at the Auctioneer's Estate and Agency Office, King-street, Richmond.

SALES BY AUCTION.

CARCASES OF VILLAS, ST. JOHN'S WOOD.

MR. SPEARMAN is authorized to SELL by AUCTION, at the Mart, City, on Tuesday, June 30th, at Twelve, the well-built CARCASES of a pair of handsome ten-roomed VILLAS, with fore-courts and gardens, delightfully situate in Norfolk-road, Avenue-road, St. John's-wood. Lease 83 years. Ground rent moderate.—Particulars may be had of Messrs. CHAMBERLAIN and MEADEN, solicitors, John-street, Bedford-row; at the Eyre Arms, St. John's-wood; Angel, Islington; and of the Auctioneer, 77, Old Broad-street, City.

CAMDEN TOWN.—Building Materials and Shop-fixtures. By direction of the proprietors, declining business.

MESSRS. ROBERTS and ROBY will SELL by AUCTION, on the premises, King-street, near the Southampton Arms, on Monday, June 29, at Twelve, an excellent assortment of Building Materials, in Joists, Quartering, Lining, and Flooring Boards, Sash and Frames, Shop-Fronts, Partitioning and Wainscoting, House and Shop-Fixtures, Marble and other Chimney-Pieces, and effects. To be viewed on Saturday, and morning of sale. Catalogues had at the Southampton Arms, and at Messrs. ROBERTS and ROBY'S Office, 24, Moorgate-street.

FREEHOLD BUILDING LAND, HOMERTON, MIDDLESEX.—LAND-TAX REDEEMED.

MESSRS ROBERTS and ROBY are directed to SELL by AUCTION, at the Mart, on Friday, July 10, at Twelve, in 31 lots, valuable Freehold Building Ground, well worthy the attention of Builders, Capitalists, and others; situate in a healthy, impoving neighbourhood, about two miles from Town, having the advantage of Omnibus Communication to the City, and West End at all times of the day, in the immediate vicinity of the Victoria Park, near to Hackney Old Church. Particulars, with plans annexed, may be had of W. SCARBOROUGH, Tokenhouse Yard; Mr. ANDERSON, Laurie Terrace, Westminster Road; at the Mart, and at Messrs. ROBERTS and ROBY'S Office, 24, Moorgate-street, Bank

ISLE OF WIGHT.

The most Romantic Estate at the Undercliff, comprising 97a. 3r. 34p. of Freehold Land, for Sale by Auction, in Thirteen Lots.

MR. F. PITTIS begs to announce that he has been favoured with instructions to submit to SALE by PUBLIC AUCTION, at the Royal Sandrock Hotel, which is a short distance from the property, on THURSDAY, July 9th, 1846, at Two o'clock in the afternoon (unless previously disposed of by private contract, of which due notice will be given), the KNOWLES ESTATE, the most singularly beautiful and remarkable tract of land in the FAMED UNDERCLIFF, comprising 97a. 2r. 34p., with Homestead and Farm Buildings, embracing the whole of the Coast from the Lighthouse to Chale Common, and possessing Sites the most picturesque and diversified imaginable. The property is freehold, and land-tax redeemed, and will be sold in Thirteen Lots, varying in extent from 2 to 21 acres; presenting the most advantageous opportunity for the erection of marine villas which can possibly offer itself on the coast of the Isle of Wight. The Buddle Estate, recently subdivided and quickly disposed of for building purposes, and on part of which baths and reading-rooms have been recently erected, is immediately adjoining.

Particulars, with lithographic plans of the estate, may be obtained on application at the Royal Sandrock Hotel; of the Auctioneer; Mr. HEARN, Solicitor, Newport and Ryde; Messrs. FRERE and Co., 6, New-square, Lincoln's Inn; or of Messrs. FOSTERS and WESTMACOTT, 28, John-street, Bedford-row, London.

PORTER'S CORRUGATED, and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanizing Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway, and other Iron and Smith's work Manufactured of the best quality. Iron Fence and Hurdles as usual.—The Trade Supplied.



PATENT GALVANISED TINNED IRON, (MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and water-closets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 9oz. to any required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quick-set-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

FIRE BRICKS.

W. WARD, Honduras Wharf, Bankside, and St. Michael's-alley, Cornhill, has just landed a large quantity of his very superior manufactured Fire Bricks, of Stourbridge, Welsh, and Newcastle. Prices very low. Shipments made for the East and West Indies, &c., with the greatest promptness. Gas companies, engineers, builders, and all large consumers supplied from ships in the river at a much lower price. A very large stock on hand of Bricks, Lumps, Tiles, and Clays.

River sand and gravel by freight to any wharf and dock.

TO ARCHITECTS, BUILDERS, &c.

GAS LAMPS, GAS BRACKETS, GAS PILLARS, BURNERS, &c. &c. In calling the attention of architects, builders, &c., to their assortment of Gas Furniture in general, C. DEBAUFER and SON respectfully announce they continue to fit up premises of every description on the most approved and newest system of gas fitting. An experience of forty years justifies us in making the above assertion.—P.S. Country orders attended to with dispatch.

10 and 11, Creed-lane, St. Paul's.

BUILDERS' CASTINGS, Beams, Pillars, Air-bricks, Eave-gutters, Pipes, and every description of builders' castings; also Turntables, Cranes, Watercranes, Weighing-machines, and all apparatus connected with railways; also engines of every kind and size may be obtained of the best description and at the lowest possible price, by applying to JAMES CURRIE, 16, Wellington-street, North, Strand, London. There is a communication by steam-packet with the works at Aberdeen, twice a week.

PUBLICATIONS

Published this day, 17 Plates, imperial quarto,

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Hooks of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

, In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery

Best Patent Cut Clasp.

3d.	4d.	5d.	6d.	10d.	20d.
5d.	6d.	7d.	11d.	1s. 4d.	1s. 10d. per 1000.

Best Sheet Floor Brads 15s. per cwt.
Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Steves, 3d. per inch. Registers, 6d½., 7d., 8d. per inch.
Self-acting Kitchen Ranges with Oven and Back Boiler.
Wrought Bars and Bright Fittings.

3 ft., 8l. 3s.	3 ft. 6 in., 3l. 12s. 6d.	4 ft., 4l.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3l. 6s.	3l. 13s.	3l. 16s.	4l.	4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5l.	5l. 15s.	6l. 5s.	6l. 10s.	7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 9½d., and 4d. do.

Manufacturer of WOOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 16, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

CAEN STONE.

LUARD and BEEDHAM have a quantity of the above stone, of the best quality, direct from their Quarries at Allemange, which may be inspected at the Norway Sufferance Wharf, Greenwich.—Further particulars at Mr. G. GATES', 18, SOUTHWARK-SQUARE, SOUTHWARK.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

SAMUEL CUNDY begs to inform Architects, &c., that every description of Stone, Marble, and Granite work is executed at the cheapest possible rate.

Estimates given for Mason's Work in all its branches, Gothic Work, Tombs, Monuments, &c.

MARBLE WORK for Halls, Dairies, Tables, Columns, Vases, at most reasonable prices.

A large collection of Designs for Mural and other Monuments.

CHIMNEY PIECES from Twelve Shillings upwards.

Depôt for CAEN STONE, &c.

CHEAP PAN FOR WATER CLOSETS,

With Trap, in one Piece.

DOULTON and WATTS, Lambeth Pottery, London, Manufacturers of the above in superior glazed STONE WARE, price 7s. 6d. each. They are of the most durable ware, and are recommended in preference to iron on account of their cleanliness and cheapness. If preferred, they can be had in two parts, the pan at 4s. 6d., and the Trap at 3s. 6d. N.B. Manufacturers of RAIN WATER PIPING for houses.

HAMMERSMITH LEAD WORKS, AND AT READING, BERKS.

C. H. and F. CLARK, Manufacturers of PIPE, PUMP, and SHEET LEAD, beg to inform Plumbers, Builders, and others, they can be supplied at the following prices for net cash:—

Sheet Lead.....	19s. 6d.	per cwt.
Pipe.....	19 6	,,
Genuine White Lead.....	25 6	,,
Seconds ditto.....	23 6	,,
Thirds ditto.....	21 6	,,
Sheet Glass, 13 oz.....	3½	per foot.
Ditto 16 oz.....	4½	,,

Crate of Crown Glass, 18 tables, 2l. 18s.

Stained, and every description of fancy Glass, at manufacturer's prices. (Lift Pumps, Closet, and all kinds of Oils, Colours, Varnishes, &c.) and brass work. All articles sold at this establishment warranted of very best quality. Credit given upon satisfactory references.

Old lead bought or exchanged.

June 10th.

TO BUILDERS, UPHOLSTERERS, CARPENTERS, HOUSE AGENTS, &c.

C. TIFFIN, BUG DESTROYER to the ROYAL FAMILY, 17, Somer's-place, New Road, St. Pancras, begs to suggest to the above trades generally the advantages of employing him in the above branch of Upholstery in preference to their own men, who not having had the necessary experience, cannot be expected to give satisfaction. C. T. having been upwards of forty years in constant practice can with confidence recommend his plans being efficient. He deems it useless to dilate to those who know him, and to those who do not, any reference can be given, his connection being of 150 years' standing amongst the Nobility, Gentry, &c. Those who employ him will therefore run no risk of being imposed on by adventurers and high-sounding advertisements.

C. T. will thoroughly eradicate them from Rooms, Bedsteads, or Furniture, without offensive odour or removal from the room. Ten per cent. is allowed to the trade. And will ensure to keep them free at 3s. each per year if done regularly, but not otherwise. Should any complaint arise during the same period it will be rectified without additional charge, coach fare for country work excepted. Orders attended to at any distance.

Houses infested with punaises should be cured of them previous to their being renovated, as Papering, Painting, or Whitewashing, are inefficient.

NOTICE TO INVENTORS.

OFFICE for PATENTS of INVENTIONS and REGISTRATIONS of DESIGNS, 14, LINCOLN'S-INN-FIELDS.—The printed Instructions gratis, and every information upon the subject of PROTECTION for INVENTIONS, either by Letters Patent or the Designs Act, may be had by applying personally, or by letter (prepaid) to Mr. Alexander Prince, at the office, 14, Lincoln's-inn-fields. Where may be had, price 12s., or through any bookseller in the United Kingdom, of Wm. BENNING and Co., law booksellers, 43, Fleet-street, the LAW of PATENTS and REGISTRATIONS, with all Forms and Cases up to the present time, by SIDNEY BILLING, Esq., barrister-at-law, and ALEXANDER PRINCE, of the Office for Patents, 14, Lincoln's-inn-fields.

WILSON'S PATENT
VENTILATING
SPIRAL CHIMNEY POT,



For the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success.

This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance.

The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory,

Southwark-bridge Iron
Roofing Works.

DAY'S PATENT WINDGUARD, for ventilating

Churches,	Shops,	Kitchens,
Hospitals,	Bed-rooms,	Offices,
Factories,	Smoking-rooms,	Ships,
Theatres,	School-rooms,	Mines,
Breweries,	Nurseries,	Vaults,
Malt-houses,	Stables,	Tunnels,
Club-houses,	Larders,	&c. &c.

Also for preventing down draft; and is guaranteed to cure all smoky chimneys caused by wind; and entirely supersedes the use of revolving cowls, or any thing moveable or unsightly on the tops of chimneys or ventilators.

The object of this invention is to create a draft where otherwise it would not exist, by the spontaneous action of the external air. The Windguard forms a pleasing octagonal pillar, and by its peculiar construction to carry out the principle on which it is based, which consists of the wind giving a disposition for a vacuum within, thereby causing a continual upward current about equal to the velocity of the wind at the time acting upon it, which averages about six feet per second thirty days out of thirty-one; therefore, will nearly at all times ensure a continual change of air, being no impediment to spontaneous ventilation, even on a perfectly calm day. One five feet square will ventilate a building containing upwards of 1,000 persons. The Windguard applied to ships and steam vessels, in the form of a sky-light, prevents rain or the sea entering within, however boisterous the weather may be, thereby affording excellent ventilation as well as light. The Windguard is simply applied for effectually ventilating bed-rooms, nurseries, smoking-rooms, offices, &c., causing the air of the apartment to be at all times as pleasant as can be desired. It is fixed at the top of the chimney, in addition to which a cast-iron frame and valve (about one foot area), made to open or shut at pleasure, is let into the flue, near the ceiling of the room, to allow the constant ascending vitiated air being immediately carried off. The opening is guarded by a venetian blind or grating; and so powerful is the effect on a windy day that if a handkerchief be thrown up to the grating, it will remain there—i. e. if the valve be open. In winter the valve would be only partially open, to allow the smoke from the fire to ascend, but if the room be found too cold it can be entirely closed. The Windguard applied to the tops of chimneys prevents all annoyance from smoke (caused by wind); indeed, where it does not, nothing else applied at top will (of the same size); care, therefore should be taken to have the proper size applied. It is simple in its application, reasonable in price, ornamental in appearance; no machinery or anything moveable in it, therefore, cannot get out of order; free from noise or any unpleasantness whatever; not liable to choke up with soot; no obstacle to the machines used for sweeping chimneys. May be had of all respectable ironmongers in town and country; and may be seen daily in operation, where its powers and usefulness are exhibited by the severest tests, at THE PATENT VENTILATING WORKS, COMMERCIAL-ROAD, PIMLICO, LONDON; where also may be seen Mr. G. T. Day's plans (illustrating the different applications of his Patent Archimedian Ventilator and his Portable Water Apparatus) for effectually Ventilating, Warming, and Cooling the Air of Buildings, Ships, Mines, &c. &c. By the use of these inventions many thousand cubic feet, or any quantity of pure warm or cold air, can be guaranteed to be continually exchanged per minute, day and night, winter and summer; thereby insuring, at all times, free ventilation to the rooms and passages of buildings, &c. from the basement to the roof, at the same time in such a manner as shall not be inconveniently perceptible. The size of the apparatus depends on the nature and use of the building and its occupants. The Patentee has been honoured by his inventions being applied at the following places:—

Windsor Castle,	Trinity House,
Buckingham Palace,	Ordnance,
Saint James's Palace,	Greenwich Hospital,
Claremont Palace,	Christ's Hospital,
Walmer Castle	Westminster Hospital,
The Houses of Parliament,	Bethlehem Hospital,
New Conservative Club,	Surrey Lunatic Asylum,
White's Club,	New Royal Exchange,
Travellers' Club,	Mansion House,
Oxford and Cambridge,	Goldsmiths' Hall,
Parthenon,	Fishmongers' Hall,
Wyndham,	Haberdashers' Hall,
Army and Navy,	Dyers' Hall,
Senior United Service,	Grocers' Hall,
Junior United Service,	Armourers' Hall.
Admiralty,	Weigh-house Meeting-house
British Museum,	Hanover Square Rooms,
Somerset House,	Theatre of the Westminster
Custom House,	Literary and Scientific Institution,
Mint,	Grand Cigar Divan, Strand,
Hon. Artillery Company,	City Club,
H. M. S. Salamander,	

And many other Public Buildings in Town and Country, as well as to the Mansions of many Noblemen and Gentlemen. Licenses granted for Manufacturing the above.

Drawings and Plans made for Ventilating and Warming Buildings of every description.

FRENCH PAPER HANGINGS.—The Trade are respectfully informed, that at the Depôt of Messrs. MARKS and CO. is concentrated all the newest and most elegant patterns in Piece Paper and Decorations, at Parisian prices, with the reduced duty of 2d. per yard.—59, Princes-street, Leicester-square. Established 1834.

TO PAPER-HANGERS, HOUSE-DECORATORS, BUILDERS, SHIPPERS, &c.

JOHN TODD MERRICK & Co., having removed to their new Manufactory in New Oxford-street, take the opportunity of soliciting the inspection of the trade to their extensive stock of paper-hangings, comprising every variety, from the cheapest to the most costly and elegant drawing-room patterns. They also invite attention to their complete assortment of decorations, suitable for every description of room; and beg to announce that they are now ready to receive orders, furnish estimates, and enter into contracts in any situation, and to guarantee the execution of them in the first style.

J. T. M. and Co. wish particularly to state that they will execute any French pattern that may be brought to them, fully equal in quality, at the same price that can be purchased in Paris, thereby effecting a saving of the duty and carriage to the purchaser. They have recently imported a most complete assortment of French patterns.

TO BUILDERS, PAINTERS, DECORATORS, AND OTHERS.

MESSRS. WOOD AND COMPANY, Grainers and Writers to the Trade only, by contract, measure, or otherwise.

62, Waterloo Bridge-road. All letters post paid.

N.B. Workmen sent to any part of the kingdom.

*** An Apprentice wanted.

ARCHITECTURAL ENRICHMENTS.—BIELEFELD'S improved PAPIER MACHE, which has been almost universally adopted for architectural decorations, has been patronised by her Majesty, by the Hon. Commissioners of Board of Works, by the highest of the Nobility and Gentry, and by the most eminent architects of the day. It has been used at the Royal Palaces, at the present House of Lords, at Drayton Manor, the new Conservative Club House, &c., also at the British Museum, and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the paper mache ornaments with a tariff of prices, price 1*l.* Works, 16, Wellington-street, North, Strand.

BED FEATHERS

MIXED, 1s. per lb.
Grey Goose, 1s. 4d. per lb.
Foreign, ditto, ditto, 1s. 8d. per lb.

Best Foreign Grey Goose, 2s. per lb.
Best Irish White, ditto, 2s. 6d. per lb.
Best Dantzic, ditto, ditto, 3s. per lb.

Warranted sweet and free from dust.

A List of every description of Bedding, containing weights, sizes, and prices, sent free by post, on application to HEAL and SON, Feather-dressers and Bedding manufacturers, 196, opposite the Chapel, Tottenham Court-road.

By Her Majesty's  Royal Letters Patent.

SEALED 7th OCTOBER, 1845.

CROGGON'S PATENT WATERPROOF DOUBLE BITUMINOUS PAPER.

THE above is Manufactured by the most Accurate Machinery, for Depositing a DOUBLE COAT of ASPHALTE between Two Sheets of Paper, ensuring an evenness of distribution of the Waterproof Materials, thus rendering EVERY MINUTE PORTION OF THE PAPER ENTIRELY IMPERVIOUS TO WATER. To prove that it perfectly resists water, it is only necessary to put it into such a form as to Hold Water, when, after filling, it, the water will evaporate without appearing in the least degree on the other side.

For ROOFS OF HOUSES it will be found very advantageous, being very cheap, admitting A GREAT SAVING OF TIMBERS; it may be painted of all colours, thus rendering it peculiarly applicable to any description of Roof. It is also an EFFECTUAL PREVENTATIVE against the effects of DAMP FROM WALLS, if put under the usual paper, and DAMP FLOORS, when under carpets.

It may be had in Rolls of any Length, to order, AT SIXPENCE PER SQUARE YARD, of
THOS. JNO. CROGGON,
8, Laurence Pountney Hill, Cannon-street.

CHEAP AND DURABLE ROOFING.

By Her Majesty's  Royal Letters Patent.

F. McNEILL and Co. of Lamb's Buildings, Bunhill Row, London, Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING
HOUSES, VERANDAHS, SHEDS, &c.
Patronized by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE BOARD OF ORDNANCE,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover-square.

Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, as THIS ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW, LONDON.

Roofs covered with the felt to be seen at the Factory, also the new Vice-Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the new Houses of Parliament.

A Liberal Discount allowed to the Trade.

THE PANKLIBANON IRON WORKS,
WHOLESALE AND RETAIL, 58, BAKER STREET, PORTMAN SQUARE.



ARCHITECTS, BUILDERS, and Others, about to supply STOVES and KITCHEN APPENDAGES, will find at this Establishment the most unique and elegant assortment of STOVE-GRATES, FENDERS, and FIRE-IRONS ever offered to the Public, at prices considerably below the usual charges. The Proprietors at the same time beg to invite attention to their extensive Stock of FURNISHING IRONMONGERY, Tinned Copper, Tin and Iron Cooking Vessels, Block Tin Dish-Covers, Japanned Ware, Table Cutlery, and especially their Sheffield Plate and German Silver Wares, embracing every Article suitable for the Table, comprising Dish and Plate Covers, Liquor Frames, Epergnes, &c. &c. The plan adopted by the Proprietors of affixing the price to each article for cash, enables all purchasers to have the same advantage. The Patent Thermio Stove is in daily operation. Also Cundy's Improved Hot-air Stoves, for Heating and Ventilating Rooms.

THORPE, FALLOWS & COMPANY, 58, Baker-street, Portman-square, London.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.

Manufactured by J. B. WHITE and SONS, of Millbank-street, Westminster; and sold at their warehouses—Earl-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Milbank-street, Westminster,

PATENT METALLIC SAND CEMENT, requiring no colour or paint, and free from cracks and blisters, mixed ready for use at 8s. per cask; 2s. 6d. allowed for each cask returned in good order. 3½ bushels common sand to be added to each cask of Metallic Cement, which will float 14 square yards of stucco.—Apply at the Metallic Cement Wharf, King's-road, Camden New Town.

THE PROJECTED RAILWAYS.

BENSON, LOGAN, and CO.'S PATENT METALLIC SAND CEMENT.—Its merits, as stated in letter to the Proprietors, by James Thomas Knowles, Esq., Architect, Raymond's Buildings, Gray's Inn, are:—

1st.—"The great tenacity with which it adheres to brick, stone, and iron.

2ndly.—"Its freedom (when properly applied) from those cracks and flaws, by which the cements generally used for external stuccoing are so frequently disfigured.

3dly.—"The total absence of the unsightly tint produced by vegetation.

4thly.—"The increased hardness which it acquires from exposure to atmospheric influences.

5thly.—"The great beauty, accuracy, and durability of the mouldings, capitals of columns, crockets, finials, and other architectural enrichments and decorations formed of it, the smallest and most delicate members of which, as well as the sharpest arises, have withstood uninjured the severities of our climate during many winters, and now present the same perfect and highly finished appearance as would be produced by stone carvings carefully executed.

6thly.—"The excellent and agreeable tone of colour which it assumes naturally, and retains without the aid of any colouring or painting.

"And lastly, its extreme hardness and almost entire incompressibility when used as a mortar in the construction of inverted or relieving arches, foundations under important superstructures, and small bearing piers, which have to sustain great weights. For all these purposes it has been extensively used under my directions, and in some cases has been exposed to very severe trials. The results have, however, without one exception, been most satisfactory; and I do not believe that there are any known substances so well adapted for the execution of works, in which the greatest strength and durability are essential."

Price of Metallic Sand at Swansea (place of manufacture), 10s. per ton, or supplied in London at 20s. per ton of twenty-one bushels.

Further information will be given, and specimens shewn, on application to Mr. C. K. DYER, 4, New Broad-street, and at the Metallic Cement Wharf, King's-road (opposite Pratt-street), Camden New Town, London.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London; of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

ROMAN CEMENT, &c.
REMOVAL.
THOMAS JOHN CROGGON
Begs to inform the Trade that he has removed to 8, LAWRENCE POUNTNEY-HILL and THREE CRANES WHARF, 69, Upper Thames-street.

Orders addressed to either place for ROMAN CEMENT of genuine quality will be executed with promptitude and the strictest regard to quality and economy.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.

2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.

3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

TO PLUMBERS, PAINTERS, AND GLAZIERS.

AN Old-established Business in the above branches TO BE DISPOSED OF. Returns 800l. a year. Coming in for stock, goodwill, &c., about 200l.; the advertiser leaving town for the country.—For cards of address, apply to the office of "The Builder."

AN Old-Established Carpenter's and Builder's business TO BE DISPOSED OF on Lease, a very good house, premises, garden, and every convenience, rent moderate, a few miles north of London. Fixtures and stock to be taken by valuation, and household furniture if required.—For particulars inquire at Mr. ARROWSMITH, solicitor, No. 40, Devonshire-street, Queen-square.

MIDDLESEX—FREEHOLD.

TO BE SOLD, a Plot of Freehold Building Ground, 150 feet frontage, by 50 feet in depth, land-tax redeemed, situate in Wood-street, Devonshire-road, Chiswick. Price 100l.—Address, W. T., No. 5, John street, Roupell-street, Lambeth.

FOR SALE, several Cast-Iron Tanks, capable of containing 5,000 and 10,000 Gallons each. —For further information, apply to Mr. FRANCIS FORD, No. 1, Crooked-lane, City, London. July, 1846.

BRICKS.—500,000 Bricks for Sale. Prices for cash:—Place, 28s.; Stocks, 34s. Garratt Brickfield, near Tooting, or T. DUTTON, 53, Stone's End, Borough.

TO BUILDERS AND OTHERS.—137 feet Frontage Freehold Ground, situated at Peckham, TO BE SOLD OR LET on Building Leases.—For particulars, inquire of GEORGE TRIST, 80, Old Broad-street, City.

TO BUILDERS.

TO BE LET, on long Building Leases, direct from the Freeholder, together or in plots, a considerable extent of valuable LAND. The situation is elevated, and commands extensive views. The neighbourhood is highly respectable, and is remarkable for its healthiness, and being within a short distance of the Anerly station on the Croydon Railway; it presents a fine opportunity for a building speculation on a large scale.—Apply to Mr. VERE, 85, Upper Stamford-street.

FREEHOLD BUILDING LAND.—The most eligible plot of Building Land in the neighbourhood of London is now TO BE LET upon Building Leases for 97 years. It consists of a frontage for six villas, and is situated in the outer circle of the Regent's Park, nearly opposite the Long Walk, and adjoining Primrose-hill Park. The views from this plot embrace the Regent's Park, Primrose-hill Park, Hampstead, Highgate, and the adjoining country; yet, with all these advantages, omnibusses pass the site to the city several times in the day.—For further particulars, apply to Mr. LITTLE, 36, Northumberland-street, New-road.

ST. JOHN'S WOOD PARK!!! IMMEDIATE CONNECTION WITH REGENT'S PARK.

BUILDING PLOTS TO BE LET in this most desirable and salubrious situation!! commanding picturesque views of the surrounding beautiful neighbourhood, and elevated within a few feet of the summit of the monument, with the best approaches of any suburban district near the metropolis, and greatest facilities of access to all the fashionable resorts and promenades of the West End and the City!—For particulars and plans, apply to W. H. TWENTYMAN, Esq., 11, Regent's-villas, Avenue-road, Regent's-park.

TO BUILDERS.—MATERIALS AND MONEY ADVANCED.

TO BE LET, on BUILDING LEASES, for ninety-six years, several very eligible plots of Freehold Building Ground, land-tax redeemed, situated in the Shrubland-road, leading from the Queen's-road, Dalston, to Lansdown-place. This is one of the most rapidly improving neighbourhoods near London, and will be the principal thoroughfare from all parts westward to the new Victoria Park, from which it is only a quarter of a mile distant.—Apply to Mr. PALMER, on the premises.

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TO LET, situated at the corner of the Wilton-road, opposite the Grosvenor Canal Basin, Pimlico; consisting of a substantially built brick house, with double counting-house detached, lofty and spacious sheds, easily convertable to any discription of business, also good store-yard, &c.—Apply on the premises or to Mr. R. H. MADDOX, House Agent, &c., 25, Welbeck-street, Cavendish-square.

SURREY, in the most beautiful part of the county.

MESSRS. NASH are honoured by instructions from the noble Proprietress of the Gatton Estate, to LET by Public AUCTION, at the Railway Junction Hotel, Reigate, on Wednesday, July 15, at Eleven for Twelve precisely, under the powers granted by an Act of Parliament for that purpose, on Building Leases, upwards of THREE HUNDRED ACRES OF LAND, exonerated from land tax and from rectorial tithe rent charge, in lots, suitable for the erection of detached Villa Residences, with ample space for gardens and pleasure grounds; situate in the immediate neighbourhood of Reigate, so justly celebrated for the richness and diversity of its scenery, and long proverbial for the salubrity of the air, and the picturesque beauty of its walks and drives. The extraordinary beauty of the situation, long held to be one of the most enviable spots in the county, and the rapidly increasing demand for detached family residences in the vicinity of Reigate, justify the expectation that a very spirited competition will arise for the possession of this fine property. Nearly every site will command views of great extent and pleasing variety, and the lots will be so arranged as to give the lessee of each ample space for improving the natural advantages it possesses. There are several fine springs on the estate, and an abundant supply of brick earth and building stone. The property extends from the Brighton turnpike road west of, and a short distance only from Merstham, on a gentle descent the greater part of the distance, and near to the Reigate Junction Railway station of the Dover and Brighton Companies: contiguous to which and abutting upon its approaches, lots of about 50 feet frontage will be set out adapted for the erection of small houses, or business premises. The beautiful little church of Gatton, the new church at Red-hill, and the fine old parish church of Reigate, may all be reached in about a mile. It may not be immaterial to add, that the parochial rates in the Foreign of Reigate, of which this estate forms part, are very moderate, and there is good probability of their being still further reduced. The term to be granted will be 99 years. Particulars, with plans and conditions of letting, are preparing, and may be obtained ten days previously to the auction, at all the principal inns in the neighbourhood; at GARRAWAY'S Coffee-house, Change-alley, Cornhill; of Mr. SHELLEY, the steward, upon the estate; of Mr. HART, Solicitor; and of Messrs. NASH, Land Agents and Surveyors, Reigate.

SALES BY AUCTION.

TO CAPITALISTS, BUILDERS, AND OTHERS.

Beneficial Interest in valuable property at Knightsbridge, offering a very advantageous Investment, for SALE by AUCTION, by

MR. JURY, at Garraway's Coffee House, Cornhill, on Thursday, 23rd July, 1846, at Twelve o'clock, by direction of the assignees of Mr. C. O. Robson, and in pursuance of an order of the Court of Review. The beneficial Interest to which the Bankrupt Estate is entitled in and is an important Property, situate at Knightsbridge, near to Sloane-street, forming a considerable portion of the ground extending from Knightsbridge-green to Trevor-square, and bounded by the Kensington and Brompton roads, on which is erected the Rose and Crown public-house, with shops adjoining, a large open yard with gallery, containing numerous apartments for letting, stabling, carriage-houses, two cottages, and other erections. All recently repaired at a great expense. There is also erected, and in great part finished, sixteen fourth-rate Dwelling-Houses, and an extensive commanding Building, with frontage to the Brompton-road, intended for a tavern, to be called "The Pakenham Tavern," and building-ground adapted for the erection of numerous other houses; many thousand pounds have been expended on the buildings, erected and repaired, and in forming sewers, &c. &c. In the hands of a spirited capitalist or builder, with a further outlay, an important and lucrative property will be produced, and a large income thereupon may be realised. The Premises are held on lease for 97 years unexpired. The rental of the property now erected, part of which is let, is estimated at 1,050l. per annum. To be viewed, and particulars had of Mr. JURY, auctioneer, 20, King's Arms yard, Coleman-street; of Messrs. BARNES, WINTER, and BERNAN, Solicitors, Great Winchester-street; Messrs. RIED and LANGFORD, Solicitors, 59, Friday-street; at Garraway's Coffee-house; and at the King's Head, Knightsbridge.

To Timber Merchants, Builders, Carpenters, Cabinet and Pianoforte makers, Wheelwrights, Lath Benders, and Others.

MESSRS. COCKERELL and HOARD have instructions from Mrs. Dare, timber merchant, who is retiring from business, to SELL by AUCTION, upon the premises, Bermondsey, New-road, near the Brickmakers' Arms, all the valuable and very extensive stock, the first portion of which will be sold on the 14th, 15th, and 16th July, and the last portion on July 21st and two following days, at Twelve, without reserve, the premises being let. The stock consists of upwards of 3,000 dry pine planks, deals, and battens, up to 24 inches wide; about 1,000 Christiana deals, part cut into boards; 2,500 Gothenburg deals and battens; 2,500 spruce planks, deals and battens; 400 red pine deals; 500 yellow Archangel and Petersburg planks; large quantity of spruce; Christiana and pine boards; thirty loads of prime Memel timber; 2,500 feet of 5-inch balks; fifty loads of laths and lath wood; large quantity of dry prepared flooring boards and battens; 18,000 feet of Spanish and Honduras mahogany in boards; great quantity of Spanish and Honduras plank of various thickness; 100 sets of circular pine drawer fronts; 3,000 feet of dry wainscot in boards; 15,000 feet of birch plank and boards; several thousand feet of fine Spanish and Honduras veneers; about 5,000 feet of oak; 15,000 feet of birch plank and boards; twenty loads of dry ash and beech plank; 500 Memel oak pipe staves; great quantity of oak and fir scantling and plank; 2,000 feet of inch elm board; oak sash cells; ash and beech felloes, shafts, and beds, &c., spokes, and a great variety of other effects.—May be viewed, and catalogues had upon the premises at the Kentish Hotel, Tunbridge Wells; White Hart, Bromley; Kentish Drovers, Peckham; Nightingale, Paddington; of the Auctioneers, 26, Conduit-street, Hond-street, and Blackman-street, and at GARRAWAY'S. Approved bills at four months will be taken.

LONDON: Printed by CHARLES WYMAN, of 49, Cumming-street, Pentonville, in the County of Middlesex, Printer, at the Printing-office of J. & H. Cox, Brothers, 74 & 75, Great Queen-street, Lincoln's Inn Fields, in the Parish of St. Giles-in-the-Fields, in the same County, and published by the said CHARLES WYMAN, at the office of "THE BUILDER," 2, York-street, Covent Garden, in the Parish of Saint Paul, Covent Garden, in the said County.—Saturday, July 11, 1846

The Builder,

A JOURNAL FOR

The Architect, Engineer, Operative & Artist.

VOL. IV.—No. 180. JULY 18, 1846. Price ..... 3d. Stamped..... 4d.

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ADVERTISEMENTS.

TO PARENTS AND GUARDIANS.

WANTED an Apprentice to a Carpenter and Joiner. Apply, by letter only, to J. S., 18, Vauxhall-bridge-road.

TO CARPENTERS AND JOINERS.

WANTED a Shop Foreman, a Man that is fully competent to manage the general business of a Joiner's Shop, where a number of men are kept. Good references of ability must be given.—Apply between the hours of Seven and Eight o'clock, Monday Evening, July 20th, 1846, to 130, Great Suffolk-street, Southwark.

WANTED by a Builder, about Twenty Miles from London, on the Birmingham line, and within one mile of a station, a respectable lad about fourteen or fifteen years of age, as an apprentice to a carpenter. He will be required to attend church.—Address to A. C., office of "The Builder," 2, York-street, Covent-garden. A premium expected.

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AN ARCHITECT holding public appointments, and having good private practice, has a vacancy in his office for an Articled Clerk, who would have every opportunity of becoming practically acquainted with his profession. Premium no object. No board or lodging.—Address, post-paid, X. Y. Z., office of "The Builder," York-street, Covent Garden.

AN ARCHITECT residing in Bath is desirous of engaging the services of an active, clever assistant, who must understand all the general business of his profession, and be qualified to conduct any part of it in the absence of the principal. The most respectable references will be required.—For further particulars, apply by letter to A. Z., Mr. Weale's, Architectural Library, No. 59, High Holborn.

TO CIVIL ENGINEERS, SURVEYORS, AND CONTRACTORS.

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SURVEYING and LEVELLING executed with care and expedition; designs furnished for stations, engine-houses, and other buildings, tunnel-fronts, bridges, &c. Calculations and estimates made; drawings copied, enlarged, or reduced; plans of property taken.—GEORGE WILKIE, 18, Dartmouth-street, Westminster.

TO ENGINEERS, SURVEYORS, RAILROAD CONTRACTORS, AND OTHERS.

THE Advertiser, an Experienced Person, wishes for a Situation as Sub-Engineer on a Railway or as Clerk of Works, is a good Draughtsman, well understands Railroad Surveying, was on four lines last year. No objection to going abroad; a moderate salary accepted.—Direct W. R., 13, Devonshire-street, Queen-square, London.

TO MASTER CARPENTERS.

THE Friends of a Youth, aged 15, who has served 12 months at the trade, and can make himself generally useful, are desirous of placing him either as an In or Out-door Apprentice. Most satisfactory references given. Apply, Mr. SCOTT'S, No. 25, Windmill-street, Tottenham-court Road.

APPRENTICE WANTED.—An opportunity now offers itself for a well-educated Youth who possesses some knowledge of Drawing and having a mechanical taste, to be placed as an OUT-DOOR APPRENTICE, in an old-established first-rate Manufacturing Business, where he will have every facility afforded him for improvement. A liberal premium will be required.—Letters addressed S. T., at the office of "The Builder," No. 2, York-street, Covent-garden.

TO ARCHITECTS, BUILDERS, &c.

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CONTRACTS.

TO CONTRACTORS, BUILDERS, &c.

THE Committee appointed to RE-BUILD the PARISH CHURCH of RUNCORN are ready to receive a Tender or Tenders for the erection of the whole, or any part or parts, of the work involved in the undertaking. The Plans and Specifications may be inspected upon applying to W. HARTLEY, Old Quay, Runcorn; and all Tenders, sealed up, and superscribed with the word "Tender," to be transmitted to W. BLADON, Runcorn, the Secretary to the Committee, on or before the 15th day of August next.

Runcorn, 15 July, 1846.

TO BUILDERS.—Such Builders as may be disposed to submit Tenders for the Erection of a Chancel and other Works to a Church in the Northern District of West Norf-lk, can see the drawings at the office of Messrs. R. and J. A. BRANDON, Architects, 11, Beaufort-buildings, Strand, London, between the hours of 9 and 5, or at Norwich on Monday, the 27th instant, by applying to Messrs. BRANDON, at the Swan Hotel. The quantities will be taken out, and may be had, on application at the Architect's office in London.

BREEZE. TO BRICKMAKERS, LIMEBURNERS, DUST CONTRACTORS AND OTHERS.

THE Directors of the COMMERCIAL GAS LIGHT and COKE COMPANY will be prepared to receive TENDERS on Wednesday, the 29th day of July instant, at Twelve o'clock at noon, for all the breeze that shall be made on the works of the said Company at Stepney, during the next twelve months, commencing from the 25th day of August now next ensuing.—Particulars and conditions will be given on application at the works.

By order of the Board, H. AVERY, Secretary.
Commercial Gas Light and Coke Company's Offices, Stepney, July 15th, 1846.

ST. PANCRAS, MIDDLESEX.—TO BUILDERS.

THE VESTRYMEN of the said Parish will meet at St. Pancras Vestry Rooms, 1, Gordon-street, Gordon-square, on Wednesday, the 29th day of July, inst., at Two o'clock in the afternoon, to receive TENDERS, and to Contract with some Person or Persons for the Erection of New Vestry Rooms and Offices. The Specification and Drawings may be seen at St. Pancras Workhouse, King's Road, Camden Town, on and after the 16th instant, between the hours of Nine A.M. and Six P.M. Tenders, sealed and endorsed, "Tender for Building New Vestry Rooms," to be sent in before the said hour of meeting. The Vestrymen will not be bound to accept the lowest tender, and security for the due performance of the contract will be required. The names of Sureties to be sent in along with the Tenders, and some person will be required to be in attendance on behalf of each Tender. The contract will be subject to confirmation at the next following Vestry meeting.

By order of the Vestry, JOHN M'GAHEEP,
1, Gordon-street, Gordon-square, Vestry Clerk.
July 10, 1846.

TO IRON-FOUNDERS, GAS APPARATUS CONTRACTORS, AND OTHERS.

THE DIRECTORS of the WEST HAM GAS COMPANY are ready to receive TENDERS from competent persons for the Erection and Completion of a Cast-Iron Tank and Gasholder, at their works at Stratford near London; also for other ironwork and apparatus, consisting of retorts, connexions, purifiers, condenser, washvessel, meter, governor-valves, &c. &c., plans, drawings, and particulars of which may be seen at the office of JOSH. HEDLEY, Esq., consulting gas engineer, 29, Bucklersbury, London.

Tenders to be forwarded for all or any part of the apparatus and materials required, sealed, addressed to the directors of the Company, on or before Wednesday, the 22nd inst., and parties tendering, or some person on their behalf, will be required to attend the meeting of directors on that day at Seven o'clock in the evening precisely, at Stratford aforesaid.—Dated July 14th, 1846.

RD. GOLLEDGE, Secretary.
Office of the Company, 5, Surinam-terrace, Stratford.

TO OWNERS OF HOUSES IN COURTS, ALLEYS, AND OTHER CONFINED LOCALITIES.

HER MAJESTY'S JUSTICES and COMMISSIONERS of SEWERS for the City and Liberty of WESTMINSTER, and part of Middlesex, hereby GIVE NOTICE, that th y have approved a plan, whereby an efficient drainage, at a very moderate cost, may be obtained for property in the above situations, abutting on streets where there are sewers. The plans and sections may be seen at the office of the Commissioners, No. 1, Greek-street, Soho. LEW[illegible]BLET,
Clerk to the Commission.

HOLBORN AND FINSBURY SEWERS, MIDDLESEX.

THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persons about to Purchase or Rent Houses or Property, or take Land for Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Persons to apply for at the above Office.

By the Court,
STABLE and LUSH, Clerks.

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The Directors have great pleasure in publicly announcing that, in consequence of the large number of shares already taken up, and the very great encouragement they have met with, they have been enabled to make arrangements to complete the Deed of Settlement, and fully expect to obtain the certificate of complete registration in two or three weeks, when they will be ready to receive proposals for assurances upon lives, and applications for loans of money to any extent.

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TO BUILDERS, ROAD SURVEYORS, &c.

JOHN SUTTON, Stone Merchant, Rocky-hill, Maidstone, takes this method of informing the Public he has, in addition to his Kentish Rag-stone Quarries at Boughton, Monchelsea, and at Faut, on the Medway above Maidstone, OPENED AN EXTENSIVE QUARRY on the MEDWAY, below the Allington Lock, where he can supply any quantity of RAG-STONE on the shortest notice, in hammer-dressed headers, rough-dressed rag for walling, rough rag-stone for foundations, hassock for internal walls to plaster on, broken rag for roads, block rag for sea walling, &c., also for lime. Any description of dressed stone for quoins, buttresses, copings, strings, labels, &c., can be supplied from Boughton Quarries as usual—delivered alongside any wharf in London.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.

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3dly.—"The total absence of the unsightly tint produced by vegetation.

4thly.—"The increased hardness which it acquires from exposure to atmospheric influences.

5thly.—"The great beauty, accuracy, and durability of the mouldings, capitals of columns, crockets, finials, and other architectural enrichments and decorations formed of it, the smallest and most delicate members of which, as well as the sharpest arises, have withstood uninjured the severities of our climate during many winters, and now present the same perfect and highly finished appearance as would be produced by stone carvings carefully executed.

6thly.—"The excellent and agreeable tone of colour which it assumes naturally, and retains without the aid of any colouring or painting.

"And lastly, its extreme hardness and almost entire incompressibility when used as a mortar in the construction of inverted or relieving arches, foundations under important superstructures, and small bearing piers, which have to sustain great weights. For all these purposes it has been extensively used under my directions, and in some cases has been exposed to very severe trials. The results have, however, without one exception, been most satisfactory; and I do not believe that there are any known substances so well adapted for the execution of works, in which the greatest strength and durability are essential."

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TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect the same. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use, but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producible by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

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REMOVAL.
THOMAS JOHN CROGGON

Begs to inform the Trade that he has removed to 8, LAWRENCE POUNTNEY-HILL and THREE CRANES WHARF, 69, Upper Thames-street.

Orders addressed to either place for ROMAN CEMENT of genuine quality will be executed with promptitude and the strictest regard to quality and economy.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.

2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.

3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

A NUMBER of MARBLE CHIMNEY PIECES, consisting of Statuary, some of which are of elegant design, got up in a superior manner, suitable for Drawing Rooms, &c. Also some Vein, of moderate dimensions, suitable for second and third-rate Houses, TO BE SOLD CHEAP, under peculiar circumstances.—Apply, 34, Chichester-place, Gray's Inn Road. A good Spring Cart for Sale, cheap.

LOUIS QUATORZE METALLIC CHIMNEY PIECES, of splendid design, at less than one-fourth the usual cost of Marble, and superior in use, as not liable to injury; they retain their original polish much longer, and can at any time be restored at a trifling cost. These Chimney Pieces are specially adapted for public rooms, such as Assembly Rooms, Drawing and Dining Rooms of first-rate Hotels, or Railway Stations; in fact, wherever elegance in style, economy in cost, or durability in use, are of any importance, they will be found most advantageous, and are so exquisitely finished as to deceive the best judges.—May be had either in Sienna, Jasper, Black Griote, Black and Gold, or any other coloured Marble that may be required. The openings are 4 feet 2 in. wide, 3 feet 6 in. high, inside, with a shelf, 12. in wide, and 6 feet 1 in. long. A tracing will be forwarded, with particulars, upon application to PIERCE and KOLLE, Stove Grate Manufacturers, 5, Jermyn-street, Regent-street.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 168, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

HAMMERSMITH LEAD WORKS, AND AT READING, BERKS.

C. H. and F. CLARK, Manufacturers of PIPE, PUMP, and SHEET LEAD, beg to inform Plumbers, Builders, and others, they can be supplied at the following prices for net cash:—

Sheet Lead	19s. 6d.	per cwt.
Pipe	19 6	,,
Genuine White Lead	23 6	,,
Seconds ditto	23 6	,,
Thirds ditto	21 6	,,
Sheet Glass, 13 oz.	3½	per foot.
Ditto 16 oz.	4½	,,

Crate of Crown Glass, 18 tables, 21. 18s.

Stained, and every description of fancy Glass, at manufacturer's prices. Lift Pumps, Closet, and all kinds of Oils, Colours, Varnishes, &c.) and brass work. All articles sold at this establishment warranted of very best quality. Credit given upon satisfactory references.

Old lead bought or exchanged.

June 10th.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 16s. per gallon.

STEPHENS'S LIQUID OAK, MAHOGANY, ROSE, and SATIN WOOD STAINS, for Staining various sorts of Inferior Woods, so as to give them the appearance and character of the more costly and ornamental kinds; also for reviving the natural colour of Wood Carvings and Panellings, and other ornamental Wood Work, when such has become faded from age or other causes.

IN THE BUILDING AND DECORATING NEW CHURCHES, where it is desirable to give to the cheaper kind of Woods the appearance of Antique Oak, or to make Deal assume the character of Oak Panelling, whereby the effect of the more costly may be produced by the use of a cheaper material, these Stains will be found more effective than any means hitherto employed.

IN OLD MANSIONS AND HALLS, where the Wood Carvings and Panellings have faded, the applications of these Stains will be found to revive and bring back the rich natural colour, and which colour may be varied from the lighter to the deeper shades of the most Antique Oak.

The BIRCH WOOD, which has a fine natural grain, with little colour, is particularly suited to the application of these Stains; and the appearance which it assumes after Staining is so near that of the natural wood, that is is only when the grain and colour of the latter is particularly fine that it is preferred. Beech, Birch, Elm, Ash, and other Woods, English and Foreign, receive the Stains and produce various imitations.

For the exposed Timbers of the inside of the ROOFS of CHURCHES, for which north country Timbers and Deals are generally used, by brushing them over with the Stain, which operation is very rapidly, and of course economically, effected, the appearance of an Oaken Roof will be produced. For colouring the backs of the Seats, Pews, the fronts of Galleries, the Pulpit, &c., it is equally advantageous.

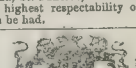
Prepared by HENRY STEPHENS, and may be obtained at 54, Stamford-street; at the Office of "The Builder," 2, York-street, Covent-garden, and in Manchester, at CRAKE'S MARBLE WORKS, Garratt-bridge, Davidstreet, at which places specimens of their application may be seen.



PATENT GALVANISED TINNED IRON.
(MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and water-closets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 9oz. to any required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quicksect-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

By Her Majesty's  Royal Letters Patent.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED METAL.—This article was at first sold under the name of Galvanised Tin Plates, but the Patentees finding that the public, in some instances, overlooking the word Tin, confounded the article with Galvanised Iron, and that the character of their metal has thereby sustained injury, are desirous of giving it a name so distinctive as to prevent such mistakes, and consequent disappointment to purchasers in future. They therefore respectfully request purchasers to inquire for MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON. In order to enable the public readily and at first sight to distinguish between the two metals, it may be well to inform them, that Galvanised Iron has a plain zinc-like appearance, while M. and R.'s Patent Galvanized Tinned Iron has a smooth crystalline surface.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON, Patronized by the Admiralty and the Honourable Board of Ordnance, being extensively used in her Majesty's Dock-yards, at the Tower, and elsewhere, for every variety of Roofing, and other purposes, where a strong, light, cheap, and durable material is required.

It has been found by experience that this article is beyond all comparison superior to zinc; possessing, as it does, all the advantages arising from the strength and firmness of iron, combined with perfect immunity from rust; whilst it is free from the very serious objection which applies to zinc, viz. its contraction and expansion, consequent upon every change of temperature, and from which circumstance leakage must of course result.

This material is not likely to be destroyed by fire, as is the case with zinc and lead, which melt and run down, thus freely admitting fresh air to the fire, and causing it to burn more fiercely. It is, therefore, obviously well adapted for all the purposes above-named, and most importantly so, when there is the possibility of fire. It is also peculiarly suitable for chimney-tops, gutters, spouting, and out-door work generally, possessing the strength of iron, without its liability to corrosion. It is by far the most economical metal roofing that can be obtained, in consequence of its strength, as it may be laid without boards, and upon the lightest rafters.

This mode of preserving metal from rust does not only apply to sheet-iron, but also to manufactured iron in any form, as bolts, nuts, hinges, nails, &c. &c.

For full Particulars apply to S. HOLLAND, 34, Gracechurch-street.

NEWSPAPER

FINE ARTS.

By Her Majesty's  Royal Letters Patent.

LORIMIER'S TRANSPARENT PLANES for Perspective Drawing; BENJAMIN WEST, Patentee.

"This Instrument will enable Artists and others to make any Drawing, whether from Nature or Models, in perfectly true perspective, so that a likeness or landscape may be taken in a few minutes absolutely perfect. It is used by her Majesty's Royal Sappers and Miners, Chatham. To Travellers it would be found serviceable, since it can be employed without the knowledge of drawing."—*Art Union.*

Price 18s. and 26s. Apply for Agents to BENJAMIN WEST, 2, St. James's-walk, Clerkenwell.—Sold by BARRITT and Co., 173, Fleet-street, London; GRIFFIN and Co., Glasgow, and by all Fancy Stationers, &c.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

REDUCTION IN THE PRICE OF [illegible] CORPE'S [illegible] IRON SHUTTERS.

THE validity of this Patent being completely established, the Patentees have much pleasure in stating that the very extensive demand, and the employment of improved machinery in the manufacture, have given them an opportunity (of which they gratefully avail themselves) of making a considerable reduction in the price of this well-known and tried invention, thereby rendering them the cheapest as well as the best iron shutters in use. Every improvement suggested by practical skill and most extensive application has been adopted, and no effective REVOLVING IRON SHUTTER can be constructed without infringing B. and C.'s patent. The worm and wheel, as patented by them, being the only safe, durable, and efficient mode of raising and lowering such shutters, these shutters can be applied horizontally, either above or below the window, or vertically, as introduced by BUNNETT and CORPE, in some of the largest establishments: they are made with bent or corrugated laths, if required.

BUNNETT and CORPE also manufacture

REVOLVING WOOD SHUTTERS,

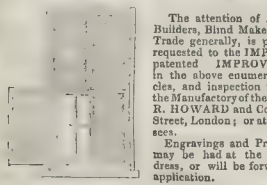
with their patent raising machinery, or with counterbalance weights, and with proper metallic hinges, without which no shutters can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop Fronts fitted in a superior manner with Iron Shutters, Patent Brass or Zinc Sashes, Moulded Engraved Stall Board Plates, best Plate Glass, and internal Brass Fittings of all kinds, on the most advantageous terms. Estimates given and contracts taken in Town or Country.—All kinds of metal works executed to any design. Metal Drawing, Rolling, and Stamping for the Trade. OFFICE, 25, LOMBARD-STREET, LONDON. WORKS, at DEPTFORD, KENT.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.

PATENT SAFETY IRON SLIDING SHUTTERS.



The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 115, Old Street, London; or at the Licensees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using PATENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licenses Granted.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery

Best Patent Cut Clasp.

3d.	4d.	6d.	8d.	10d.	20d.
5d.	6d.	7d.	11d.	1s. 4d.	1s. 10d. per 1000.

Best Sheet Floor Brads 15s. per cwt.

Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6d½., 7d., 8d. per inch.

Self-acting Kitchen Ranges with Oven and Back Boiler.

Wrought Bars and Bright Fittings.

3 ft., 3l. 3s.	3 ft. 6 in., 3l. 12s. 6d.	4 ft., 4l.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3l. 6s.	3l. 13s.	3l. 16s.	4l.	4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5l.	5l. 15s.	6l. 5s.	6l. 10s.	7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.

Do. Elliptic do., at 9½d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

EVANS'S SELF-ACTING KITCHEN RANGES continue to maintain their superiority over all others; they are adapted for Roasting, Boiling, Steaming, and Baking in the best manner, and yield a constant supply of hot water, and are constructed on economical principles, with open fires, which may be contracted or extended at pleasure; and are not liable to produce the unwholesome smell and great destruction of fuel inseparable from the close shut-up Ranges. Every article for the kitchen in copper, iron, and block tin.—J. EVANS and Co., Stove-grate Makers and Furnishing Ironmongers, 33, King William-street, London-bridge.

HOT WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories, and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises. BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

MORTGAGE AND ANNUITY OFFICE, No. 123, CHANCERY-LANE.

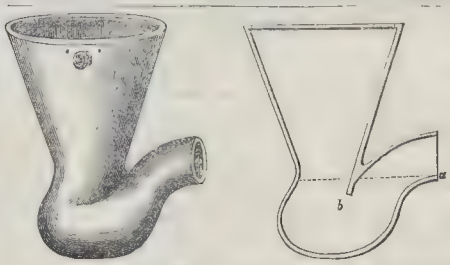
PERSONS requiring LOANS by way of MORTGAGE or otherwise upon any available security, may at all times procure an advance to the extent of from 100*l.* to 150,000*l.*, or so much as the property will bear, by applying to Mr. BRAY, surveyor, at the offices as above, where a registry for the sale of estates, houses, land, life interests, and reversions, is kept for inspection.

N.B. To expedite the procuration, personal application at the office would in all cases be better, the party bringing with them the abstract of title, plans, &c.

HEAL & SON'S LIST OF BEDDING.

CONTAINING a full description of Weights, Sizes, and Prices, by which purchasers are enabled to judge the articles that are best suited to make a good set of bedding. Sent free by post, on application to their establishment, the largest in London, exclusively for the manufacture and sale of bedding (no bedsteads or other furniture being kept).

HEAL and SON, Feather Dressers and Bedding Manufacturers, 196 (opposite the Chapel), TottenhamCourt Road.



CHEAP PAN FOR WATER CLOSETS,

With Trap, in One Piece.

DOULTON AND WATTS

LAMBETH POTTERY, LONDON,

Manufacturers of the annexed in superior glazed STONE WARE,

Price 7s. 6d. each.

They are of the most durable ware, and are recommended in preference to iron on account of their cleanliness and cheapness.

If preferred, they can be had in two parts, the Pan at 4s. 6d., and the Trap at 3s.

N.B. Manufacturers of RAIN WATER PIPING for houses.

REMOVED TO LAWRENCE POUNTNEY HILL, CANNON STREET,

By Her Majesty's  Royal Letters Patent.

CROGGON'S PATENT ASPHALTE ROOFING FELT, [illegible]

With which the Committee Rooms of the Houses of Parliament are entirely Covered.

THE above Material has been used and highly approved by the Nobility, Gentry, and Agriculturists generally, and Patronized by many Members of the Royal Agricultural Societies of England, Scotland and Ireland. It has been used for several Years at the Royal Horticultural Society's Gardens, Chiswick; the Swiss Gardens, Shoreham, Sussex; on the Duke of Buccleuch's, and the Marquis of Anglesea's Property, &c., &c., and (under slate) at the Royal Agricultural Society's House, Hanover-square; its advantages are—CHEAPNESS, LIGHTNESS, DURABILITY, and ECONOMY. Being a Non-Conductor, it has been proved an efficient "Protective Material" to Plants.

PRICE ONE PENNY PER SQUARE FOOT.

THE PANKLIBANON IRON WORKS,

WHOLESALE AND RETAIL, 88, BAKER STREET, PORTMAN SQUARE.



ARCHITECTS, BUILDERS, and Others, about to supply STOVES and KITCHEN APPENDAGES, will find at this Establishment the most unique and elegant assortment of STOVE-GRATES, FENDERS, and FIRE-IRONS ever offered to the Public, at prices considerably below the usual charges. The Proprietors at the same time beg to invite attention to their extensive Stock of FURNISHING IRONMONGERY, Tinned Copper, Tin and Iron Cooking Vessels, Block Tin Dish-Covers, Japanned Ware, Table Cutlery, and especially their Sheffield Plate and German Silver Wares, embracing every Article suitable for the Table, comprising Dish and Plate Covers, Liquor Frames, Epergnes, &c. &c. The plan adopted by the Proprietors of affixing the price to each article for cash, enables all purchasers to have the same advantage. The Patent Thermio Stove is in daily operation. Also Cundy's Improved Hot-air Stoves, for Heating and Ventilating Rooms.

THORPE, FALLOWS & COMPANY, 88, Baker-street, Portman-square, London.

TO BUILDERS, CARPENTERS, AND OTHERS.

TO BE SOLD, Four Capital Carcases, situate in a highly respectable neighbourhood. Held for a term of eighty years, at a low ground rent.—For particulars apply to Messrs. ROBERTS and ROBY, Surveyors, 24, Moorgate-street, Bank.

ELIGIBLE BUILDING GROUND.—Any Public Company, Assurance Office, or other party, requiring a site of ground in a convenient and central part of the metropolis may hear of the same by application to SAMUEL ANGELL, Esq., Architect, 18, Gower-street, Bedford-square.

LEAGUE PREMISES to LET.—Those first-rate business premises, situate No. 67, Fleet-street, of fire-proof construction, with a frontage nearly unrivalled for publicity, occupied during the last three years as the offices of the Anti-Corn-Law League, to be let on lease. Extensive suites of chambers adjoining also to let.—Enquire of Mr. G. LUXFORD, 1, Whitefriars-street, Fleet-street.

CHEAP HOUSE and SHOP TO LET, centrally situated in the most crowded part of the City, and close to Fleet-street. The upper rooms well adapted for lodgings. Water on the first floors. Lowest rent, 50*l.* No person need apply who is not prepared to pay quarterly in advance. Situate No. 7, Whitefriars. Inquire of Mr. RICHARDSON, at No. 5, or Mr. G. LUXFORD, at No. 1.

TO BUILDERS AND OTHERS.

TO BE LET, on moderate Terms, about Twenty Acres of eligible Building Land, in the parish of Fulham, and in the immediate vicinity of the Thames. It will be let in one or in several lots, adapted for the erection of detached villas, and a plan and view of the ground, as laid out, have been prepared by Mr. MOFFATT, Architect, 20, Spring Gardens, where they may be seen, and any further particulars obtained.

TO BUILDERS AND OTHERS.

TO BE LET by TENDER, for a term of Sixty Years, an eligible Plot of Ground for building Houses in Dudley Court, leading from High-street, St. Giles's, to Crown-street, Soho. The neighbourhood is extremely populous, and houses for the working classes in great request, in consequence of the number lately taken down for the improvements in the immediate vicinity.—The plans and particulars may be seen on application to Mr. WILLIAMS, Solicitor, 31, Alfred-place, Bedford-square, or Mr. ANGELL, 18, Gower-street, between the hours of Ten and Four.

FREEHOLD BUILDING LAND.—The most eligible plot of Building Land in the neighbourhood of London is now TO BE LET upon Building Leases for 97 years. It consists of a frontage for six villas, and is situated in the outer circle of the Regent's Park, nearly opposite the Long Walk, and adjoining Primrose-hill Park. The views from this plot embrace the Regent's Park, Primrose-hill Park, Hampstead, Highgate, and the adjoining country; yet, with all these advantages, omnibusses pass the site to the city several times in the day.—For further particulars, apply to Mr. LITTLE, 36, Northumberland-street, New-road.

ST. JOHN'S WOOD PARK!!! IMMEDIATE CONNECTION WITH REGENT'S PARK.

BUILDING PLOTS TO BE LET in this most desirable and salubrious situation!! commanding picturesque views of the surrounding beautiful neighbourhood, and elevated within a few feet of the summit of the monument, with the best approaches of any suburban district near the metropolis, and greatest facilities of access to all the fashionable resorts and promenades of the West End and the City!—For particulars and plans, apply to W. H. TWENTYMAN, Esq., 11, Regent's-villas, Avenue-road, Regent's-park.

TO BUILDERS. EARL'S COURT, KENSINGTON.

TO BE LET on Building Leases, for a term of 99 years, a very desirable piece of Freehold Land, land-tax redeemed, containing about 18½ acres, situate at the East side of Pembroke-square, and communicating with the Kensington Road, by Earl-street, Newland-street, and Philimore-terrace.—Particulars of the terms of letting, Plans of the Property, and every other information, may be obtained of B. FERREY, Esq., Architect, 7, Bedford-street, Bedford-square; G. MAN, Esq., Architect, 18, Charlotte-street, Bedford-square; and Messrs. BOLTON, MERRIMAN, and DUNMORE, 25, Austin Friars.

TO LIME, CEMENT, AND BRICK MERCHANTS.

TO BE LET on Lease an Extensive Wharf and Premises in the King's Road, Camden Town, having a frontage of 187 feet on the Regent's Canal, a large Trade in Lime and Cement has been carried on upon the premises for many years, and an extensive connection formed, of which the incoming tenant will have the advantage. The Premises comprise a spacious Manufactory, Warehouse, Sheds, Mill-house, Drying Kilns, Counting-house, Stabling, &c. &c.; the whole enclosed by high brick walls and folding gates, opening into the main road.—For particulars, apply to Messrs. BROWN and ROBERTS, Surveyors, 22, Throgmorton-street.

KENT, PLUMSTEAD ARK.—TO LET, entire or in plots on building leases; term 500 years, to be granted direct from the freeholder; land-tax redeemed:—Plumstead-park is situated a short distance from the High Road leading from Woolwich to the Town of Plumstead, within a quarter of a mile of the intended South Eastern Railway Station, in the vicinity of the Royal Arsenal, Dock-yards, and other large Government Establishments, and not far from Blackheath, Charlton, &c. The prospect from the land, which never can be obstructed, is truly magnificent, and almost unbounded, the river view alone exceeding twenty miles; the park is beautifully timbered, and there is every means (a brook running through the land) of forming a lake or sheet of ornamental water; and there is abundance of brick earth in the land; in short, the estate altogether presents an opportunity for parties desirous of Building, either for Occupation or Investment, rarely to be met with; and two or three builders with capital might here make a fortune. Villa and other comfortable residences are much wanted in this delightful and healthy neighbourhood, and would instantly command first-rate tenants.—For further information, plans, &c., apply to Mr. WILLIAM HORSLEY, Solicitor, No. 8, Bank-chambers, Lothbury; or to Messrs. WYATT and BRANDON, Architects, 77, Great Russell-street, Bloomsbury; and Mr. JOHNSON, at the Farm House, Jackson's-road, opposite the land, who will produce a ground plan of the Park, and afford every facility for viewing the same.

TO BUILDERS.—MATERIALS AND MONEY ADVANCED.

TO BE LET, on BUILDING LEASES, for ninety-six years, several very eligible plots of Freehold Building Ground, land-tax redeemed, for fourth-rate houses, situated in streets leading from the Queen's-road, Dalston, to Lansdown-place. This is one of the most rapidly improving neighbourhoods near London, and will be the principal thoroughfare from all parts westward to the new Victoria Park, from which it is only a quarter of a mile distant.—Apply to Mr. PALMER, on the premises.

SALES BY AUCTION.

Eighteen well-built Houses, Let at Rents from 60*l.* to 23*l.* per annum, Sussex-terrace, Camden-town.

MR. T. TIMS will SUBMIT for SALE by AUCTION, at the Mart, on WEDNESDAY, July 22, at Twelve, in 18 Lots, ELEVEN very substantially built and well-finished EIGHT-ROOMED HOUSES, forming Sussex-place, Camden-town, in the line leading from the Prince of Wales's-road and into the Hampstead-road. Also Six Tenements, Nos. 7 to 12, Sussex-place; and an Ale and Porter Store, now doing a flourishing trade, with every prospect of addition. The whole property is unusually well built, possesses good drainage, is held for 77 years at low ground rents, and is respectably let throughout.—Particulars in a few days, at the Mart; of JOHN WATSON, Esq., 27, Worship-street; and at Mr. TIMS'S offices, 63, Upper Charlotte-street, Fitzroy-square.

NEW ROAD.—Finely chisselled and polished Italian and French Marble Chimney Pieces, Tazzas, Morturs, Washstands, Tablets, Pedestals, &c.

MR. T. TIMS is instructed by Mr. Robert Wills, the proprietor, to SELL by AUCTION, preparatory to extensive alterations on the premises, No. 21, corner of the New Road and Gower-street, on TUESDAY, the 4th of August, 1846, at Twelve, the superior manufactured Stock, embracing splendid specimens of Statuary, Bardilla, Jasper, Black and Gold Rouge, Royale, St. Annes, Dove, Vein, and other Marbles skilfully wrought in pure Grecian, rich Louis Quatorze, noble architectural and other designs harmonizing with the costly magnificence of the mansion or the chaste simplicity of the cottage. A Carved Ornamental Marble Pedestal, two Portland Stone ditto, Vein Marble Tazza, three Composition ditto, Marble-top Washstands, Carved Tablets, Morturs, &c. For the accommodation of the Trade, approved bills at three months' date will be taken of purchasers to the amount of 50*l.*—May be viewed two days prior to, and morning of sale, and catalogues then had on the premises, and at the Auctioneer's Offices, 63, Upper Charlotte-street, Fitzroy-square.

Twelve Acres Freehold, near Lee and Lewisham, in lots.

MR. SINGLE will SELL by AUCTION, at the Mart, on TUESDAY, July 21st, at Twelve for One, about TWELVE ACRES of FREEHOLD BUILDING LAND, delightfully situate on an inclined plane, with an extensive frontage on the public road at Further-green, Lewisham, about a mile from Lee, and near to where an intended railway is likely to have a station. The estate will be divided into small and large lots, presenting valuable frontages on serpentine roads and groves, which will be desirable for residences. Lee and Lewisham and the neighbourhood are most improving places; and when some of this land is built upon, the rest will be worth more than double its present value.—Particulars may be obtained of Mr. GROVES, solicitor, Charlotte-street, Bedford-square; at the inns in the neighbourhood; and at the office of Mr. SINGLE, land agent, 34, Coleman-street, City.

VALUABLE BUILDERS' STOCK, a 26-Horse-power Steam-engine, with complete Sawing Machinery, &c.; strong Iron Crabs, large quantity of Portland and Yorkshire Stone, in blocks, scantling, curbs, and slabs, &c.; Forge, bellows, anvils, excellent assortment of Smiths' Tools, patent Weighing Machine, 800 feet of 6-inch Cast-iron Pipe, Plate, and Rod-iron; strong 4-wheel Mason's Truck, Cart, Cab, and effects, by

MR. RICHARDS, on the Premises, 57, Brick-lane, St. Luke's, on Monday, July 27, and following days, at TWELVE o'clock each day, without reserve, by order of Mr. Robert Webb, surviving partner of Messrs. ROBERT and GEORGE WEBB, comprising Timbers in joists, plates, and quartering, framed partition, four panelled and other doors, Dado flooring-boards, ¼-inch ditto planks, thirty carpenter's work-benches, scaffold-poles, pudlorks, boards, long ladders, various useful materials, gas fittings, quantity of iron, oven-tiles, bricks, large colour tubs, water-butt, fire-wood, &c. May be viewed on Saturday, the 25th, and mornings of sale. Catalogues on the premises, and of the Auctioneer, Tottenham.

NOTE.—In August will be sold the lease of desirable residence, with Counting-houses, and the extensive Business Premises; also, the whole of Household Furniture, large iron repository, counting-house effects, &c. &c.

To Timber Merchants, Builders, Carpenters, Cabinet and Pianoforte makers, Wheelwrights, Lath Renders, and Others.

MESSRS. COCKERELL and HOARD have instructions from Mrs. Dare, timber merchant, who is retiring from business, to SELL by AUCTION, upon the premises, Bermondsey, New-road, near the Bricklayers' Arms, all the valuable and very extensive stock, the first portion of which will be sold on the 14th, 15th, and 16th July, and the last portion on July 21st and two following days, at Twelve, without reserve, the premises being let. The stock consists of upwards of 3,000 dry pine planks, deals, and battens, up to 24 inches wide; about 1,500 Christiana deals, part cut into boards; 2,500 Gothenburg deals and battens; 2,500 spruce planks, deals and battens; 400 red pine deals; 500 yellow Archangel and Petersburg planks; large quantity of spruce; Christiana and pine boards; thirty loads of prime Memel timber; 2,500 feet of 5-inch planks; fifty loads of laths and lath wood; large quantity of dry prepared flooring boards and battens; 18,000 feet of Spanish and Honduras mahogany in boards; great quantity of Spanish and Honduras plank of various thickness; 100 sets of circular pine drawer fronts; 3,000 feet of dry wainscot in boards; 15,000 feet of birch plank and boards; several thousand feet of fine Spanish and Honduras veneers; about 5,000 feet of cedar; 15,000 feet of birch plank and boards; twenty loads of dry ash and beech plank; 500 Memel oak pipe staves; great quantity of oak and fir scantling and plank; 2,000 feet of inch elm board; oak sash cells; ash and beech felloes, shafts, and beds, &c., spokes, and a great variety of other effects.—May be viewed, and catalogues had upon the premises at the Kentish Hotel, Tunbridge Wells; White Hart, Bromley; Kentish Drovers, Peckham; Nightingale, Paddington; of the Auctioneers, 26, Condait-street, Bond-street, and Blackman-street, and at GARRAWAY'S. Approved bills at four months will be taken.

TO PAPER-HANGERS, HOUSE DECORATORS, BUILDERS, AND OTHERS.

MR. BRAY, jun., will SELL at his Rooms, 259, High Holborn, on Wednesday, 22nd July, 1846, at Twelve o'clock, upwards of 4,500 pieces of PAPERHANGINGS of excellent workmanship and modern design, including drawing and dining-room satins, rich crimson and other flocks, mock flock, damask and embossed satins, oak Elizabethan and Morpeth parlour and bedroom papers in chints, shaded and plain, trellis, Berlin, and bouquet, hall and staircase in Gothics, granites, painted and other marbles, scagliola, &c. Several Marble Chimney-pieces, about Twelve Gallons of Paper Varnish, Gold Size, &c.—May be viewed one day prior and morning of sale, and catalogues had at the rooms, as above.

The valuable and important detached portion of the Bickley Estate, unconnected with the Park, and in or near the town of Bromley, offering most desirable sites for the purposes of building.—By,

MESSRS. HOGGART and NORTON, at the Mart, on FRIDAY, July 31, at 12, in lots. This important and valuable Freehold Property is situate in a fine healthy neighbourhood, long celebrated for the beauty of its scenery, and with the immediate prospect of the Mid-Kent Railway passing through the town of Bromley, where there will be a station, affording constant and easy access to all parts of the metropolis within 16 or 20 minutes. The mode of subdivision which has been arranged for the purposes of occupation or investment will be set forth in the particulars of sale; comprising an excellent detached residence, with gardens, pleasure grounds, and meadow land, containing together three acres and two roods, in the occupation of A. TAYLOR, Esq., at a rent of 115*l.* per annum; about 57 acres of land, fronting the Bishop's Palace and Park, in an admirable situation for building; the convenient Cottage Residence, with gardens and meadow land, in the occupation of the Rev. G. Verrall; the Garden Ground adjoining the lodge entrance to the Palace, and in the rear of, and forming part of the grounds of the White Hart Inn, containing about eight acres; several pieces of Building Ground on Bromley Common; also a valuable enclosure of Arable Land adapted for building, near the new church on Bromley Common, containing 20a. 0r. 20p.; and three inclosures of Arable Land adjoining, containing together 24 acres. May be viewed by permission of the respective tenants, and particulars had of Messrs. WOOD and BLAKE, Solicitors, Falcon-street; Messrs. BLAKE, KEITH, and BLAKE, Solicitors, Norwich, at the White Hart and Bell Inns, Bromley; at the Mart; and of Messrs. HOGGART and Son, 22, Old Broad-street, Royal Exchange.

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TO ARCHITECTS, BUILDERS, &c.

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Designs furnished for general interior finishings. Nos. 1 and 2 of their goods, suitable for the upholsterer and gilder, are ready for sale.

BUILDERS' CASTINGS, Beams, Pillars, Air-bricks, Eave-gutters, Pipes, and every description of builders' castings; also Turntables, Cranes, Water-cranes, Weighing-machines, and all apparatus connected with railways; also engines of every kind and size may be obtained of the best description and at the lowest possible price, by applying to JAMES CURRIE, 16, Wellington-street, North, Strand, London. There is a communication by steam-packet with the works at Aberdeen, twice a week.

LONDON: Printed by CHARLES WYMAN, of 49, Camming-street, Pentonville, in the County of Middlesex, Printer, at the Printing-office of J. & H. Cox, Brothers, 74 & 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-Fields, in the same County, and published by the said CHARLES WYMAN, at the office of "THE BUILDER," 2, York-street, Covent Garden, in the Parish of Saint Paul, Covent Garden, in the said County.—Saturday, July 18, 1846.

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ADVERTISEMENTS.

TO IRON, BRASS-FOUNDERS, &c.

WANTED, by an experienced Man, a Situation in the above line, as Working Foreman. For further particulars apply by letter, post-paid, to A. Z., office of "The Builder, 2, York-street, Covent Garden.

TO BUILDERS AND CARPENTERS.

WANTED by the Friends of a Youth who has served five years to a Carpenter or Joiner a Situation for twelve months or two years, where he can finish his trade; wages not so much an object as instruction.—Address to A. J., No. 57, Millbank-street, Westminster.

TO CARPENTERS AND BUILDERS.

WANTED, to Apprentice a Lad from the country, fifteen years of age, who is sharp and industrious; not having friends in London, it is the wish of his friends to place him where he would learn his business and be taken care of; a moderate premium will be given.—Address, S. S., care of Mr. Ellett, 8, Jewin-street, City.

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TO CARPENTERS AND BUILDERS.

A YOUNG MAN from the Country, desirous of improvement, would be happy to engage himself for some time on very moderate terms.—Address to A. W. A., 1, Hertford-street, Mayfair.

ARCHITECTURAL TUITION.

A GENTLEMAN, who is disengaged in the evening, wishes to give private lessons in architectural drawing and construction, &c. For terms, address to A. B., 7, Duke-street, Stamford-street, Blackfriars' road.

TO YOUNG ARCHITECTS.

AN Architect in the Country has a vacancy in his office for a Junior Clerk of active and industrious habits, who has been regularly educated for the profession, at a small salary, where he would have the advantage of all the experience connected with an extensive practice, and be under the immediate supervision of the principal.—Address, W. D., 1, Bloomsbury-square, London.

July 18th, 1846.

TO BUILDERS, SURVEYORS, &c.

THE Advertiser, possessing all the qualifications of a thorough Builder's Clerk, combined with extensive practical experience, will be open to an engagement in August. References unexceptionable.—Address X., 20, Park-street, Dorset-square.

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THE Advertiser, a Young Man, is desirous of engaging himself as Clerk in an office, thoroughly understanding the routine of such duties, also making drawings and measuring. He would make himself generally useful, possessing a good knowledge of the profession.—Address, post-paid, to A. B. C., office of "The Builder."

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THE Advertiser wishes to obtain a Permanent engagement with an Architect, to whom he would be found an acquisition, having had five years' practical experience, can prepare finished and working drawings, write specifications, take out quantities, &c., &c.—Address to A. R. W., at the office of "The Builder."

AN Architectural Artist of considerable experience, and accustomed to the execution of first-rate Exhibition Designs, will be glad to engage with an Architect of eminence.—Address, post-paid, to W. C., 14, York-street, Covent Garden.

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A YOUNG MAN wants Employment, who has served his time with a Builder, is a neat draughtsman, has been engaged by Architects and Engineers, is an experienced Land Surveyor and Leveller, and accustomed to Builder's accounts. Salary, 35s. a week.—Address (post-paid,) A. TURNER, 33, Moreton-place, Hampstead-road. Would prefer a country engagement.

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A PERSON in the prime of life, of strict business habits, and irreproachable character, wishes to obtain an engagement as collector of rents, house agent's clerk, to superintend the letting of houses, or to fill any situation of trust and respectability; he is at present engaged in a similar capacity to the above on an estate of nearly 400 houses; the proprietor of which will be happy to give testimonials of his integrity, ability, and also the reason of his leaving him.—Address X. Y. Z., Messrs. Waters, Brothers, Park-road, Old Kent-road.

DECORATIVE ART SOCIETY.—NOTICE.—The general meetings were adjourned on Wednesday, June 24th, to Wednesday, 14th October next. The transactions of the society during the past three years will then be published for distribution to the members. All communications are to be addressed to

Mr. E. C. LAGGHER, Hon. Sec.,
17, Sussex-place, Kensington.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 168, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

MORTGAGE AND ANNUITY OFFICE, No. 123, CHANCERY-LANE.

PERSONS requiring LOANS by way of MORTGAGE or otherwise upon any available security, may at all times procure an advance to the extent of from 100*l.* to 150,000*l.*, or so much as the property will bear, by applying to Mr. BRAY, surveyor, at the offices as above, where a registry for the sale of estates, houses, land, life interests, and reversions, is kept for inspection.

N.B. To expedite the procuration, personal application at the office would in all cases be better, the party bringing with them the abstract of title, plans, &c.

CONTRACTS.

TO BUILDERS.

TENDERS are required for the Erection of a Rectory House and Offices, near Eye, Suffolk. The drawings and specification may be seen, and particulars obtained, upon application to Mr. EALES, [architect, Chapel-place, Cavendish-square.

TO CONTRACTORS AND OTHERS.

WANTED TENDERS for excavating and carting some Foundations and return cartage of Bricks, at Cricklewood, near Kilburn. Sealed Tenders to be sent to Mr. EALES, architect, Chapel-place, Cavendish-square, on or before Wednesday next, the 29th instant, where further particulars in the interim may be obtained.

TO CONTRACTORS, BUILDERS, &c.

THE Committee appointed to RE-BUILD the PARISH CHURCH of RUNCORN are ready to receive a Tender or Tenders for the erection of the whole, or any part or parts, of the work involved in the undertaking. The Plans and Specifications may be inspected upon applying to W. HAIRTLEY, Old Quay, Runcorn; and all Tenders, sealed up, and superscribed with the word "Tender," to be transmitted to W. BLADON, Runcorn, the Secretary to the Committee, on or before the 15th day of August next.

Runcorn, 15 July, 1846.

TO BOILER MAKERS. IRON FOUNDERS, AND OTHERS.

THE Directors of the Commercial Gas-light and Coke Company will meet at the office at the works on Wednesday, the 8th day of August, to receive tenders for the erection and construction of a gas-holder of 80 feet diameter, with the columns, girders, &c. Plans and specifications may be seen, and particulars obtained on application to Mr. Isaac Mercer, the Company's Engineer, at the works, between the hours of 10 and 2. Tenders sealed and endorsed, addressed to the secrttary, must be delivered before 12 o'clock on the day above-mentioned.

The directors do not bind themselves to accept the lowest tender.—By order of the Board,

H. AVERY, Secretary.

Commercial Gas-light and Coke Company's, office, Ben Johnson's Fields, Stepney, July 22, 1846.

ST. PANCRAS, MIDDLESEX.—TO BUILDERS.

THE VESTRYMEN of the said Parish will meet at St. Pancras Vestry Rooms, 1, Gordon-street, Gordon-square, on Wednesday, the 29th day of July, inst., at Two o'clock in the afternoon, to receive TENDERS, and to Contract with some Person or Persons for the Erection of New Vestry Rooms and Offices. The Specification and Drawings may be seen at St. Pancras Workhouse, King's Road, Camden Town, on and after the 16th instant, between the hours of Nine A.M. and Six P.M. Tenders, sealed and endorsed, "Tender for Building New Vestry Rooms," to be sent in before the said hour of meeting. The Vestrymen will not be bound to accept the lowest tender, and security for the due performance of the contract will be required. The names of Sureties to be sent in along with the Tenders, and some person will be required to be in attendance on behalf of each Tender. The contract will be subject to confirmation at the next following Vestry meeting.

By order of the Vestry, JOHN McGAHEY,
1, Gordon-street, Gordon-square, Vestry Clerk.
July 10, 1846.

TO BUILDERS.

THE Directors of the Gravesend and Milton Water Works Company are ready to receive from any person or persons Proposals for the performance of the several Extension of Works required in erecting and making a Reservoir, Well, Shaft, Tunnel, and other Works on the premises of the Company, in Milton, next Gravesend.—Plans and a Specification of the several Works may be seen at my Office, and any information obtained thereon of JAMES SIMPSON, Esq., engineer, 33, Great George-street, Westminster, or on the Premises of the Company, where he will attend on the 27th inst. Tenders (sealed) indorsed "Tender for Reservoir and Works," are to be left at my Office previous to Thursday, the 10th day of August next, when the Directors will meet on the premises of the Company to receive and consider the same, and when parties tendering are required to attend. Parties whose tenders may be accepted will have to enter into a contract (with security, by bond of two sureties in 500*l.*) for the due performance of the contract and works, the expenses of such contract and security being paid by the Directors and Contractor in equal moieties.

The Directors will not be bound to accept the lowest tender, if it shall appear to them inexpedient to do so.—By order of the Directors,

FRAS. SOUTHGATE, Clerk.

Gravesend, 20th July, 1846.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 45, Chiswell-street, Finsbury square, near Whitbread's Brewery.

Best Patent Cut Clasp.

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Elliptic Stoves, 8d. per inch. Registers, 6d., 7d., 8d. per inch.
Self-acting Kitchen Ranges with Oven and Back Boiler.
Wrought Bars and Bright Fittings.
3 ft., 3l. 3s. 3 ft. 6 in., 3l. 12s. 6d. 4 ft., 4l.
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TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3l. 0s.	3l. 14s.	3l. 16s.	4l.	4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5l.	5l. 15s.	6l. 5s.	6l. 10s.	7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 9d., and 4d. do.
Manufacturer of WOLFSON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.
Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

EVANS'S SELF-ACTING KITCHEN RANGES continue to maintain their superiority over all others; they are adapted for Roasting, Boiling, Steaming, and Baking in the best manner, and yield a constant supply of hot water, and are constructed on economical principles, with open fires, which may be contracted or extended at pleasure; and are not liable to produce the unwholesome smell and great destruction of fuel inseparable from the close shut-up Ranges. Every article for the kitchen in copper, iron, and block tin.—J. EVANS and Co., Stove-grate Makers and Furnishing Ironmongers, 33, King William-street, London-bridge.

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The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory,

Southwark-bridge Iron Roofing Works.

PAVING, 2s. 9d. PER SQUARE YARD Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, FOLONEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27s. 6d. per ton.

TO ARCHITECTS.

In consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorized CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced.

I. FARRELL, Secretary.
Stangate, near Westminster Bridge, Jan., 1845. Seyssel Asphalte Company.

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

TO ARCHITECTS, BUILDERS, & BRICK MAKERS.

PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Markets, Farms, Roads, Gardens, and for Liquid Measure. BRICKMAKERS' PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS, 9 to 12-inch bore, kept for Hire.

BENJ. FOWLER, 68, Dorset-street, Fleet-street.

FRENCH PAPER-HANGINGS.—The Trade are respectfully informed, that at the Depôt of Messrs. MARKS and CO. is concentrated a most extensive stock, with weekly additional consignments, all the newest and most elegant patterns in Piece Paper and Decorations, at Parisian prices, with the reduced duty of 2d. per yard.—59, Princes-street, Leicester-square. Established 1834.

TO PAPER-HANGERS, HOUSE-DECORATORS, BUILDERS, SHIPPERS, &c.

JOHN TODD MERRICK & Co., having removed to their new Manufactory in New Oxford-street, take the opportunity of soliciting the inspection of the Trade to their extensive stock of paper-hangings, comprising every variety, from the cheapest to the most costly and elegant drawing-room patterns. They also invite attention to their complete assortment of panelled decorations, suitable for every description of room; and beg to announce that they are now ready to receive orders, furnish estimates, and enter into contracts in any situation, and to guarantee the execution of them in the first style.

J. T. M. and Co. beg to state, that they will execute any French pattern that may be brought to them, fully equal in quality, at the same price that it can be purchased in Paris, thereby effecting a saving of the duty and carriage to the purchaser. They are, however, constantly receiving importations of the newest designs, having entered into an arrangement with an important Paris house for their regular supply.

TO ARCHITECTS AND BUILDERS.

DOOR SPRINGS AND HINGES.—GERISH'S PATENT DOOR SPRINGS, for CLOSING every description of DOOR, consists of Single and DOUBLE-ACTION BUTT HINGES in Brass and Iron for Doors to open one or both ways, and Rising Hinges for the convenience of Doors opening on uneven Floors. Likewise Swing Centres, which consist of a combination of power unequalled by any made at present. Manufactured by F. W. Gerish, East-road, City-road; and sold by all respectable Ironmongers in the United Kingdom.

NOTICE TO INVENTORS.

OFFICE for PATENTS of INVENTIONS and REGISTRATIONS of DESIGNS, 14, LINCOLN'S-INN-FIELDS.—The printed Instructions gratis, and every information upon the subject of PROTECTION for INVENTIONS, either by Letters Patent or the Designs Act, may be had by applying personally, or by letter (prepaid) to Mr. Alexander Prince, at the office, 14, Lincoln's-inn-fields. Where may be had, price 12s., or, through any bookseller in the United Kingdom, of Wm. BENNING and Co., law booksellers, 43, Fleet-street, the LAW of PATENTS and REGISTRATIONS, with all Forms and Cases up to the present time, by SIDNEY BILLING, Esq., barrister-at-law, and ALEXANDER PRINCE, of the Office for Patents, 14, Lincoln's-inn-fields.

BEDDING.

MIXED, 1s. per lb.
Grey Goose, 1s. 1d. per lb.
Foreign, ditto, ditto, 1s. 8d. per lb.
Best Foreign Grey Goose, 2s. per lb.
Best Irish White, ditto, 2s. 6d. per lb.
Best Dantzic, ditto, ditto, 3s. per lb.

Warranted sweet and free from dust.

A List of every description of Bedding, containing weights, sizes, and prices, sent free by post, on application to HEAL and SON, Feather-dressers and Bedding manufacturers, 196, opposite the Chapel, Tottenham Court-road.

SEALED 7th OCTOBER, 1845.

By Her Majesty's Royal Letters Patent.

CROGGON'S PATENT WATERPROOF DOUBLE BITUMINOUS PAPER.

THE above is Manufactured by the most Accurate Machinery, for Depositing a DOUBLE COAT of ASPHALTE between Two Sheets of Paper, ensuring an evenness of distribution of the Waterproof Materials, thus rendering EVERY MINUTE PORTION OF THE PAPER ENTIRELY IMPERVIOUS TO WATER. To prove that it perfectly resists water, it is only necessary to put it into such a form as to Hold Water, when, after filling, it, the water will evaporate without appearing in the least degree on the other side.

For ROOFS OF HOUSES it will be found very advantageous, being very cheap, admitting A GREAT SAVING OF TIMBERS; it may be painted of all colours, thus rendering it peculiarly applicable to any description of Roof. It is also an EFFECTUAL PREVENTATIVE against the effects of DAMP FROM WALLS, if put under the usual paper, and DAMP FLOORS, when under carpets.

It may be had in Rolls of any Length, to order, AT SIXPENCE PER SQUARE YARD, of
THOS. JNO. CROGGON,
8, Laurence Pountney Hill, Cannon-street.

CHEAP AND DURABLE ROOFING.

By Her Majesty's Royal Letters Patent.

F. McNEILL and Co. of Lamb's Buildings, Bunhill Row, London, Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronized by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE BOARD OF ORDNANCE,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

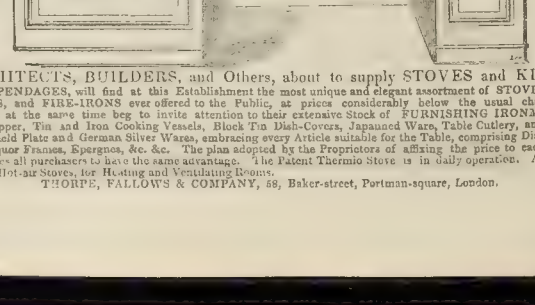
And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover-square.

Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, as THE ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW, LONDON.

Roofs covered with the felt to be seen at the Factory, also the new Vice-Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the new Houses of Parliament.

A Liberal Discount allowed to the Trade.

THE PANKHEANON IRON WORKS,
WHOLESALE AND RETAIL, 58, BAKER STREET, PORTMAN SQUARE.

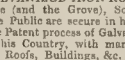


ARCHITECTS, BUILDERS, and Others, about to supply STOVES and KITCHEN APPENDAGES, will find at this Establishment the most unique and elegant assortment of STOVE-GRATES, FENDERS, and FIRE-IRONS ever offered to the Public, at prices considerably below the usual charges. The Proprietors at the same time beg to invite attention to their extensive Stock of FURNISHING IRONMONGERY, Tinned Copper, Tin and Iron Cooking Vessels, Block Tin Dish-Covers, Japanned Ware, Table Cutlery, and especially their Sheffield Plate and German Silver Wares, embracing every Article suitable for the Table, comprising Dish and Plate Covers, Liquor Frames, Epergnes, &c. &c. The plan adopted by the Proprietors of affixing the price to each article for cash, enables all purchasers to have the same advantage. The Patent Thermio Stove is in daily operation. Also Cundy's Improved Hot-air Stoves, for Heating and Ventilating Rooms.

THORPE, FALLOWS & COMPANY, 58, Baker-street, Portman-square, London.

NEWSPAPER BUILDER

PORTER'S CORRUGATED, and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanizing Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway, and other Iron and Smith's work Manufactured of the best quality. Iron Fence and Hurdles as usual.—The Trade Supplied.



PATENT GALVANISED TINNED IRON.
(MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-fourths less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and water-closets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 90z. to any required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quicksset-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—Wyatt, Parker, and Co., Agents. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

ORNAMENTAL TILES FOR COVERING BUILDINGS.

ROBERT BROWNE'S newly-invented CURVED ITALIAN TILES, for which invention the Society of Arts and Sciences awarded a medal. The Gothic Grooved Ridge Tile, with vertical ornaments, invented by R. B. in 1840; also a variety of plain Gothic Ridge Tiles adapted for tile or slate coverings; ornamental Plain Tiles of various patterns.

Tiles form in winter a warmer and in summer a cooler covering than slates or metal, and may be burnt of any desired colour. Address ROBERT BROWN, Tile Works, Surbiton Hill, near Kingston, Surrey.

SIR WILLIAM BURNETT'S PATENT for the Preservation of Timber, Canvas, Cordage, Cotton, Woollen, &c., from Decay.

TESTIMONIALS.

From THOMAS GRAHAM, Esq., M.A., F.R.S., L. and E., Professor of Chemistry, University College, London.

"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.

"The wood appears to be fully and deeply penetrated by the metallic salt; I have found it in the centre of a large prepared paving block.

"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the crystallizable salts: a variety of plain Gothic Ridge Tiles adapted for tile or slate coverings; ornamental Plain Tiles of various patterns. no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.

"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Teplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotized principles it contains, by entering into chemical combination with them.

(Signed) "THOMAS GRAHAM."

"University College, 25th October, 1845.

From Professors BRANDE and COOPER.

"London, 4th November, 1845.

"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.

"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles tinder.

"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.

"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.—(Signed) "WILLIAM THOMAS BRANDE,

"JOHN THOMAS COOPER."

"To Sir William Burnett, K.C.H., F.R.S., &c. &c."

Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 43, King William-street, London-bridge.

PREPARED FLOORING BOARDS.

AT REDUCED PRICES.

ALWAYS ON SALE, a LARGE ASSORTMENT of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¾ inch to 1¼ inch thick. Rough Boarding for Flats.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

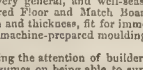
Apply at W. CLEAVE'S Timber Yard, Smith-street, Westminster.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, at Old-Barge-Wharf, Upper Ground-street, Blackfriars, and at Hy. Castle's, Ship-yard, Millbank-street, Westminster, a large, very general, and well-seasoned stock of all kinds of Prepared Floor and Match Boarding, planed to a parallel breadth and thickness, fit for immediate use; also a great variety of machine-prepared mouldings, very accurately finished.

A. R., in calling the attention of builderr and consumers, confidently presumes on being able to supply them on such terms as will ensure and merit their favours, &c.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Pantiles.

MUIR'S PATENT  PLANING MACHINERY.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.



TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.

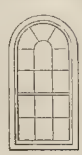
THE GENERAL WOOD CUTTING COMPANY continue to receive the most satisfactory assurances from all who have given their improved machinery a trial, that there is no method of preparing floor-boards, matched linings, skirtings, &c., by which accuracy, dispatch, and economy of material are so certainly obtained. In shooting, or groving and tonguеing a board (although carved), the machine follows the edge, removing no more than the skin of the wood, and by the use of a peculiar saw for deep cutting, the board comes off with a perfect surface, thus obviating the necessity of reducing its thickness in order to plane out the hollows. The Company being neither builders nor timber merchants, unconnected with any trade but that of sawing and planing, and depending solely on the public for a moderate interest on their capital, are determined, by an assiduous attention to the interests of their customers, both as regards workmanship and general business arrangements, to merit a continuance of their support.

IMPORTANT NOTICE.—TO ARCHITECTS AND BUILDERS.

SMITH'S PATENT SASH CORD SHIELD for hanging sashes, giving a facility for cleaning and repairing windows. Recommended by the most eminent architects and builders in the metropolis. One pair required for each sash. Price to builders one shilling per pair.—Apply to Mr. ALEX. REID, 70, Lower Thames-street.

HERRING'S PATENT SAFETY WINDOW.—All danger from cleaning or repairing windows at an end. No housekeeper should be ignorant of this invaluable invention. Simple, cheap, and effectual; will repay the cost every two years; add 5 to 10 per cent. to the value of houses. No one should buy or rent one without it. Now in full operation in most parts of the kingdom. Builders and the public can inspect its real merits, and have licenses, at the Patent Steam Bed-feather Factory, 14, Kingsgate-street, London.—JOHNSON and PASK, Makers.

SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.



JOHNSON & PASK,
1, ARWELL STREET,
Clerkenwell,

Beg to inform the Trade, and the Building Public in general, that they continue to manufacture Sashes and Frames, Shop Fronts, Doors, and all other kinds of Joiner's work, on the lowest possible scale of prices. All kinds of Wainscott and Mahogany

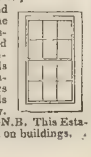


Work done in the very best manner; French Polished, and carefully Packed for the Country.— A full list of prices forwarded by return of post to any part of the country.



CHAS. WM. WATERLOW,

Manufacturer of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square. Well-seasoned materials, superior workmanship, lowest prices. Upwards of 400 Doors and a large variety of Sashes and Frames always on Sale. Glazed goods securely packed for the country.



Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged on buildings.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

STAINED GLASS, Manufactured in the style of the middle ages, for church windows and Gothic edifices, by JAMES ALEX. FORREST, 19, Old Haymarket, Liverpool. Designs given free, where the work is executed.

STAINED, PAINTED, AND EMBOSSED GLASS.

GEORGE HOADLEY begs to inform his Friends and the Public, that he can supply ornamental embossed Glass from 1s. 6d. per foot super., and borders from 8d. per foot run. Embossed borders in the most splendid colours on view. Having been established 25 years, can give references to numerous works.

6, St. James's-place, Hampstead-road.—Terms, Cash only.

FOREIGN SHEET GLASS, &c., any size in cases as imported of the STOUTEST KIND, 15, 16, and 17 oz. to the foot at 4d. per foot. GLASS PANTILES equally low in price. English Manufactured Glass of every description on the lowest terms. For ready money only, at C. JARVIS'S Windsor Glass Warehouse, 38, Great Castle-street, a few doors from Regent-street. A large stock of small glass to be sold at a very reduced price.

GLASS.—NEW IMPORTER. Engraved Ornamental Glass Borders, Rosettes, &c. Stained Glass, Flashed, and Pot-metal in every colour. Foreign Windows, in plain and ground Glass.

At Messrs. VERMEIR and CHAMPION'S, 21, Castle-street, Southwark-bridge-street, leading to the Borough Market.

Office, 147, Fenchurch-street, City.

BRITISH and FOREIGN SHEET GLASS for Horticultural purposes, &c., may be had at JAMES BROMLEY'S, 315, Oxford-street, London, at the following reduced prices:—

In crates, containing about 260 feet, of coarse 13 oz., at 4½d. per foot, or fourth quality, 5d. per foot; ditto, 16 oz. coarse, 5½d.; ditto, fourth quality, 6d.; or cut to any size not exceeding 40 inches long by 10 inches wide at 3d. per foot extra. Also Microscopical Glass, French Shades, Plate and Crown Window Glass.—A discount to the trade.

PAINTED AND STAINED GLASS.

R. HOWE begs to inform his Friends and the Public that he can supply Painted and Stained Glass, after the ancient styles, at less than one-half the price generally charged.

Windows filled with the Apostles and other figures, per foot super ..... } 12s.
With coats of arms, badges, &c. ..... } 12s.
With painted quarrie, Scripture texts, motoes, &c. ..... } 8s.

43, South Molton-street, Oxford-street, London.

TO THE PLATE GLASS TRADE.

THE BIRMINGHAM PLATE AND CROWN GLASS COMPANY, "Registered," beg to inform the Trade and Public, that the extension of their Works at Smethwick, near Birmingham, being now completed, their Warehouse, 141, Fleet-street, London, is now open for the Sale of their Crystal Plate Glass, which will be found to stand unrivalled by that of any other manufactory. They are now in a position to supply Rough Plate of any substance for Skylights or Floorings on the shortest notice. Orders addressed to B. MOSS, Company's Warehouse, 141, Fleet-street, London, will be promptly attended to.

WINDOW GLASS, LEAD, VARNISH, and COLOUR MANUFACTORY.—Crown Window Glass, in squares under two feet, 43d. per foot; glazing, 5d. per foot; sheet glass, 4d. per foot; best white lead, 26s.; seconds, 24s.; thirds, 22s. per cwt.; linseed oil, 2s. 2d.; boiled oil, 2s. 6d.; turpentine, 3s. 9d.; fine oak varnish, 10s.; carriage, 12s.; copal, 14s.; body copal, 20s.; gold size, 10s.; paper varnish, 10s.; linseed oil putty, 7s. 6d. per cwt. per firkin; patent dryers, 42s.; black paint, 28s.; lead colour, 24s.; Oxford ochre, 42s. per cwt.; best pan water-closet, 34s. complete; ½-brass cocks, 2s. 8d. each. Milled sheet lead, patent pipe, beer-machines, tapping-cocks, and brushes and colour of every description. Thomas Millington being the manufacturer, can supply a much better article than most other houses. Address, THOMAS MILLINGTON, 87, Bishopsgate-street Without, London.—Established upwards of 90 years.

SASHES primed, glazed, and sent to any part of London at 6d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.

FOREIGN SHEET 5d. per foot.
BRITISH CROWN 8d. per foot.

Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Show-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.

Dry and Good Colours of the best quality; Brushes Dryers, and every article used in the Trade Warranted.

VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.

For complete lists priced.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

ROYAL POLYTECHNIC INSTITUTION.—A Lecture, by Dr. Ryan on Chemistry, at half-past three daily, and on the Evenings of Mondays, Wednesdays, and Fridays, at nine o'clock. Prof. Bachhoffner's Lectures on Natural Philosophy, with brilliant experiments, daily. Macintoshe's Revolving Engine, Coleman's Patent Locomotive Engine for ascending and descending inclined planes, Farrell's Archimedean Railway, the Atmospheric Railway, all in action. Hallette's Atmospheric Railway Valve. The Opaque Microscope. The Oxy-hydrogen Microscope, exhibiting a fine Collection of Living Objects. A beautiful Picture of the Chapel in the Convent of St. Catherine, near Jerusalem, by Mr. Charles Smith, is one of the series of Dissolving Views just introduced.—Admission, 1s.; Schools, Half-price.

SALES BY AUCTION.

CAPITAL STOCK OF PAPER-HANGINGS, of the most modern and superior description.

MR. EDMUND ROBINS will SELL by AUCTION, at his Rooms in Covent Garden, on TUESDAY next, July 28, at Twelve, a STOCK of first-rate PAPER-HANGINGS, well worthy the attention of Architects, Builders, and private buyers, comprising about 5,000 pieces of rich satin and other papers, expensive watered satins, handsome flocks, particularly adapted for drawing and dining rooms of the first class, with a great variety of modern patterns for sitting rooms and bed chambers, all conveniently lotted for purchasers. May be viewed the day prior, and catalogues had at the auction rooms, in Covent Garden.

VALUABLE BUILDING MATERIALS, ENDELL-STREET, HOLBORN.

MESSRS. ROBERTS and ROBY will SELL by AUCTION, on the premises, No. 9, Endell-street, on TUESDAY, July 28th, at Twelve, by direction of the proprietor, retiring from business, the whole of the excellent and valuable building materials, comprising 1,000 feet of partition and wainscotting, fifty pair new sashes and frames, a large quantity of counting-house partition, forty new two and fourpanelled doors, quartering, lining, and floor boards, house and shop fixtures, and other useful lots.—May be viewed one day prior and morning of sale. Catalogues had at the Kemble Tavern, Bow-street, Long-acre, on the premises, and at ROBERTS and ROBY'S offices, 24, Moorgate-street, Bank.

WALTHAMSTOW.—Builder's stock in trade and implements, waggon, capital timber carriage, strong brick cart, two spring carts, two cart horses, two nag horses, two ponies, heifers, live and dead farming stock, and other effects.

MESSRS. HUMPHREYS & WALLEN are instructed to SELL by AUCTION on the premises, near the church, Walthamstow, on Thursday, 30th July, at Twelve, in consequence of the proprietor having retired from business, the remaining stock in trade of a carpenter, the trade implements, and a variety of other effects, including a quantity of fine large oak timber posts, glazed sashes and frames, lights, glazed pit, barn, and other doors, framing, panelling, shutters, quartering, boards, crab engine, pile driving machines, triangular raising poles, iron hurdles, &c. Also the above mentioned live stock and numerous items.—To be viewed one day previous to the sale. Catalogues had on the premises, at the inns in the neighbourhood, and at the offices of Messrs. HUMPHREYS and WALLEN, Auctioneers, Surveyors, &c., No. 68, Old Broad-street, City.

NEW ROAD.—Finely sculptured and polished Italian and French Marble Chimney Pieces, Tazzas, Mortars, Washstands, Tablets, Pedestals, &c.

MR. T. TIMS is instructed by Mr. Robert Wells, the proprietor, to SELL by AUCTION, preparatory to extensive alterations on the premises, No. 21, corner of the New Road and Gower-street, on TUESDAY, August 4, 1846, at Twelve, the superior manufactured Stock, embracing splendid specimens of statuary, Bardilla, Jasper, Black and Gold Rouge, Royale, St. Annes, Dove, Vein, and other Marbles skilfully wrought in pure Grecian, rich Louis Quatorze, noble architectural, and other designs harmonising with the costly magnificence of the mansion or the chaste simplicity of the cottage. A Carved Ornamental Marble Pedestal, two Portland Stone ditto, Vein Marble Tazza, three Composition ditto, Marble-top Washstands, Carved Tablets, Mortars, &c. For the accommodation of the Trade, approved bills at three months' date will be taken for purchasers to the amount of 50*l*.—May be viewed two days prior to, and morning of sale, and catalogues then had on the premises, and at the Auctioneer's Offices, 63, Upper Charlotte-street, Fitzroy-square.

IMMENSE STOCK of valuable Portland and Yorkshire Stone in large blocks, landings, slabs, scantlings, steps, curbs, and paving; marble mantle-pieces, and hearths; strong mason's truck, crabs, jacks, saws, and various tools; a twenty-six horse power high pressure steam engine, with boiler, screwing, and other machinery; 6-inch cast-iron pipe, two pairs of 36-inch forge bellows, anvils, vices, and a large assortment of smith's tools, steam coffee engine, weighing machines, useful building materials, street cab and effects, Old-street, by

MR. RICHARDS, on the Premises, 57, Brick-lane, St. Lukes, on MONDAY, July 27th, 1846, and following days, at 11 o'clock each day, by order of Mr. Robert Webb, Surveying Partner of Messrs ROBERT and GEORGE WEBB, Builders, &c.; the materials comprise girders, joists, plates, quartering partitions, doors, deals, new flooring boards, planks, and weather boarding, carpenter's benches, scaffold poles, boards, pudlocks, ladders, ropes, and various tools, oven tiles, plain ditto bricks, colour tubs, two coppers, water-closet apparatus, old iron, firewood, &c., &c.—May be viewed, and catalogues had on the premises and of the auctioneer, Tottenham.

NOTE.—In August, will be sold the lease of the premises, household furniture, counting-house, fixtures, and effects.

The valuable and important detached portion of the Bickley Estate, unconnected with the Park, and in or near the town of Bromley, offering most desirable sites for the purposes of building.—By,

MESSRS. HOGGART and NORTON, at the Mart, on FRIDAY, July 31, at 12, in lots. This important and valuable Freehold Property is situate in a fine healthy neighbourhood, long celebrated for the beauty of its scenery, and with the immediate prospect of the Mid-Kent Railway passing through the town of Bromley, where there will be a station, affording constant and easy access to all parts of the metropolis within 15 or 20 minutes. The mode of sub-division which has been arranged for the purposes of occupation or investment will be set forth in the particulars of sale; comprising an excellent detached residence, with gardens, pleasure grounds, and meadow land, containing together three acres and two roods, in the occupation of A. TAYLOR, Esq., at a rent of 115*l*. per annum; about 57 acres of land, fronting the Bishop's Palace and Park, in an admirable situation for building; the convenient Cottage Residence, with gardens and meadow land, in the occupation of the Rev. G. Verrall; the Garden Ground adjoining the lodge entrance to the Palace, and in the rear of, and forming part of the grounds of the White Hart Inn, containing about eight acres; several pieces of Building Ground on Bromley Common; also a valuable enclosure of Arable Land adapted for building, near the new church on Bromley Common, containing 2*a*. 0*r*. 20*p*.; and three inclosures of Arable Land adjoining, containing together 24 acres. May be viewed by permission of the respective tenants, and particulars had of Messrs. WOOD and BLAKE, Solicitors, Falcon-street; Messrs. BLAKE, KEITH, and BLAKE, Solicitors, Norwich, at the White Hart and Bell Inns, Bromley; at the Mart; and of Messrs. HOGGART and Son, 22, Old Broad-street, Royal Exchange.

500,000 BRICKS FOR SALE.

PRICES for CASH.—Flocks, 34*s*., Place, 28*s*. JOSEPH MEARS, Garratt Brickfield, near Tooting, or THOS. DUTTON, 53, Stone's End, Borough.

TO BE SOLD an Eight-roomed or a Six-roomed House, together or separate, substantially built and well tenanted.—Apply, F. G., Allington-street, Pimlico.

TO BUILDERS, CARPENTERS, AND OTHERS.

TO BE SOLD, Four Capital Carcases, situate in a highly respectable neighbourhood. Held for a term of eighty years, at a low ground rent.—For particulars apply to Messrs. ROBERTS and ROBY, Surveyors, &c., 24, Moorgate-street, Bank.

MIDDLESEX—FREEHOLD.

TO BE SOLD, a Plot of Freehold Building Ground, 150 feet frontage, by 50 feet in depth, land-tax redeemed, situate in Wood-street, Devonshire-road, Chiswick. Price 100*l*.—Address, W. T., No. 5, John-street, Roupell-street, Lambeth.

TO BRICKLAYERS, MASONS, AND OTHERS.

TO BE SOLD, in consequence of the death of the late proprietor, the business and stock in trade of a jobbing bricklayer; comprising a large quantity of useful scaffolding, pudlocks, boards, ladders, &c; also the house TO BE LET, with excellent yard and sheds, fitted up with every convenience for the business which has been carried on for many years, situate near Tottenham-court-road.—For further particulars, inquire of Mr. BOND, Auctioneer, and House Agent, 54, Seymour-street, Euston-square. (All letters post-paid).

BUILDING GROUND, PUTNEY, SURREY.

TO BE LET on Lease, sundry Plots of BUILDING GROUND (land-tax redeemed), suitable for the erection of villas and other residences, being delightfully situated, having a view of the River Thames, and contiguous to Putney-bridge, the steam-boat pier, and the Richmond railway, with constant and cheap communication to and from thence and all parts of the metropolis.—Apply to Mr. J. B. SHEPHERD, Surveyor, Chapel-place, Poultry.

TO BUILDERS AND OTHERS.

TO BE LET, on moderate Terms, about Twenty Acres of eligible Building Land, in the parish of Fulham, and in the immediate vicinity of the Thames. It will be let in one or in several lots, adapted for the erection of detached villas, and a plan and view of the ground, as laid out, have been prepared by Mr. MOFFATT, Architect, 20, Spring Gardens, where they may be seen, and any further particulars obtained.

TO BUILDERS AND OTHERS.

TO BE LET by TENDER, for a term of Sixty Years, an eligible Plot of Ground for building Houses in Dudley Court, leading from High-street, St. Giles's, to Crown-street, Soho. The neighbourhood is extremely populous, and houses for the working classes in great request, in consequence of the number lately taken down for the improvements in the immediate vicinity.—The plans and particulars may be seen on application to Mr. WILLIAMS, Solicitor, 31, Alfred-place, Bedford-square, or Mr. ANGELL, 18, Gower-street, between the hours of Ten and Four.

ST. JOHN'S WOOD PARK!!! IMMEDIATE CONNECTION WITH REGENT'S PARK.

BUILDING PLOTS TO BE LET in this most desirable and salubrious situation!! commanding picturesque views of the surrounding beautiful neighbourhood, and elevated within a few feet of the summit of the monument, with the best approaches of any suburban district near the metropolis, and greatest facilities of access to all the fashionable resorts and promenades of the West End and the City!—For particulars and plans, apply to W. H. TWENTYMAN, Esq., 11, Regent's-villas, Avenue-road, Regent's-park.

TO BUILDERS.—MATERIALS AND MONEY ADVANCED.

TO BE LET, on BUILDING LEASES, for ninety-six years, several very eligible plots of Freehold Building Ground, land-tax redeemed, for fourth-rate houses, situated in streets leading from the Queen's-road, Dalston, to Lansdown-place. This is one of the most rapidly improving neighbourhoods near London, and will be the principal thoroughfare from all parts westward to the new Victoria Park, from which it is only a quarter of a mile distant.—Apply to Mr. PALMER, on the premises.

FREEHOLD BUILDING LAND.—The most eligible plot of Building Land in the neighbourhood of London is now TO BE LET upon Building Leases for 97 years. It consists of a frontage for six villas, and is situated in the outer circle of the Regent's Park, nearly opposite the Long Walk, and adjoining Primrose-hill Park. The views from this plot embrace the Regent's Park, Primrose-hill Park, Hampstead, Highgate, and the adjoining country; yet, with all these advantages, omnibusses pass the site to the city several times in the day.—For further particulars, apply to Mr. LITTLE, 36, Northumberland-street, New-road.

KENT, PLUMSTEAD PARK.—TO LET, entire or in plots on building leases; term 500 years, to be granted direct from the freeholder; land-tax redeemed:—Plumstead-park is situated a short distance from the High Road leading from Woolwich to the Town of Plumstead, within a quarter of a mile of the intended South Eastern Railway Station, in the vicinity of the Royal Arsenal, Dock-yards, and other large Government Establishments, and not far from Blackheath, Charlton, &c. The prospect from the land, which never can be obstructed, is truly magnificent, and almost unbounded, the river view alone exceeding twenty miles; the park is beautifully timbered, and there is every means (a brook running through the land) of forming a lake or sheet of ornamental water; there is abundance of brick earth; in short, the estate altogether presents an opportunity for parties desirous of Building, either for Occupation or Investment, rarely to be met with; and two or three builders with capital might here make a fortune. Villa and other comfortable residences are much wanted in this delightful and healthy neighbourhood, and would instantly command first-rate tenants.—For further information, plans, &c., apply to Mr. WILLIAM HORSLEY, Solicitor, No. 8, Bank-chambers, Lothbury; or to Messrs. WYATT and BRANDON, Architects, 77, Great Russell-street, Bloomsbury; and Mr. JOHNSON, at the Farm House, Jackson's-road, opposite the land, who will produce a ground plan of the Park, and afford every facility for viewing the same.

ELIGIBLE BUILDING GROUND.—Any Public Company, Assurance Office, or other party, requiring a site of ground in a convenient and central part of the metropolis may hear of the same by application to SAMUEL ANGELL, Esq., Architect, 18, Gower-street, Bedford-square.

PUBLICATIONS.

TO HEIRS AT LAW AND NEXT OF KIN.

A complete List of the Advertisements that have appeared during the present century is now publishing in

THE CRITIC, the largest and cheapest literary journal in Europe, every Saturday, 32 folio pages, price 4*d*., or 5*d*. stamped. THE CRITIC contains also many new and original features. A copy, as specimen, sent to any person transmitting three postage stamps to the Critic Office, 29, Essex-street, Strand. To be had by order of all booksellers and newsmen.

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TO ARCHITECTS, BUILDERS, &c.

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Designs furnished for general interior finishings. Nos. 1 and 2 of their goods, suitable for the upholsterer and gilder, are ready for sale.

SEWERS, MIDDLESEX.—HOLBORN AND FINSBURY DIVISIONS.

NOTICE IS HEREBY GIVEN, that a Court of Sewers for Holborn and Finsbury Divisions, in the County of Middlesex, will be holden at the Sewers' Office, No. 7, Hatton Garden, on Friday, the 31st day of July, 1846, at One o'clock in the afternoon precisely.

JOSEPH UNWIN, Summoner and Cryer.

Sewers' Office, for Holborn and Finsbury Divisions, &c., No. 7, Hatton Garden.

TO BUILDERS AND OTHERS,

Interested in Buildings, or in ground for building upon, within the District of Holborn and Finsbury Divisions, the Parish of St. Leonard, Shoreditch, and the Liberty of Norton Folgate, in the County of Middlesex, and the borders and confines of the same.

THE COMMISSIONERS of SEWERS for the above Limits do HEREBY GIVE NOTICE, that, previous to making any new sewer in any street, lane, or public way, or in any part intended to become a street, lane, or public way, or to carry or drain off water from any house, building, yard, or ground, into any sewer under their management, or within their jurisdiction, application must be made by petition, the form of which may be had at their office; to which must be attached, a plan of the intended line of sewer; and which must be constructed conformably with their regulations.

And, in order to prevent the serious evils and inconveniences that must arise from ground proposed to be built upon being excavated to too great a depth, the Commissioners have directed that, upon application being made at their office, previous to the excavation of such ground, information shall be given as to the lowest depth at which the same can be drained.

And the Commissioners do also Give Notice, that whenever the lowest floors or pavements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any sewers, or drains into sewers, to be made for the service of such buildings: and further, that no buildings or erections of any kind will be permitted to be made upon or over any sewer.

All Communications made with any public sewer, without previous application, as aforesaid, will be stopped out, and the parties making the same will subject themselves to a fine.

By the Court, STABLE AND LUSH, Clerks.

*** The Public is also informed, that all rates imposed by the said Commissioners are to be paid by the tenant, and allowed by the landlord out of the rent, except where the tenant, by special covenant or agreement, is bound to defray the same.

LONDON: Printed by CHARLES WYMAN, of 49, Cumming-street, Pentonville, in the County of Middlesex, Printer, at the Printing-office of J. & H. COX, *Brothers*, 74 & 75, Great Queen street, Lincoln's-inn Fields, in the Parish of St. Giles-in-the-Fields, in the same County; and published by the said CHARLES WYMAN, at the office of "THE BUILDER," 2, York-street, Covent Garden, in the Parish of Saint Paul, Covent Garden, in the said County.—Saturday, July 25, 1846.

The Builder,

A JOURNAL FOR

The Architect, Engineer, Operative & Artist.

VOL. IV.—No. 182. | AUGUST 1, 1846. | *Price* ..... 3*d.* *Stamped* ..... 4*d.*

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ADVERTISEMENTS.

TO BUILDERS.

WANTED to Article a respectable Youth, aged nineteen, in a good shop of work, to finish learning the business. References given and required.—Address, post-paid, to A. M., 160, High-street, Camden-town.

WANTED, by a Builder, a Person competent of undertaking the duties of Clerk and Managing Man; he must be capable of measuring, estimating, setting-out work, &c. Salary moderate; good references expected; a carpenter by trade preferred.—Apply by letter, stating full particulars, to A. B., 59, Artillery-lane, Bishopsgate.

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WANTED, by the Advertiser, a situation as BUILDER'S CLERK OR FOREMAN; has had considerable experience both in town and country;—thoroughly understands measuring, book-keeping, drawing, and making correct estimates;—has no objection to work at the bench. Wages, 6s. per day; time, from six in the morning until seven or eight in the evening.—Address, for full particulars, to J. O., Office of "The Builder."

TO PLUMBERS, PAINTERS, AND GLAZIERS.

THE Advertiser, an Industrious and Steady man, having a practical knowledge of plumbing, painting, glazing, and glass-cutting, is in want of a Situation as Working Foreman. Please to direct to A. B., at Mr. Short's Coffee-house, Leman-street, Whitechapel.

ARCHITECTURAL MENSURATION.

A SURVEYOR of considerable experience continues to give instruction in Measuring and Estimating every description of Builders' Work on very moderate terms.—Apply by letter, free, to B. B., care of Mr. Tyler, upholsterer, &c., No. 1, Great Turnstile, Holborn.

FOREMAN TO MASONS.

A CLEVER, active, improving Young Man, accustomed to make working drawings, having some practical knowledge of carving and letter-cutting, and of strict moral character, may hear of a good situation (if approved), by application, stating age, references, &c. addressed to Y. Z., Post-office, Leicester.

N.B. A decidedly religious man would be preferred.

PRACTICAL MATHEMATICS, LAND SURVEYING, LEVELLING, &c.

YOUNG GENTLEMEN wishing to be instructed in those departments of Practical Mathematics that find their applications to Architecture, Constructive Carpentry, Engineering, Land-surveying, Levelling, Mechanics, &c., are most respectfully informed, that those branches are taught in private lessons by WILLIAM TURNBULL, at 27, Whiskin-street, Clerkenwell, where terms and particulars may be had on application.

AN Architectural ARTIST of considerable experience, and accustomed to the execution of first-rate Exhibition Designs, will be glad to engage with an Architect of eminence. — Address, post-paid, to W. C., Mudie's Library, 28, Upper King-street, Bloomsbury-square.

A STRONG, active Young Man, who has had three years' practice at carpenter's and joiner's work, wishes to engage himself to a master where he can improve himself. Wages not so much an object as the chance of improvement.—Direct to JOHN CORDERY, near the Swan Inn, Hanworth, Middlesex.

A VERY Respectable Young Man, who has had much and various experience, a fair Draughtsman, understands Specifications, Estimating, and Measuring, and Valuing Works, Superintending Workmen, and Setting out Works generally, wishes for an Engagement in any capacity most advantageous to an employer. In a leading situation as managing a respectable builder's business, clerk of the works to a gentlemen, or practically under architect, he would be found serviceable. The highest references.—Address, B. Z., 28, Seymour-place, Bryanstone-square, London.

CONTRACTS.

TO BRICKMAKERS.

TENDERS required for making a Million of BRICKS, about thirty miles down in the country. A portion of the bricks to be made this season, the remainder early in the spring.—Further particulars may be ascertained on application to Mr. HILL, between the hours of Ten and Four, at the office of the National Land and Building Association, No. 2, Bartlett's-buildings, Holborn-hill, London.

TO CONTRACTORS, BUILDERS, &c.

THE Committee appointed to RE-BUILD the PARISH CHURCH of RUNCORN are ready to receive a Tender or Tenders for the erection of the whole, or any part or parts, of the work involved in the undertaking. The Plans and Specifications may be inspected upon applying to W. HARTLEY, Old Quay, Runcorn; and all Tenders, sealed up, and superscribed with the word "Tender," to be transmitted to W. BLADON, Runcorn, the Secretary to the Committee, on or before the 15th day of August next.

Runcorn, 15 July, 1846.

TO BUILDERS, IRON-FOUNDERS, AND PAINTERS.

SUCH Persons as may be desirous of offering TENDERS for taking down and rebuilding the walls, iron-railing, and gates, and painting the ironwork in front of the Parish Church of Saint Leonard, Shoreditch, may see the drawings and specification in the Vestry-room at the Church, on and after Monday, the 3rd inst., between the hours of 9 and 12 o'clock, until Tuesday the 11th day of August next. Tenders, sealed and indorsed, are to be delivered at the church before eleven o'clock on that day. The churchwardens do not pledge themselves to accept the lowest or any other tender.

JEREMIAH LONG,
ROBERT BLACK, } Churchwardens.

TO BUILDERS.

THE Guardians of the Hungerford Union are desirous of receiving TENDERS for the erection of a Workhouse at Hungerford, Berks. The Drawings, Specification, and Conditions, may be seen on application to Mr. FODEN, the Architect, No. 12, North-place, Gray's Inn-road, London. The quantities will be taken out and ready for delivery by the 19th of August, to parties who may apply on or before the 12th of August, and pay One Guinea for a copy of them. The Tenders to be delivered at the Board Room at Hungerford, before Ten o'clock in the forenoon of the 26th of August next; after which hour no tender will be received. The guardians do not pledge themselves to accept the lowest tender.—By order of the Board,

Ramsbury, 18th July, 1846. WM. ROWLAND, Clerk.

IFIELD, NEAR CRAWLEY, SUSSEX.—TO MASONS AND CARPENTERS.

PERSONS desirous of TENDERING for works required to be done in repewing, restoring, and improving the Parish Church of Ifield, may inspect the plans and specifications thereof at the Vicarage House, between the hours of 9 A.M., and 6 P.M., each day (Sundays excepted), until Tuesday, the 11th day of August, on which day, Sealed Tenders will be received at the Vicarage, directed to the Rev. G. H. SCOTT. Further particulars (if required), may be obtained of Mr. MACKINTOSH, the Architect, Exeter; or of Mr. HOLLOWAY, the Clerk of the Works, West Grinstead; who will also be in attendance at the Church on Tuesday and Wednesday, the 4th and 5th of August, and on Monday the 10th of August. No Tender will be accepted unless the parties are approved of, and no allowance will be made for estimates.

Ifield, July 29th, 1846.

CONTRACTS.

TO CONTRACTORS, BRICKLAYERS, AND OTHERS.

Court of Sewers, Tower Hamlets' —

NOTICE IS HEREBY GIVEN, that the Commissioners of Sewers for the Tower Hamlets' (excluding St. Katharine's and Blackwall Marsh), at their meeting to be held on Tuesday, the 11th day of August next, at Two o'clock in the afternoon precisely, at the Office of Sewers, No. 15, Great Alie-street, Goodman's-fields, will be ready to receive TENDERS (sealed up) from any persons or person willing to enter into contract for the works necessary in extending the sewer from Butcher-row along White Horse Street and Salmon's Lane, being a length of 1,800 feet or thereabouts, in the Hamlet of Ratcliff. A plan and specification of the said works, with the forms of tender, may be inspected at the Office of Sewers, daily, between the hours of Eleven and Four o'clock.

The contractor will be required to sign a provisional agreement to secure the due execution of the said contract, and to give the names and addresses of two sureties to become bound in a sufficient penalty for the due performance of the said works. The expense of the deeds will be borne by the Commissioners: no tender will be received after the hour of meeting, nor in any other form than that prescribed by the Commissioners, nor unless the party tendering, or some person duly authorized, attend on his behalf to answer when called upon. Dated this 29th day of July, 1846.

JOHN WILLIAM UNWIN,
Clerk to the Commissioners.

N.B. The Commissioners do not pledge themselves to accept the lowest tender.

TO ARCHITECTS.

IT having been decided, at a Vestry Meeting, to rebuild the Parish Church of Holy Rhord, Southampton, Architects desirous of sending in Plans and Estimates for this purpose, are hereby requested to forward them to the secretary on or before the 10th day of September next. It is intended that the present STEEPLE shall remain, and that the total cost shall not exceed the sum of 3,500*l.*—By order of the Committee,

FREDERICK RUSSELL, Secretary.

*** All communications to be addressed, free, to the Rev. F. RUSSELL, 6, Rockstone-terrace, Southampton.

TO CONTRACTORS.—WHARFING AT BOW CREEK.

TENDERS are required for the construction of a piled jetty and timber gangeways, leading from thence to the adjacent coke ovens, situated on the east side of Bow creek. Also the dredging in front of the jetty for ship's berths.—Plans and specification may be seen at the office of Messrs. DUKE and HALL, No. 32, St. Mary's-hill, Thames-street, on THURSDAY, July 30th, and information had on the spot at the wharf, on Friday, between the hours of Twelve and Three. Tenders to be sent to the above office, endorsed "Tender for Wharf and Dredging at Bow Creek," on Thursday, August 6th.

TO BUILDERS.

THE Directors of the Gravesend and Milton Water Works Company are ready to receive from any person or persons Proposals for the performance of the several Extension of Works required in erecting and making a Reservoir, Well, Shaft, Tunnel, and other Works on the premises of the Company, in Milton, near Gravesend.—Plans and a Specification of the several Works may be seen at my Office, and any information obtained thereon of JAMES SIMPSON, Esq., engineer, 33, Great George-street, Westminster, or on the Premises of the Company, where he will attend on the 27th inst. Tenders (sealed) indorsed "Tender for Reservoir and Works," are to be left at my Office previous to Thursday, the 10th day of August next, when the Directors will meet on the premises of the Company to receive and consider the same, and when parties tendering are required to attend. Parties whose tenders may be accepted will have to enter into a contract (with security, by bond of two sureties in 500*l.*) for the due performance of the contract and works, the expenses of such contract and security being paid by the Directors and Contractor in equal moieties.

The Directors will not be bound to accept the lowest tender, if it shall appear to them inexpedient to do so.—By order of the Directors,

FRAS. SOUTHGATE, Clerk.

Gravesend, 20th July, 1846.

TO ARCHITECTS, BUILDERS, &c.

GAS LAMPS, GAS BRACKETS, GAS PILLARS, BURNERS, &c. &c. In calling the attention of architects, builders, &c., to their assortment of Gas Furniture in general, C. DEBAUFER and SON respectfully announce they continue to fit up premises of every description on the most approved and newest system of gas fitting. An experience of forty years justifies us in making the above assertion.—P.S. Country orders attended to with dispatch.

10 and 11, Creed-lane, St. Paul's.

TO BUILDERS, PAINTERS, DECORATORS, AND OTHERS.

MESSRS. WOOD AND COMPANY, Grainers and Writers to the Trade only, by contract, measure, or otherwise.

62, Waterloo Bridge-road. All letters post paid.

N.B. Workmen sent to any part of the kingdom.

*** An Apprentice wanted.

FRENCH PAPER-HANGINGS.—The Trade are respectfully informed, that at the Depôt of Messrs. MARKS and CO. is concentrated a most extensive stock, with weekly additional consignments, all the newest and most elegant patterns in Piece Paper and Decorations, at Parisian prices, with the reduced duty of 2d. per yard. — 59, Princes-street, Leicester-square. Established 1834.

TO PAPER-HANGERS, HOUSE-DECORATORS, BUILDERS, SHIPPERS, &c.

JOHN TODD MERRICK & Co., having removed to their new Manufactory in New Oxford-street, take the opportunity of soliciting the inspection of the Trade to their extensive stock of paper-hangings, comprising every variety, from the cheapest to the most costly and elegant drawing-room patterns. They also invite attention to their complete assortment of panelled decorations, suitable for every description of room; and beg to announce that they are now ready to receive orders, furnish estimates, and enter into contracts in any situation, and to guarantee the execution of them in the first style.

J. T. M. and Co. beg to state, that they will execute any French pattern that may be brought to them, fully equal in quality, at the same price that it can be purchased in Paris, thereby effecting a saving of the duty and carriage to the purchaser. They are, however, constantly receiving importations of the newest designs, having entered into an arrangement with an important Paris house for their regular supply.

DAY'S PATENT WINDGUARD, for ventilating

Churches,	Shops,	Kitchens,
Hospitals,	Bed-rooms,	Offices,
Factories,	Smoking-rooms,	Ships,
Theatres,	School-rooms,	Mines,
Breweries,	Nurseries,	Vaults,
Malt-houses,	Stables,	Tunnels,
Club-houses,	Larders,	&c. &c.

Also for preventing down draft; and is guaranteed to cure all smoky chimneys caused by wind; and entirely supersedes the use of revolving cowls, or any thing moveable or unsightly on the tops of chimneys or ventilators.

The object of this invention is to create a draft where otherwise it would not exist, by the spontaneous action of the external air. The Windguard forms a pleasing octagonal pillar, and by its peculiar construction to carry out the principle on which it is based, which consists of the wind giving a disposition for a vacuum within, thereby causing a continual upward current about equal to the velocity of the wind at the time acting upon it, which averages about six feet per second thirty days out of thirty-one; therefore, will nearly at all times ensure a continual change of air, being no impediment to spontaneous ventilation, even on a perfectly calm day. One five feet square will ventilate a building containing upwards of 1,000 persons. The Windguard applied to ships and steam vessels, in the form of a sky-light, prevents rain or the sea entering within, however boisterous the weather may be, thereby affording excellent ventilation as well as light. The Windguard is simply applied for effectually ventilating bed-rooms, nurseries, smoking-rooms, offices, &c., causing the air of the apartment to be at all times as pleasant as can be desired. It is fixed at the top of the chimney, in addition to which, a cast-iron frame and valve (about one foot area), made to open or shut at pleasure, is let into the flue, near the ceiling of the room, to allow the constant ascending vitiated air being immediately carried off. The opening is guarded by a neat venetian blind or grating; and so powerful is the effect on a windy day that if a handkerchief be thrown up to the grating it will remain there—i. e. if the valve be open. In winter the valve would be only partially open, to allow the smoke from the fire to ascend, but if the room be found too cold, can be entirely closed. The Windguard applied to the tops of chimneys prevents all annoyance from smoke (caused by wind); indeed, where it does not, nothing else applied at top will (of the same size); care, therefore should be taken to have the proper size applied. It is simple in its application, reasonable in price, ornamental in appearance; no machinery or anything moveable in it, therefore, cannot get out of order; free from noise or any uncleanliness whatever; not liable to choke up with soot; no obstacle to the machines used for sweeping chimneys. May be had of all respectable ironmongers in town and country; and may be seen daily in operation, where its powers and usefulness are exhibited by the severest tests, at THE PATENT VENTILATING WORKS, COMMERCIAL-ROAD, PIMLICO, LONDON; where also may be seen Mr. G. T. DAY'S plans illustrating the different applications of his Patent Archimedian Ventilator and his Portable Water Apparatus) for effectually Ventilating, Warming, and Cooling the Air of Buildings, Ships, Mines, &c. &c. By the use of these inventions many thousand cubic feet, or any quantity of pure warm or cold air, can be guaranteed to be continually exchanged per minute, day and night, winter and summer; thereby insuring, at all times, free ventilation to the rooms and passages of buildings, &c. from the basement to the roof, at the same time in such a manner as shall not be inconveniently perceptible. The size of the apparatus depends on the nature and use of the building and its occupants. The Patentee has been honoured by his inventions being applied at the following places:—

Windsor Castle,	Trinity House,
Buckingham Palace,	Ordnance,
Saint James's Palace,	Greenwich Hospital,
Claremont Palace,	Christ's Hospital,
Walmer Castle	Westminster Hospital,
The Houses of Parliament,	Bethlehem Hospital,
New Conservative Club,	Surrey Lunatic Asylum,
White's Club,	New Royal Exchange,
Travellers' Club,	Mansion House,
Oxford and Cambridge,	Goldsmiths' Hall,
Parthenon,	Fishmongers' Hall,
Wyndham,	Haberdashers' Hall,
Army and Navy,	Dyers' Hall,
Senior United Service,	Grocers' Hall,
Junior United Service,	Armourers' Hall.
Admiralty,	Weigh-house Meeting-house
British Museum,	Hanover Square Rooms,
Somerset House,	Theatre of the Westminster
Custom House,	Literary and Scientific Institution,
Mint,	Grand Cigar Divan, Strand,
Hon. Artillery Company,	City Club,
H. M. S. Salamander,	

And many other Public Buildings in Town and Country, as well as to the Mansions of many Noblemen and Gentlemen. Licenses granted for Manufacturing the above.

Drawings and Plans made for Ventilating and Warming Buildings of every description.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery

Best Patent Cut Clasp.

3d.	4d.	6d.	9d.	10d.	20d.
5d.	6d.	7d.	11d.	1s. 4d.	1s. 10d. per 1000.

Best Sheet Floor Brads 15s. per cwt.

Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 5d½., 7d., 8d. per inch.

Self-acting Kitchen Ranges with Oven and Back Boiler.

Wrought Bars and Bright Fittings.

3 ft., 3l. 3s.	3 ft. 6 in., 3l. 12s. 6d.	4 ft., 4l.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3l. 5s.	3l. 13s.	3l. 16s.	4l.	4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5l.	5l. 15s.	6l. 5s.	6l. 10s.	7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.

Do. Elliptic do., at 3½d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

EVANS'S SELF-ACTING KITCHEN RANGES continue to maintain their superiority over all others; they are adapted for Roasting, Boiling, Steaming, and Baking in the best manner, and yield a constant supply of hot water, and are constructed on economical principles, with open fires, which may be contracted or extended at pleasure; and are not liable to produce the unwholesome smell and great destruction of fuel inseparable from the close shut-up Ranges. Every article for the kitchen in copper, iron, and block tin.—J. EVANS and Co., Stove-grate Makers and Furnishing Ironmongers, 33, King William-street, London-bridge.

HOT WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories, and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises. BENJAMIN FOWLER, 53, Dorset-street, Fleet-street.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 108, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

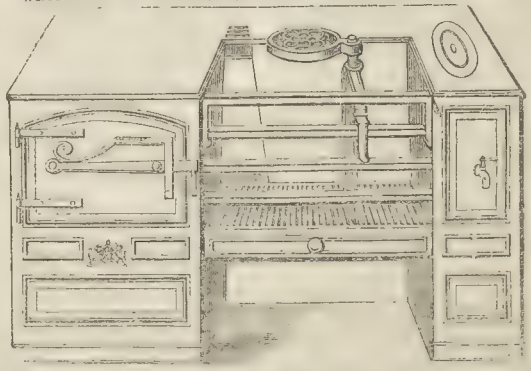
HEAL & SON'S LIST OF BEDDING.

CONTAINING a full description of Weights, Sizes, and Prices, by which purchasers are enabled to judge the articles that are best suited to make a good set of bedding. Sent free by post, on application to their establishment, the largest in London, exclusively for the manufacture and sale of bedding (no bedsteads or other furniture being kept).

HEAL and SON, Feather Dressers and Bedding Manufacturers, 196 (opposite the Chapel), TottenhamCourt Road.

THE PANKLIBANON IRON WORKS,

WHOLESALE AND RETAIL, 58, BAKER STREET, PORTMAN SQUARE.



ARCHITECTS, BUILDERS, and Others, about to supply STOVES and KITCHEN APPENDAGES, will find at this Establishment the most unique and elegant assortment of STOVE-GRATES, FENDERS, and FIRE-IRONS ever offered to the Public, at prices considerably below the usual charges. The Proprietors at the same time beg to invite attention to their extensive Stock of FURNISHING IRONMONGERY, Tinned Copper, Tin and Iron Cooking Vessels, Block Tin Dish-Covers, Japanned Ware, Table Cutlery, and especially their Sheffield Plate and German Silver Wares, embracing every Article suitable for the Table, comprising Dish and Plate Covers, Liquor Frames, Epergnes, &c. &c. The plan adopted by the Proprietors of affixing the price to each article for cash, enables all purchasers to have the same advantage. The Patent Thermio Stove is in daily operation. Also Cundy's Improved Hot-air Stoves, for Heating and Ventilating Rooms.

THORPE, FALLOWS & COMPANY, 58, Baker-street, Portman-square, London.

HOLBORN AND FINSBURY SEWERS, MIDDLESEX.

THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persons about to Purchase or Rent Houses or Property, or take Land for Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Persons to apply for at the above Office.

By the Court.

STABLE and LUSH, Clerks.

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDDLESEX, No. 1, Greek-street, Soho-square.

TO BUILDERS and Others interested in buildings or in ground for building upon, within the district under the jurisdiction of this Court, drained by watercourses falling into the river Thames, between the city of London and the parish of Fulham.

The Commissioners hereby give notice, that by an Act of the 47th Geo. III. (chap. 7, local) it is required that, previously to the making of any new sewer in any street, lane, or public way, or in any part intended to become a street, lane, or public way, or to carry or drain off water from any house, building, yard, or ground, into any sewer under their management, or within their jurisdiction, a notice in writing shall be given to them, or to their clerk at their office, and that such new sewer or sewers shall be constructed and made in such manner and form as shall be directed by the said Commissioners, and not otherwise.

And, in order to prevent the serious evils and inconveniences that must arise from ground proposed to be built upon being excavated at too great a depth, the Commissioners have directed that, upon application being made at this office previously to the excavation of such ground, information shall be given as to the lowest depth at which the same can be drained.

And the Commissioners do also give notice that, whenever the lower floors or pavements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any sewers, or drains into sewers, to be made for the service of such buildings.

It is recommended to all persons about to purchase or take houses, or other premises, to ascertain whether such premises have separate and distinct drains into common sewers.

All petitions must be delivered at this office at least three clear days before they are presented to the commissioners; and all such petitions will be called on in the order of their application, and the name of any party not present when called on to support the application will be struck out, and the proceedings must in consequence be commenced de novo.

All communications made with any sewer without leave of the Commissioners will be cut off, and the parties making the same will subject themselves to a fine.

The provisions of the Metropolitan Buildings Act (7 and 8 Victoria, c. 84) do not supersede the authority of the Commissioners of Sewers in the above respects, but their powers are expressly reserved, and their regulations made subservient to the purposes of the Act. The execution of such works, under the superintendence of the district surveyor alone, cannot therefore warrant the making of any sewers or drains within this commission, nor relieve the parties making them from the penalties above mentioned.

By order of the Court.

LEWIS C. HERTSLET, Clerk.

TO CIVIL ENGINEERS, SURVEYORS, &c.

HENRY POPE, Wholesale Stationer, desires to return his best thanks to the Profession for their support, which has secured to him so large a sale of his mounted drawing papers, and from which he has made arrangements to keep a large stock always on hand, as well as tracing, drawing-papers, and every description of general stationery, which may be had at the wholesale prices.

N.B. Maker of the Metallic, Levelling, and Surveying Field Books, with Patent Pencil. 23, Budge-row, Watling-street, City.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.

Manufactured by J. B. WHITE and SONS. of Millbank-street, Westminster; and sold at their warehouses—Earl-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

ATKINSON'S CEMENT.

Rotherhithe Cement Works, Church-street, Rotherhithe.

WILLIAM WOOD, Jun., Manufacturer of Bath, Portland, and Roman Cements, Blue and White Lias Lime, &c. &c., begs to inform Architects, Builders, and others, that he is appointed AGENT for the sale of ATKINSON'S CEMENT, and has just received a shipment direct from the Works, which is now ready for sale, in any quantity, at the price of 2s. 3d. per bushel.—WILLIAM WOOD, Jun., also begs to call the attention of the public to his Bath Cement, which he thinks will merit approbation. It is of a very light colour, and will take up more sand than any cement now in use; requires no paint, and is well adapted for ornamental castings of every description, however elaborate; 2s. per bushel, delivered free within three miles of the works.

PATENT METALLIC SAND CEMENT, requiring no colour or paint, and free from cracks and blisters, mixed ready for use at 8s. per cask; 2s. 6d. allowed for each cask returned in good order. 3½ bushels common sand to be added to each cask of Metallic Cement, which will float 14 square yards of stucco.—Apply at the Metallic Cement Wharf, King's-road, Camden New Town.

THE PROJECTED RAILWAYS.

BENSON, LOGAN, and CO.'S PATENT METALLIC SAND CEMENT.—Its merits, as stated in letter to the Proprietors, by James Thomas Knowles, Esq., Architect, Raymond's Buildings, Gray's Inn, are:

1st—"The great tenacity with which it adheres to brick, stone, and iron.

2ndly.—"Its freedom (when properly applied) from those cracks and flaws, by which the cements generally used for external stuccoing are so frequently disfigured.

3dly.—"The total absence of the unsightly tint produced by vegetation.

4thly.—"The increased hardness which it acquires from exposure to atmospheric influences.

5thly.—"The great beauty, accuracy, and durability of the mouldings, capitals of columns, crockets, finials, and other architectural enrichments and decorations formed of it, the smallest and most delicate members of which, as well as the sharpest arises, have withstood uninjured the severities of our climate during many winters, and now present the same perfect and highly finished appearance as would be produced by stone carvings carefully executed.

6thly.—"The excellent and agreeable tone of colour which it assumes naturally, and retains without the aid of any colouring or painting.

"And lastly, its extreme hardness and almost entire incompressibility when used as a mortar in the construction of inverted or relieving arches, foundations under important superstructures, and small bearing piers, which have to sustain great weights. For all these purposes it has been extensively used under my directions, and in some cases has been exposed to very severe trials. The results have, however, without one exception, been most satisfactory; and I do not believe that there are any known substances so well adapted for the execution of works, in which the greatest strength and durability are essential."

Price of Metallic Sand at Swansea (place of manufacture), 10s. per ton, or supplied in London at 20s. per ton of twenty-one bushels.

Further information will be given, and specimens shewn, on application to Mr. C. R. DYER, 4, New Broad-street, and at the Metallic Cement Wharf, King's-road (opposite Pratt-street), Camden New Town, London.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate or any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted discolour. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, produceable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Millbank-street, Westminster,

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.

2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.

3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE,

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

PATENT GALVANISED TINNED IRON, (MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and water-closets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 9oz. to any required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quick-set-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

By Her Majesty's Royal Letters Patent.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED METAL.—This article was at first sold under the name of Galvanised Tin Plates, but the Patentees finding that the public, in some instances, overlooking the word Tin, confounded the article with Galvanised Iron, and that the character of their metal has thereby sustained injury, are desirous of giving it a name so distinctive as to prevent such mistakes, and consequent disappointment to purchasers in future. They therefore respectfully request purchasers to inquire for MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON. In order to enable the public readily and at first sight to distinguish between the two metals, it may be well to inform them, that Galvanised Iron has a plain zinc-like appearance, while M. and R.'s Patent Galvanized Tinned Iron has a smooth crystalline surface.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON, Patronized by the Admiralty and the Honourable Board of Ordnance, being extensively used in her Majesty's Dock-yards, at the Tower, and elsewhere, for every variety of Roofing, and other purposes, where a strong, light, cheap, and durable material is required.

It has been found by experience that this article is beyond all comparison superior to zinc; possessing, as it does, all the advantages arising from the strength and firmness of iron, combined with perfect immunity from rust; whilst it is free from the very serious objection which applies to zinc, viz. its contraction and expansion, consequent upon every change of temperature, and from which circumstance leakage must of course result.

This material is not likely to be destroyed by fire, as is the case with zinc and lead, which melt and run down, thus freely admitting fresh air to the fire, and causing it to burn more fiercely. It is, therefore, obviously well adapted for all the purposes above-named, and most importantly so, when there is the possibility of fire. It is also peculiarly suitable for chimney-tops, gutters, spouting, and out-door work generally, possessing the strength of iron, without its liability to corrosion. It is by far the most economical metal roofing that can be obtained, in consequence of its strength, as it may be laid without boards, and upon the lightest rafters.

This mode of preserving metal from rust does not only apply to sheet-iron, but also to manufactured iron in any form, as bolts, nuts, hinges, nails, &c. &c.

For full Particulars apply to S. HOLLAND, 34, Grace-church-street.

FINE ARTS.

By Her Majesty's Royal Letters Patent.

LORIMIER'S TRANSPARENT PLANES for Perspective Drawing; BENJAMIN WEST, Patentee.

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Price 18s. and 20s. Apply for Agents to BENJAMIN WEST, 3, St. James's-walk, Clerkenwell.—Sold by BARRITT and Co., 173, Fleet-street, London; GRIFFIN and Co., Glasgow, and by all Fancy Stationers, &c.

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A complete List of the Advertisements that have appeared during the present century is now publishing in

THE CRITIC, the largest and cheapest literary journal in Europe, every Saturday, 32 folio pages, price 4*d.*, or 5*d.* stamped. THE CRITIC contains also many new and original features. A copy, as specimen, sent to any person transmitting three postage stamps to the Critic Office, 29, Essex-street, Strand. To be had by order of all booksellers and newsmen.

N.B. The fourth monthly part for the present year is now ready, containing 128 large pages of amusing and instructive matter for eighteen-pence only.

THE PATENT JOURNAL, price 3*d.*, is published every week. It contains the specifications of all new PATENTS, with descriptions of registered inventions, Illustrated copiously with Engravings, together with a weekly List of Patents and Registrations and scientific articles.

"No mechanic, manufacturer, patentee, or inventor, should be without the 'Patent Journal.'"—*The Herald.*

"There can be no hesitation in recommending this work to all parties engaged in manufactures—and the public at large will find in it useful information, recipes, &c."—*Aris's Birmingham Gazette.*

Published by BARLOW and LE CAPELAIN, the Patent Office, 89 and 36, Chancery-lane, and to be had of all booksellers in town and country.

CONTRACTS.

TO BUILDERS.

THE Guardians of the Hungerford Union are desirous of receiving TENDERS for the erection of a Workhouse at Hungerford, Berks. The Drawings, Specification, and Conditions, may be seen on application to Mr. FODEN, the Architect, No. 12, North-place, Gray's Inn-road, London. The quantities will be taken out and ready for delivery by the 19th of August, to parties who may apply on or before the 13th of August, and pay One Guinea for a copy of them. The Tenders to be delivered at the Board Room at Hungerford, before Ten o'clock in the forenoon of the 26th of August next; after which hour no tender will be received. The guardians do not pledge themselves to accept the lowest tender.—By order of the Board,

Ramsbury, 18th July, 1846. WM. ROWLAND, Clerk.

TO CONTRACTORS, BRICKLAYERS, AND OTHERS.

Court of Sewers, Tower Hamlets'—

NOTICE IS HEREBY GIVEN, that the Commissioners of Sewers for the Tower Hamlets' (excluding St. Katharine's and Blackwall Marsh), at their meeting to be held on Tuesday, the 11th day of August next, at Two o'clock in the afternoon precisely, at the Office of Sewers, No. 15, Great Alie-street, Goodman's-fields, will be ready to receive TENDERS (sealed up) from any persons or person willing to enter into contract for the works necessary in extending the sewer from Butcher-row along White Horse Street and Salmon's Lane, being a length of 1,600 feet or thereabouts, in the Hamlet of Ratcliff. A plan and specification of the said works, with the forms of tender, may be inspected at the Office of Sewers, daily, between the hours of Eleven and Four o'clock.

The contractor will be required to sign a provisional agreement to secure the due execution of the said contract, and to give the names and addresses of two sureties to become bound in a sufficient penalty for the due performance of the said works. The expense of the deeds will be borne by the Commissioners: no tender will be received after the hour of meeting, nor in any other form than that prescribed by the Commissioners, nor unless the party tendering, or some person duly authorized, attend on his behalf to answer when called upon. Dated this 29th day of July, 1846.

JOHN WILLIAM UNWIN,
Clerk to the Commissioners.

N.B. The Commissioners do not pledge themselves to accept the lowest tender.

TO ARCHITECTS. — WANTED DESIGNS for a range of Associative Buildings, to be placed in the form of a crescent, the central building to consist of a spacious dining-room, above which there is to be a library and reading-room and behind a large kitchen. The two horns of the crescent to be formed by three to five hundred habitations, each of which is to communicate with the central building by a covered way. School-rooms to be placed contiguous or very near to the crescent, and workshops at a short distance. The designs to be sent in by September 12; the Advertiser, not undertaking in the first instance to employ professionally the Architect whose design is selected, but to pay a small premium, has the privilege of retaining the design.—For further particulars, applications to be made to Mr. HILL, at the office of the National Land and Building Association, No. 2, Bartlett's-buildings, Holborn-hill, London.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.

Manufactured by J. B. WHITE and SONS, of Millbank-street, Westminster; and sold at their warehouses—Earl-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new building north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Millbank-street, Westminster.

PATENT METALLIC SAND CEMENT, requiring no colour or paint, and free from cracks and blisters, mixed ready for use at 8s. per cask; 2s. 6d. allowed for each cask returned in good order. 3½ bushels common sand to be added to each cask of Metallic Cement, which will float 14 square yards of stucco.—Apply at the Metallic Cement Wharf, King's-road, Camden New Town.

THE PROJECTED RAILWAYS.

BENSON, LOGAN, and CO.'S PATENT METALLIC SAND CEMENT.—Its merits, as stated in letter to the Proprietors, by James Thomas Knowles, Esq., Architect, Raymond's Buildings, Gray's Inn, are:—

1st.—"The great tenacity with which it adheres to brick, stone, and iron.

2ndly.—"Its freedom (when properly applied) from those cracks and flaws, by which the cements generally used for external stuccoing are so frequently disfigured.

3dly.—"The total absence of the unsightly tint produced by vegetation.

4thly.—"The increased hardness which it acquires from exposure to atmospheric influences.

5thly.—"The great beauty, accuracy, and durability of the mouldings, capitals of columns, crockets, finials, and other architectural enrichments and decorations formed of it, the smallest and most delicate members of which, as well as the sharpest arises, have withstood uninjured the severities of our climate during many winters, and now present the same perfect and highly finished appearance as would be produced by stone carvings carefully executed.

6thly.—"The excellent and agreeable tone of colour which it assumes naturally, and retains without the aid of any colouring or painting.

"And lastly, its extreme hardness and almost entire incompressibility when used as a mortar in the construction of inverted or relieving arches, foundations under important superstructures, and small bearing piers, which have to sustain great weights. For all these purposes it has been extensively used under my directions, and in some cases has been exposed to very severe trials. The results have, however, without one exception, been most satisfactory; and I do not believe that there are any known substances so well adapted for the execution of works, in which the greatest strength and durability are essential."

Price of Metallic Sand at Swansea (place of manufacture), 10s. per ton, or supplied in London at 20s. per ton of twenty-one bushels.

Further information will be given, and specimens shewn, on application to Mr. C. K. DYER, 4, New Broad-street, and at the Metallic Cement Wharf, King's-road (opposite Pratt-street), Camden New Town, London.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 6, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, produceable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

ATKINSON'S CEMENT.

Rotherhithe Cement Works, Church-street, Rotherhithe.

WILLIAM WOOD, Jun., Manufacturer of Bath, Portland, and Roman Cements, Blue and White Lias Lime, &c. &c., begs to inform Architects, Builders, and others, that he is appointed AGENT for the sale of ATKINSON'S CEMENT, and has just received a shipment direct from the Works, which is now ready for sale, in any quantity, at the price of 2s. 3d. per bushel.—WILLIAM WOOD, Jun., also begs to call the attention of the public to his Bath Cement, which he thinks will merit approbation. It is of a very light colour, and will take up more sand than any cement now in use; requires no paint, and is well adapted for ornamental castings of every description, however elaborate: 2s. per bushel, delivered free within three miles of the works.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.

2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.

3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

PORTER'S CORRUGATED, and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanising Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway, and other Iron and Smith's work Manufactured of the best quality. Iron Fence and Hurdles as usual.—The Trade Supplied.



PATENT GALVANISED TINNED IRON.
(MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and waterclosets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 9oz. to any required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quick-set-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

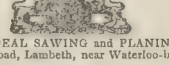
MUIR'S PATENT  PLANING MACHINERY.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.



TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.

THE GENERAL WOOD CUTTING COMPANY continue to receive the most satisfactory assurances from all who have given their improved machinery a trial, that there is no method of preparing floor-boards, matched linings, skirtings, &c., by which accuracy, dispatch, and economy of material are so certainly obtained. In shooting, or groving and tonguеing a board (although curved), the machine follows the edge, removing no more than the skin of the wood, and by the use of a peculiar saw for deep cutting, the board comes off with a perfect surface, thus obviating the necessity of reducing its thickness in order to plane out the hollows. The Company being neither builders nor timber merchants, unconnected with any trade but that of sawing and planing, and depending solely on the public for a moderate interest on their capital, are determined, by an assiduous attention to the interests of their customers, both as regards workmanship and general business arrangements, to merit a continuance of their support.

PREPARED FLOORING BOARDS.

AT REDUCED PRICES.

ALWAYS ON SALE, a LARGE ASSORTMENT of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¾ inch to 1¼ inch thick. Rough Boarding for Flats.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Smith-street, Westminster.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, at Old-Barge-Wharf, Upper Ground-street, Blackfriars, and at Hy. Castle's, Ship-yard, Millbank-street, Westminster, a large, very general, and well-seasoned stock of all kinds of Prepared Floor and Match Boarding, planed to a parallel breadth and thickness, fit for immediate use; also a great variety of machine-prepared mouldings, very accurately finished.

A. R., in calling the attention of builders and consumers, confidently presumes on being able to supply them on such terms as will ensure and merit their favours, &c.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Pantiles.

SIR WILLIAM BURNETT'S PATENT for the Preservation of Timber, Canvas, Cordage, Cotton, Woollen, &c., from Decay.

TESTIMONIALS.

From THOMAS GRAHAM, Esq., M.A., F.R.S., L. and E., Professor of Chemistry, University College, London.

"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.

"The wood appears to be fully and deeply penetrated by the metallic salt; I have found it in the centre of a large prepared paving block.

"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the crystallizable salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.

"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Toplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotised principles it contains, by entering into chemical combination with them.

(Signed) "THOMAS GRAHAM."

"University College, 25th October, 1845.

From Professors BRANDE and COOPER.

"London, 4th November, 1845.

"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.

"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.

"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.

"In regard to the several samples of different species of wood above advertised to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar species of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.—(Signed) "WILLIAM THOMAS BRANDE,
"JOHN THOMAS COOPER."

"To Sir William Burnett, K.C.H., F.R.S., &c. &c."

Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 53, King William-street, London-bridge.

TO ARCHITECTS, BUILDERS, & BRICK MAKERS.

PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Roads, Gardens, and for Liquid Manure. BRICKMAKERS' PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to 12-inch bore, kept for Hire.

BENJ. FOWLER, 63, Dorset-street, Fleet-street.

TO ARCHITECTS AND BUILDERS.

DOOR SPRINGS AND HINGES.—GERISH'S PATENT DOOR SPRINGS, for CLOSING every description of DOOR, consists of Single and DOUBLE-ACTION BUTT HINGES in Brass and Iron for Doors to open one or both ways, and Rising Hinges for the convenience of Doors opening on uneven Floors. Likewise Swing Centres, which consist of a combination of power unequalled by any made at present. Manufactured by F. W. Gerish, East-road, City-road; and sold by all respectable Ironmongers in the United Kingdom.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery

Best Patent Cut Clasp.

3d.	4d.	6d.	8d.	10d.	20d.
5d.	6d.	7d.	11d.	1s. 4d.	1s. 10d. per 1000.

Best Sheet Floor Brads 13s. per cwt.
Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 5d., 7d., 8d. per inch.
Self-acting Kitchen Ranges with Oven and Back Boiler.
Wrought Bars and Bright Fittings.

3 ft., 3l. 3s.	3 ft. 6 in., 3l. 12s. 6d.	4 ft., 4l.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3l. 6s.	3l. 13s.	3l. 16s.	4l.	4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5l.	5l. 15s.	6l. 5s.	6l. 10s.	7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 3½d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 168, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

WILSON'S PATENT
VENTILATING
SPIRAL CHIMNEY POT,



For the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success.

This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance.

The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory,

Southwark-bridge Iron
Roofing Works.

PAVING, 2s. 9d. PER SQUARE YARD Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27s. 6d. per ton.

TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorized CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

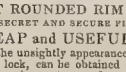
has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced. I. FARRELL, Secretary.

Stangate, near Westminster Bridge, Jan., 1845. Seyssel Asphalte Company.

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

By Her Majesty's  Royal Letters Patent

BAILLIE'S
PATENT ROUNDED RIM LOCKS.
WITH SECRET AND SECURE FIXINGS.

THIS CHEAP and USEFUL ARTICLE, obviating the unsightly appearance and insecurity of the common rim lock, can be obtained of any respectable ironmonger in town or country, or from the sole manufacturer, Mr. EDWARD WRIGHT, Wolverhampton.

ECONOMICAL RADIATING STOVE-GRATE
SHOW-ROOMS AND MANUFACTORY,
5, JERMYN STREET, REGENT STREET.

PIERCE and KOLLE solicit the inspection of an extensive variety of new and elegant STOVE GRATES, with FENDERS and FIRE-IRONS, *en suite* from the most *recherché* designs; just completed in the Grecian, Elizabethan, Louis Quatorze, and Gothic Styles, upon their much-improved

RADIATING PRINCIPLE.

These Grates combine the useful and ornamental, blend economy with comfort, display a cheerful fire with a clean hearth, diffuse a genial warmth throughout the apartment, retain the heat many hours after the fire is burnt out, and are adapted for general use. P. & K. being the sole manufacturers, are enabled to guarantee a select style with first-rate workmanship.

They also invite attention to their IMPROVED METHOD OF HEATING BY HOT WATER through large pipes, combining WARMTH WITH VENTILATION; being the most healthy, simple, and economical mode that can be adopted for warming Mansions, Halls, Churches, or other large Buildings; possessing also the important advantage of safety from fire, and freedom from dust or smell; and is so arranged as to warm the entire of a large mansion from one moderate fire, without excluding the use of the ordinary Grates.

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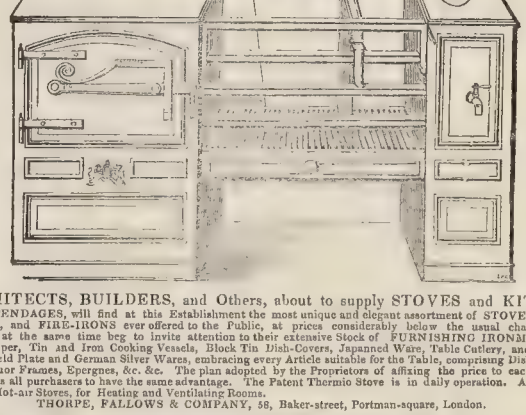
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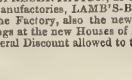
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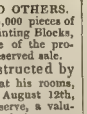
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TO BUILDERS.

PARTNER WANTED.—An opportunity now offers to become a Partner in a genuine old-established business in a county town in the West of England, with the view to the retirement of the present proprietor. —Apply to the office of "The Builder."

A CLERK of WORKS, of 15 Years' practice, is open to an engagement: Salary, Three Guineas per week.—Apply, by letter, to A. B. C., office of "The Builder," 2, York-street, Covent Garden.

ARCHITECTURAL SUBJECTS (Outlines) coloured for competition or exhibition, and embellished with landscape, &c. Buildings, portraits, and views of every description, lithographed in a superior manner, by GEORGE CHILDS, 12, Amwell-street, Pentonville.

TO ENGINEERS, ARCHITECTS, CONTRACTORS, &c.

ROBERT DUVAL, Land Surveyor and Architectural Draughtsman to the Profession, begs to inform Engineers, Architects, and others, that he has entered into partnership with Mr. ROUGHTON.

D. and R. beg to state that the utmost attention will be paid to any commissions entrusted to them. Land surveyed and laid out. Architectural drawings made, copied, and reduced.—DUVAL and ROUGHTON, Engineering Surveyors, Office, 6, Cadogan-street, Chelsea.

TO CIVIL ENGINEERS, SURVEYORS, &c.

HENRY POPE, Wholesale Stationer, desires to return his best thanks to the Profession for their support, which has secured to him so large a sale of his mathematical drawing papers, and from which he has made arrangements to keep a large stock always on hand, as well as tracing, drawing-papers, and every description of general stationery, which may be had at the wholesale prices.

N.B. Maker of the Metallic, Levelling, and Surveying Field Books, with Patent Pencil. 22, Budge-row, Watling-street, City.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3l. 5s.	3l. 12s.	3l. 16s.	4l.	4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5l.	5l. 15s.	6l. 5s.	6l. 10s.	7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.

Do. Elliptic do., at 3½d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

MORTGAGE AND ANNUITY OFFICE, No. 123, CHANCERY-LANE.

PERSONS requiring LOANS by way of MORTGAGE or otherwise upon any available security, may at all times procure an advance to the extent of from 100l. to 150,000l., or so much as the property will bear, by applying to Mr. BRAY, surveyor, at the offices as above, where a registry for the sale of estates, houses, land, life interests, and reversions, is kept for inspection.

N.B. To expedite the procuration, personal application at the office would in all cases be better, the party bringing with them the abstract of title, plans, &c.

TO OWNERS OF HOUSES IN COURTS, ALLEYS, AND OTHER CONFINED LOCALITIES.

HER MAJESTY'S JUSTICES and COMMISSIONERS of SEWERS for the City and Liberty of WESTMINSTER, and part of Middlesex, hereby GIVE NOTICE, that they have approved a plan, whereby an efficient drainage, at a very moderate cost, may be obtained for property in the above situations, abutting on streets where there are sewers. The plans and sections may be seen at the office of the Commissioners, No. 1, Greek-street, Soho. LEWIS C. HERSLET,

Clerk to the Commission.

HOLBORN AND FINSBURY SEWERS, MIDDLESEX.

THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persons about to Purchase or Rent Houses or Property, or take Land for Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Persons to apply for at the above Office. By the Court,

STABLE and LUSH, Clerks.

CONTRACTS.

TO BUILDERS AND OTHERS.

NOTICE IS HEREBY GIVEN, that the Commissioners of Sewers for the Holborn and Finsbury Divisions, Middlesex, will meet at their Office in Hatton Garden, on FRIDAY, the 28th day of August, instant, at two o'clock in the afternoon precisely, to receive TENDERS for Building Sewers on the Cloth Workers' Company's Estate, Islington-fields and in Bridle-lane, for a length of about 1,300 feet; in Nicholas-street, New North-road, Hoxton, to the extent of about 950 feet; in Worship-street, Shoreditch, for a length of about 650 feet; and on the north side of Bedford-square, Bloomsbury, for a length of about 840 feet, conformably to Plans and Specifications, which may be inspected daily between the hours of ten and three. Four separate tenders must be delivered for the above works, and marked with the name of the situation to which they apply. The parties offering must attend at the above time of meeting with their tenders sealed up, and which must contain the names and address of two sureties for the due execution of the works. The Commissioners will not consider themselves bound to accept the lowest tenders.—By the Court, STABLE and LUSH, Clerks.

Office of Sewers, Hatton Garden, 8th August, 1846.

TO BUILDERS AND OTHERS.

THE Commissioners of the Birmingham Street Acts HEREBY GIVE NOTICE, that they will meet at No. 2 Room, Public Office, Moor-street, on Saturday, August 22nd, at Ten o'clock in the Forenoon, to receive TENDERS for Building Sewers in Moseley-street, Dean-street, Upper Dean-street, Pershore-street, to Dudley-street, and other places contiguous thereto in the said town of Birmingham. Plans, Sections, and Specifications of the Works required to be performed, may be seen daily, on and after Friday, the 7th day of August next, at the Town Surveyor's Office, Moor-street, from Nine till Four o'clock. Security will be required from those parties whose tender may be accepted, and no tender will be received after Eleven o'clock on the day of treaty. The Commissioners do not pledge themselves to accept the Lowest Tender.

ARNOLD, HAINES, and ARNOLD,
Public Office, Birmingham, Clerks to the Commissioners.
July 29th, 1846.

TO BUILDERS

A PUBLIC HOUSE is required to be Built near the Entrance to the Victoria Park, Hackney. All persons desirous of competing for the Erection of the same, may see the Plans and Specifications, and obtain particulars, by applying at the office of Mr. D. A. COBBETT, Surveyor, 5, Railway-place, Fenchurch-street, City, between the hours of Ten and Four o'clock.

August 13th, 1846.

WINDSOR UNION.

THE Board of Guardians are desirous of receiving TENDERS from Persons willing to Construct a Well, according to a Specification, to be seen at the Union Workhouse, Old Windsor, after Tuesday, the 18th inst. Tenders to be delivered to the Clerk previous to the Meeting of the Board, on TUESDAY, the 25th inst. The lowest not necessarily to be accepted. Security will be required from the party whose Tender is approved of.—By order of the Board, W. C. LONG, Clerk.

Windsor, 11th August, 1846.

CONTRACT FOR BUILDING.—WATERFORD AND KILKENNY RAILWAY.

THE Directors are ready to receive Tenders for Erecting and Completing the Lodges at Level Crossings on the above Railway, between Kilkenny and Thomastown (Station), being a distance of about 11 miles. Plans and Specifications of the same may be seen at the Office of the Chief Engineer, Capt. W. S. MOORSOM, 17A, Great George-street, Westminster, and at the Railway Office, Kilkenny.—Tenders will be received not later than noon, on Wednesday, 26th inst., addressed to the Secretary of the Company, at No. 2, Delahay-street, Westminster, and endorsed "Tender for Lodges."

TO BUILDERS.

PARTIES desirous of submitting Tenders for the construction of sewers, drains, tanks, &c., on a building property at South Milton, next Gravesend, belonging to the Gravesend and Milton Water Works Company, are informed that the plans and specifications for these works may be seen at the office of Messrs. SOUTHGATE and SON, solicitors, Milton, next Gravesend, on and after Tuesday, the 18th of August instant. Tenders to be delivered at the office of Messrs. SOUTHGATE and SON, on the 25th of August next, sealed and endorsed "Tenders for Sewers," but the Directors will not hold themselves bound to accept the lowest tender.—Further particulars may be obtained on application to Messrs WYATT and BRANDON, 77, Great Russell-street, or to Mr. G. VULLIAMY, 68, Pall Mall.

Milton, next Gravesend, 11th August, 1846.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery

Best Patent Cut Clasp.

3d.	4d.	6d.	8d.	10d.	20d.
5d.	6d.	7d.	11d.	1s. 4d.	1s. 10d. per 1000.

Best Sheet Floor Brads 18s. per cwt.
Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 5½d., 7d., 8d. per inch.
Self-acting Kitchen Ranges with Oven and Back Boiler.
Wrought Bars and Bright Fittings.

3 ft., 3l. 3s.	3 ft. 6 in., 3l. 12s. 6d.	4 ft., 4l.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

PATENT GALVANISED TINNED IRON,
(MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and water-closets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 9oz. to any required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quick-set-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

By Her Majesty's Royal Letters Patent.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED METAL. — This article was at first sold under the name of Galvanised Tin Plates, but the Patentees finding that the public, in some instances, overlooking the word Tin, confounded the article with Galvanised Iron, and that the character of their metal has thereby sustained injury, are desirous of giving it a name so distinctive as to prevent such mistakes, and consequent disappointment to purchasers in future. They therefore respectfully request purchasers to inquire for MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON. In order to enable the public readily and at first sight to distinguish between the two metals, it may be well to inform them, that Galvanised Iron has a plain zinc-like appearance, while M. and R.'s Patent Galvanised Tinned Iron has a smooth crystalline surface.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON, Patronised by the Admiralty and the Honourable Board of Ordnance, being extensively used in her Majesty's Dock-yards, at the Tower, and elsewhere, for every variety of Roofing, and other purposes, where a strong, light, cheap, and durable material is required.

It has been found by experience that this article is beyond all comparison superior to zinc; possessing, as it does, all the advantages arising from the strength and firmness of iron, combined with perfect immunity from rust; whilst it is free from the very serious objection which applies to zinc, viz. its contraction and expansion, consequent upon every change of temperature, and from which circumstance leakage must of course result.

This material is not likely to be destroyed by fire, as is the case with zinc and lead, which melt and run down, thus freely admitting fresh air to the fire, and causing it to burn more fiercely. It is, therefore, obviously well adapted for all the purposes above-named, and most importantly so, when there is the possibility of fire. It is also peculiarly suitable for chimney-tops, gutters, spouting, and out-door work generally, possessing the strength of iron, without its liability to corrosion. It is by far the most economical metal roofing that can be obtained, in consequence of its strength, as it may be laid without boards, and upon the lightest rafters.

This mode of preserving metal from rust does not only apply to sheet-iron, but also to manufactured iron in any form, as bolts, nuts, hinges, nails, &c. &c.

For full Particulars apply to S. HOLLAND, 34, Grace-church-street.

TO BUILDERS, PAINTERS, DECORATORS, AND OTHERS.

MESSRS. WOOD AND COMPANY, Grainers and Writers to the Trade only, by contract, measure, or otherwise.
62, Waterloo Bridge-road. All letters post paid.
N.B. Workmen sent to any part of the kingdom.
*** An Apprentice wanted.

TO BUILDERS, UPHOLSTERERS, CARPENTERS, HOUSE AGENTS, &c.

C. TIFFIN, BUG DESTROYER to the ROYAL FAMILY, 17, Somer's-place, New Road, St. Pancras, begs to suggest to the above trades generally the advantages of employing him in the above branch of Upholstery in preference to their own men, who not having had the necessary experience, cannot be expected to give satisfaction. C. T. having been upwards of forty years in constant practice can with confidence recommend his plans being efficient. He deems it useless to dilate to those who know him, and to those who do not, any reference can be given, his connection being of 150 years' standing amongst the Nobility, Gentry, &c. Those who employ him will therefore run no risk of being imposed on by adventurers and high-sounding advertisements.

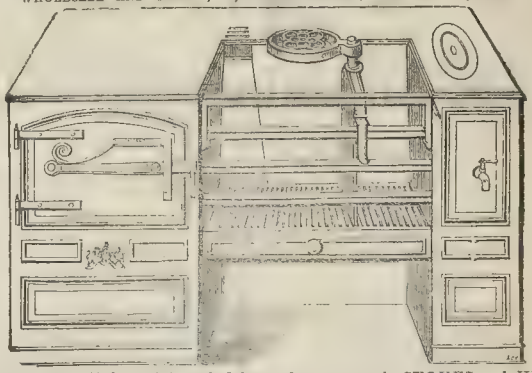
C. T. will thoroughly eradicate them from Rooms, Bedsteads, or Furniture, without offensive odour or removal from the room. Ten per cent. is allowed to the trade. And will ensure to keep them free at 2s. each per year if done regularly, but not otherwise. Should any complaint arise during the same season it will be rectified without additional charge, coach fare for country work excepted. Orders attended to at any distance.

Houses infested with punaises should be cured of them previous to their being renovated, as Papering, Painting, or Whitewashing, are inefficient.

HOT WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories, and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises. BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

ROYAL POLYTECHNIC INSTITUTION.—A Chemical Lecture, by Dr. Ryan, daily, and on the Evenings of Mondays, Wednesdays, and Fridays, Prof. Bachhoffner's Lectures on Natural Philosophy, with brilliant experiments, daily. Macintoshe's Revolving Engine, Coleman's Patent Locomotive Engine for ascending and descending inclined planes, Farrell's Archimedean Railway, the Atmospheric Railway, all in action. Hallette's Atmospheric Railway Valve. The Opaque Microscope. The Oxy-hydrogen Microscope, exhibiting a fine Collection of Living Objects. A beautiful Picture of the Chapel in the Convent of St. Catherine, near Jerusalem, by Mr. Charles Smith, is one of the series of Dissolving Views.—Admission, 1s.; Schools, Half-price.

THE PANKLIBANON IRON WORKS,
WHOLESALE AND RETAIL, 58, BAKER STREET, PORTMAN SQUARE.



ARCHITECTS, BUILDERS, and Others, about to supply STOVES and KITCHEN APPENDAGES, will find at this Establishment the most unique and elegant assortment of STOVE-GRATES, FENDERS, and FIRE-IRONS ever offered to the Public, at prices considerably below the usual charges. The Proprietors at the same time beg to invite attention to their extensive Stock of FURNISHING IRONMONGERY, Tinned Copper, Tin and Iron Cooking Vessels, Block Tin Dish-Covers, Japanned Ware, Table Cutlery, and especially their Sheffield Plate and German Silver Wares, embracing every Article suitable for the Table, comprising Dish and Plate Covers, Liquor Frames, Epergnes, &c. &c. The plan adopted by the Proprietors of affixing the price to each article for cash, enables all purchasers to have the same advantage. The Patent Thermio Stove is in daily operation. Also Cundy's Improved Hot-air Stoves, for Heating and Ventilating Rooms.

THORPE, FALLOWS & COMPANY, 58, Baker-street, Portman-square, London.

ECONOMICAL RADIATING STOVE-GRATE
SHOW-ROOMS AND MANUFACTORY,
5, JERMYN STREET, REGENT STREET.

PIERCE and KOLLE solicit the inspection of an extensive variety of new and elegant STOVE GRATES, with FENDERS and FIRE-IRONS, *en suite* from the most *recherché* designs; just completed in the Grecian, Elizabethan, Louis Quatorze, and Gothic Styles, upon their much-improved

RADIATING PRINCIPLE.

These Grates combine the useful and ornamental, blend economy with comfort, display a cheerful fire with a clean hearth, diffuse a genial warmth throughout the apartment, retain the heat many hours after the fire is burnt out, and are adapted for general use. P. & K. being the sole manufacturers, are enabled to guarantee a select style with first-rate workmanship.

They also invite attention to their IMPROVED METHOD OF HEATING BY HOT WATER through large pipes, combining WARMTH WITH VENTILATION; being the most healthy, simple, and economical mode that can be adopted for warming Mansions, Halls, Churches, or other large Buildings; possessing also the important advantage of safety from fire, and freedom from dust or smell; and is so arranged as to warm the entire of a large mansion from one moderate fire, without excluding the use of the ordinary Grates.

Grates expressly made to cure Smoky Chimneys; references to noblemen, gentlemen, and architects furnished with them.

KITCHENS, LAUNDRIES, BREW-HOUSES, &c., fitted up in the most complete and efficient manner, with Ranges, Ovens, Coppers, Hot Hearths, Smoke-Jacks, and every other requisite, with the latest improvements.

BATHS of every description, comprising the Warm, Cold, Vapour, Shower, Douche, Fumigating, Hip, and Sponging, in great variety, both portable and otherwise.

OPINIONS OF THE PRESS.

"ROYAL EXCHANGE.—Among the useful additions to Lloyd's Rooms, may be reckoned the hospitable-looking, yet really Elegant Stove Grates, that have been fitted up by Pierce and Kolle of Jermyn-street. To judge from the very powerful heat thrown out by the fires, these Grates appear to combine all the warmth of a German Stove with the cheerfulness as well as healthful ventilation of the open fire. These Stove-Grates, with their massive fenders, are really ornaments to Lloyd's Rooms, and are highly creditable to Pierce and Kolle."—*Morning Herald*, Dec. 30, 1844. See also the *Morning Post* and *Observer*, Jan. 5. 1845.

"FINE ARTS AS APPLIED TO GRATES.—A few months since we had occasion to speak with eulogium of the manner in which the works generally had been done at the new Royal Exchange, and more particularly alluded to the admirable way in which the warming and ventilation of its large rooms had been managed. The Grates, too, came in deservedly for their share of praise. They were from the Messrs. Pierce and Kolle, who have since been completing several splendid works for large mansions, and amongst others for Lord Francis Egerton, for his new mansion at Worsley Hall, which is now near completion; for Crewe Hall, the seat of Lord Crewe, one of the most perfect specimens of the earlier Elizabethan style of architecture in this country; and also for Merivale Hall and Coolhurst, in Sussex; and moreover for the banqueting-room of Beaufort House. All these Grates exhibit a correct taste, and it is highly creditable to the Manufacturers to find that Artists of unquestionable talent and standing have been employed thereon. It is really to be wished that such exquisite works of art were generally exhibited for awhile, or ably lithographed, that the Public might possess some more accurate and detailed notion than the pen is capable of affording."—*Morning Post*, April 23, 1845. See also the *Morning Chronicle* and the *Standard*, April 28, 1845.

PIERCE AND KOLLE, FURNISHING IRONMONGERS,
No. 5, JERMYN STREET, REGENT STREET.



CHEAP PAN FOR WATER CLOSETS,
With Trap, in One Piece.
DOULTON AND WATTS.
LAMBETH POTTERY, LONDON,

Manufacturers of the annexed in superior glazed STONE WARE,

Price 7s. 6d. each.

They are of the most durable ware, and are recommended in preference to iron on account of their cleanliness and cheapness.

If preferred, they can be had in two parts, the Pan at 4s. 6d., and the Trap at 3s. 6d.

N.B. Manufacturers of RAIN WATER PIPING for houses.

HEAL & SON'S LIST OF BEDDING.

CONTAINING a full description of Weights, Sizes, and Prices, by which purchasers are enabled to judge the articles that are best suited to make a good set of bedding. Sent free by post, on application to their establishment, the largest in London, exclusively for the manufacture and sale of bedding (no bedsteads or other furniture being kept).

HEAL and SON, Feather Dressers and Bedding Manufacturers, 196 (opposite the Chapel), Tottenham Court Road

WORCESTER ENCAUSTIC TILES.

Specimens of these beautiful Tiles in all their Varieties, may be seen and information obtained at the London Agents, Messrs. GRIEVE and GRELLIER, Marble-wharf, Belvidere-road, Waterloo-bridge, or at the Encaustic Tile Works, of Messrs. F. ST. JOHN G. BARR, and Co., Worcester.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—Wyatt, Parker, and Co., Agents. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

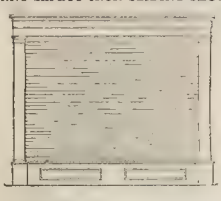
SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.

PATENT SAFETY IRON SLIDING SHUTTERS.





The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentee, R. HOWARD and Co., 118, Old Street, London; or at the Licensees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using BENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licenses Granted.

INJUNCTION.

BUNNETT and CORPE'S Patent REVOLVING IRON SHUTTERS.—Since the verdict found in favour of the Patentees, in the Court of Exchequer, in the action tried by order of the Court of Chancery, that Court has granted a perpetual Injunction for restraining all infringements of this Patent, and therefore all parties are hereby cautioned against infringing the same.

THE PRICES ARE GREATLY REDUCED, and BUNNETT AND CORPE'S PATENT IRON SHUTTERS ARE THE CHEAPEST AS WELL AS THE BEST. They are made with convex laths, if required. The worm and wheel motion for raising and lowering revolving iron shutters (as secured by this Patent) is the only safe and desirable mode of effecting that object. In large shutters it is indispensable.

Some thousands of Bunnett and Corpe's Shutters have now been put up, without a single complaint of their want of strength or security; and nine years' practical experience (during which they have adopted every real improvement) enables the Patentees to challenge comparison with any others. They will guarantee all Shutters put up by them to keep in order, and last twice as long as any with thin convex laths.

B. and C. also manufacture REVOLVING WOOD SHUTTERS (the Patent for which has expired), at the same prices as other makers, but greatly superior, being fitted with their patent raising gear, and proper metallic hinges, without which no shutter can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop-fronts fitted with Iron Shutters, Patent Brass or Zinc Sashes, Plain or ornamental, handsomely Engraved, Moulded, Stall-board Plates, best Plate Glass, and Internal Brass Fittings of all kinds, superior in quality and workmanship, and lower in price than any other house.

Contracts taken in Town or Country.

Metal Drawing and Stamping for the Trade.

Office at No. 26, Lombard-street, London; Works, at Deptford, Kent.

Steam-engines, Sawing, Planing, and Moulding, Cutting-machines on Improved Plans, especially adapted for Builders' purposes, may be seen in operation at the Works.

LIGHTNING CONDUCTORS FOR BUILDINGS.

A. SMITH'S PATENT COPPER WIRE ROPE is being daily employed for the protection of CHURCHES and other buildings from the effects of thunder storms; it possesses important advantages over other forms of conductors. References can be given where it has been applied for some time past to CHURCHES, PUBLIC and PRIVATE BUILDINGS, &c., &c. Its general adoption in the Naval and Mercantile Marine of this and other countries is the strongest possible EVIDENCE of its EFFICIENCY, &c.

A. SMITH begs the attention of those engaged in building to his IMPROVED PATENT PANELLED AND REVOLVING IRON SHUTTERS,—Also, the Patent Weather-tight Fastening and Cill Bar, for French Casements, which are so much admired for their security, simplicity, cheapness, and efficiency. Of the merits of his Patent Double and Single Action Door Springs,

Improved Flooring Cramps,

Patent Wire Sash Lines, &c. &c.,

Little need be said, as they are pretty generally known and appreciated.

Manufactory for Iron Suspension, Sliding, and other Doors, Strong Rooms, Plain and Ornamental Palisading, Gates, and Columns.—Also, Metal Sashes, Shop-fronts, Stall-board Plates, Brass butt, and other Hinges. Buildings heated upon a new, safe, and superior plan.

Estimates given for every description of Metal-work.

A. Smith, 99, Princes-street, Leicester-square, London.

CAEN STONE.

TUCKWELL'S Norway Sufferance Wharf, Greenwich.—Architects and Stone Merchants are informed, that this stone may be procured at the above Wharf in any quantity, in blocks up to 12 tons. The stone, which is exclusively the product of the Allemagne Quarries, and of the very finest quality, is consigned solely to W. TUCKWELL, who is prepared to execute orders to any extent, having a Large Stock always on the Wharf.—Orders received by, and further information with samples may be obtained of Mr. R. A. WITHALL, Surveyor, 80, Cheapside, and of Mr. W. TUCKWELL, at the Wharf.

N.B. Cargoes shipped direct to any Port.

By Her Majesty's Royal Letters Patent

BAILLIE'S

PATENT ROUNDED RIM LOCKS.

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SIR WILLIAM BURNETT'S PATENT for the Preservation of Timber, Canvas, Cordage, Cotton, Woollen, &c., from Decay.

TESTIMONIALS.

From THOMAS GRAHAM, Esq., M.A., F.R.S., L. and E., Professor of Chemistry, University College, London.

"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, upon which the subject my best consideration, I have come to the following conclusions.

"The wood appears to be fully and deeply penetrated by the metallic salt; I have found it in the centre of a large prepared paving block.

"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the crystallizable salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.

"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Toplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotised principles it contains, by entering into chemical combination with them.

(signed) "THOMAS GRAHAM."

"University College, 26th October, 1845.

From Professors BRANDE and COOPER.

"London, 4th November, 1845.

"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.

"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.

"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.

"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.—(Signed) "WILLIAM THOMAS BRANDE,

"JOHN THOMAS COOPER."

"To Sir William Burnett, K.C.H., F.R.S., &c. &c."

Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 53, King William-street, London-bridge.

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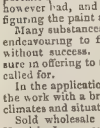
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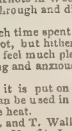
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J. FARRELL, Secretary.

Seyssel Asphalte Company's Works,
"Claridge's Patent."
Stangate Depôt, London.

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(Signed) W. H. FREELING,
13th August, 1846. Lieut. Royal Engineers.

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BUILDERS that may feel disposed to submit TENDERS for the works about to be commenced at St. Martin's Church, Leicester, may see the drawings and specification, and obtain all further particulars, by applying to Messrs. RAPHAEL and J. ARTHUR BRANDON, Architects, 11, Beaufort-buildings, Strand, London, between the hours of Nine and Five.

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J. G. SHEPHERD, Clerk.
Faversham, 13th Aug., 1846.

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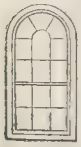


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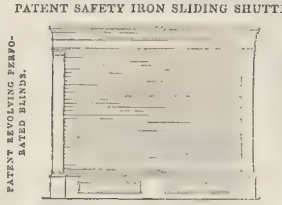
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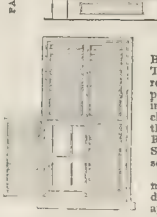
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PATENT SAFETY IRON SLIDING SHUTTERS.





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Improved Flooring Cramps,
Patent Wire Sash Lines, &c. &c.,

Little need be said, as they are pretty generally known and appreciated.

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THE DIRECTORS of the SEYSSEL ASPHALTE COMPANY have much pleasure in recommending to the notice of Architects, Builders, and others, the application of the ASPHALTE of SEYSSEL as the only effectual means of preventing DAMP rising in WALLS.

J. FARRELL, Secretary.

Seyssel Asphalte Company's Works,
"Claridge's Patent."
Stangate Depôt, London.

The following account of its application is extracted from "The Appendix to the Commissioners of Fine Arts' Report," page 18:—

"In 1839 I superintended the construction of a house of three stories on the Lac d'Enghien. The foundation of the house is constantly in water, about 19½ inches below the level of the ground floor. The entire horizontal surface of the external and internal walls was covered, at the level of the internal ground-floor, with a layer of SEYSSEL ASPHALTE, less than half an inch thick, over which coarse sand was spread.

"Since the above date no trace of damp has shewn itself round the walls of the lower story, which are for the most part painted in oil of a gray stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so painted, yet the pavement of the floor, resting on the soil itself, is only about 24 inches above the external surface of the soil, and only 19½, at the utmost, above that of the sheet of water.

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WITH SECRET AND SECURE FIXINGS.

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4thly.—"The increased hardness which it acquires from exposure to atmospheric influences.

5thly.—"The great beauty, accuracy, and durability of the mouldings, capitals of columns, crockets, finials, and other architectural enrichments and decorations formed of it, the smallest and most delicate members of which, as well as the sharpest arises, have withstood uninjured the asperities of our climate during many winters, and now present the same perfect and highly finished appearance as would be produced by stone carvings carefully executed.

6thly.—"The excellent and agreeable tone of colour which it assumes naturally, and retains without the aid of any colouring or painting.

"And lastly, its extreme hardness and almost entire incompressibility when used as a mortar in the construction of inverted or relieving arches, foundations under important superstructures, and small bearing piers, which have to sustain great weights. For all these purposes it has been extensively used under my directions, and in some cases has been exposed to very severe trials. The results have, however, without one exception, been most satisfactory; and I do not believe that there are any known substances so well adapted for the execution of works, in which the greatest strength and durability are essential."

Price of Metallic Sand at Swansea (place of manufacture), 10s. per ton, or supplied in London at 20s. per ton of twenty-one bushels.

Further information will be given, and specimens shewn, on application to Mr. C. K. DYER, 4, New Broad-street, and at the Metallic Cement Wharf, King's-road (opposite Pratt-street), Camden New Town, London.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, produceable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

CHEAP ROMAN CEMENT is sold in Casks that will not contain five bushels, even by some manufacturers of a very respectable name. Consumers should see that the standard size cask is 29 inches long by 17½ across the head, outside measure. Any workman with a rule in his pocket can ascertain this.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

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GREAVE'S LIAS CEMENT, stone-colour, free from vegetation, does not crack, and is well adapted for every description of modelling and casting.

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KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Millbank-street, Westminster.

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THE PATENT ASPHALTED FELT, FOR ROOFING

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Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, as THE ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW, LONDON.

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TO BE SOLD, a very excellent Gravatt's LEVEL, quite new.—Apply at 22, Salisbury-street, Strand.

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TO BUILDERS AND OTHERS REQUIRING SPACIOUS PREMISES.—EDMONTON, MIDDLESEX.

TO BE SOLD, OR LET on Lease, a Freehold Brick-built House, with large garden or yard, inclosed by brick walls. The house contains Fourteen Rooms, and is suitable either for a family residence, a school, or lunatic asylum Terms very moderate. Apply to Mr. LAMBERT, Surveyor, 40, Coleman-street Buildings; Mr. HOLLAND, on the premises, Church-road, Edmonton.

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TO BUILDERS.

TO BE LET, on long Building Leases, direct from the freeholder, together or in plots, a considerable extent of valuable LAND. The situation is elevated, and commands extensive views. The neighbourhood is highly respectable, and is remarkable for its healthiness, and being within a short distance of the Anerly station, on the Croydon Railway; it presents a fine opportunity for a building speculation on a large scale.—Apply to Mr. VERE, 85, Upper Stamford-street.

EXTENSIVE and most desirable Premises TO BE LET, for a long Term, situate in the immediate vicinity of Bishopsgate-street Without, with direct communication thereto; eligible and available for Building upon, or any purpose.—Terms and Particulars to be had by applying to Mr. G. H. SIMMONDS, Surveyor, No. 7, Great Alie-street, Goodman's-fields, between the hours of Ten and Four, where a Plan of the Premises may be seen.

BUILDING GROUND and CONTRACT for WORKS.—The Freeholder of eligible Ground near London, is desirous of meeting with a Builder, whom he would employ to erect a number of Villas, at an agreed price, on part of the ground, on condition of his taking a lease of the remaining part, money being advanced if required.—Apply to Mr. FRANCIS E. H. FOWLER, architect, 28, Sackville-street, London.
August 13th, 1846.

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TO BUILDERS.—MATERIALS AND MONEY ADVANCED.

TO BE LET, on BUILDING LEASES, for ninety-six years, several very eligible plots of Freehold Building Ground, land-tax redeemed, for fourth-rate houses, situated in streets leading from the Queen's-road, Dalston, to Lansdown-place. This is one of the most rapidly improving neighbourhoods near London, and will be the principal thoroughfare from all parts westward to the new Victoria Park, from which it is only a quarter of a mile distant.—Apply to Mr. PALMER, on the premises.

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ELIGIBLE PLOTS of GROUND for Building at Ealing, within a quarter of a mile of the Railway Station. These plots are placed in the most desirable situation in the above admired and healthy locality, particularly easy of access to the metropolis, being the first station on the Great Western Railway. Day tickets 1s. Early application is necessary, as buildings are now being erected on the estate. Five Years at a peppercorn will be given to cover.—Apply to Mr. PEISLEY, Surveyor, Hounslow.

TO PLUMBERS, DECORATORS, &c.

AN Old-established General Jobbing Business TO BE DISPOSED OF, together with the lease of Manufacturing Premises and Show-shop, having a splendid plate glass front, situate in the best part of a large first-class neighbourhood at the west end, with every convenience for doing a first-rate trade in general repairs and decorations.—Apply to Messrs. CHATER and HAYWARD, Glass and Lead Merchants, St. Dunstan's-hill, City.

TO UPHOLSTERERS, CABINET MAKERS, DECORATORS, AND OTHERS.

TO BE DISPOSED OF, with immediate possession, in that much improving neighbourhood of Hyde-park, Cambridge and Oxford-squares, an old-established Business, with an excellent dwelling-house, a handsomely fitted-up shop, with plate-glass front, large workshops, &c.; with every convenience for doing a first-rate business.—For full particulars apply at Mr. GEO. DEEK'S Auction and Estate Agency Offices, No. 26, Albion-street, Hyde-park-square.

FOR DISPOSAL.—GRAND SURREY CANAL and COMMERCIAL SAWING and PLANING MILLS, near Plough-bridge, Rotherhithe, on the banks of the Surrey Canal.

These mills, now in perfect working order, comprize two first-class engines, two new boilers, six saw frames, one planing machine, two circular saw benches, and several unfixed, one veneer saw, shafting gearing tools, &c., complete in all its branches, are now to be disposed of.

The situation of these mills, communicating with the Thames by the Surrey Canal, are first-rate, being in the very heart of the timber market, and within one minute's walk from the Commercial, East County, and Surrey Docks, with 400 feet canal frontage, and the same length of high road frontage, with abundance of water; capable of adaptation, in addition to its own business, to any other branch, such as sawing stone, marble, &c., engineering, grinding flour, or any other purposes where steam is required.

Held under lease for about fifty-seven years, unexpired, from the Surrey Canal Company, at the trifling ground rent of 60*l.* per annum.

The formation of a company or society of builders, timber merchants, engineers, wharfingers, or any trade where steam and water carriage, or where connection with the railways on the South Eastern Lines is required, would find this an eligible spot to carry on a very profitable and extensive business.

These mills are now in full work, and may be seen daily.

The Diamond Funnel Steamboats for Woolwich and Greenwich go to the Commercial Dock's Pier, and omnibuses from Gracechurch-street, to within five minutes' walk from the mills, four times an hour.

For further particulars and to view apply at the saw-mills, or to HENRY JACOBS,
35, Surrey-street, Strand.

SALES BY AUCTION.

RE BUNDEY'S BANKRUPTCY.—Leasehold Dwelling-Houses, piece of Building Ground, and Building Materials, South-street, Fulham-road.

MR. BRAY, jun., has received instructions from the assignees of Mr. BUNDEY, builder, a bankrupt, to SELL by AUCTION, at Garraway's Coffee House, Change-alley, Cornhill, on TUESDAY, August 25th, at Twelve o'clock, in four lots, three long leasehold messuages or dwelling-houses, at present in an unfinished state, each containing six rooms, washhouses, and neat gardens. The property is held under leases for the term of 99 years, from the 25th December, 1844, at a ground rent of 14*l.* 10*s.* Also on the same day all the loose building materials and prepared work for the above houses, in one lot.—May be viewed, and particulars and conditions of sale had of Messrs. HUSBAND and WYATT, solicitors to the assignees, 11, Gray's-inn-square; of W. PENNELL, Esq., official assignee, Guildhall chambers, Basinghall-street; at the Black Bull, Fulham-road; at Garraway's, and of the Auctioneer, 259, High Holborn.

ADDLESTONE, SURREY.—Valuable Freehold and Copyhold Estate, delightfully situated in this much-admired, dry, and healthy village, within a quarter of a mile of the station on the Egham branch from the South Western Railway at Weybridge, one hour's ride from London, and one mile of the capital market town of Chertsey.

MR. WARREN respectfully announces that he has been favoured with instructions to SELL, at the Crown Inn, Chertsey, on WEDNESDAY, the 26th of August, 1846, at Two, in Eight lots, FORTY ACRES of LAND, of excellent quality, and in part tithe free, most desirably situate in the highly respectable and improving village of Addlestone, and possessing the very extensive frontage of 500 yards to the high road leading from Windsor to Guildford and Brighton, and admirably adapted for building purposes; also a comfortable farm-house, barn, yard, and out-buildings, the whole having been held on lease by the late Mr. Perry and his Widow, whose term expires at Michaelmas next, when (or before) possession may be had.

May be viewed upon application to Mrs. PERRY, at the farm-house, opposite the George Inn, Addlestone, where printed Particulars, with Plans, may be obtained; also of Messrs. BRIDGES, MASON, and BRIDGES, Solicitors, Red Lion-square; at the Griffin, Kingston; White Lion, Staines; Greyhound, Richmond; Bear, Esher; at the place of sale; and of Mr. WARREN, Land and Timber Surveyor and Valuer, Isleworth.

SALES BY AUCTION.

MIDDLESEX FREEHOLDS, PRODUCING 210*l.* PER ANNUM, FREE OF LAND-TAX.

MESSRS. WINSTANLEY are instructed to SELL by AUCTION, at the Mart, on THURSDAY, 27th August, in Five Lots, Five well-built Freehold Dwelling Houses, each containing eight rooms, and being Nos. 18, 19, 20, 42, and 43, in Gerard-street, Islington (near to Duncan-terrace), let to respectable tenants, at a moderate rent of 42*l.* each house. To be viewed, by permission of the tenants.

Printed particulars may be obtained at the Angel, Islington; at the Mart; of Mr. BOULTON, Solicitor, Northampton-square, Clerkenwell; and of Messrs. WINSTANLEY, Paternoster-row.

BOGNOR, SUSSEX.—VALUABLE LAND FOR BUILDING PURPOSES.

MESSRS. WINSTANLEY respectfully acquaint the Public, that they have received instructions from the Mortgagees to SELL by AUCTION, at the Mart, in London, on THURSDAY, 27th August, in One Lot, about Thirty-eight Acres of Freehold Building Land, having a considerable frontage to the sea, and situated at Bognor, in the county of Sussex—a delightful, healthy, and improving watering-place, within easy distances of Chichester, Brighton, and Worthing, now possessing the advantage of railway communication with the metropolis. This property offers an eligible opportunity for the employment of capital and securing an excellent return, by letting it off on building leases at ground rents.

Printed particulars may be had in London, of Mr. HODGSON, No. 32, Broad-street-buildings; Messrs. WINSTANLEY, Paternoster-row; and at the place of sale: also of Mr. J. M. OGDEN, Solicitor, Sunderland; Mr. WELLER and Mr. WRIGHT, at Chichester; the Norfolk Arms, at Little Hampton, and Arundel; the Hotels at Worthing and Bognor, and of Mr. CREASY, Auctioneer, at Brighton.

LEASEHOLD PROPERTY AT NORWOOD, FOR INVESTMENT AND OCCUPATION.

MESSRS. WINSTANLEY are instructed by the Executors and Executrix to SELL by AUCTION, at the Mart, on THURSDAY, 27th August, in One Lot, without reserve, Four convenient and well-planned Family Residences, near to St. Luke's Church, at Norwood, each containing ample accommodation for a moderate-sized establishment, with the advantage of an abundant supply of spring water. There is a stable and coach-house, front and back gardens, carriage drive, &c. The property is leasehold for 58 years, at a ground-rent of 43*l.*, and the lowest estimated rental is 200*l.* per annum, and, as an investment, offers a desirable opportunity for any persons who could occupy one of the houses, and let off the others.

To be viewed, by applying on the premises, where particulars may be obtained.—Particulars may also be obtained of Messrs. HOLME, LOFTUS, and YOUNG, No. 10, New Inn; at the Jolly Sailor, Norwood; the White Horse, Brixton-road; the George Canning, Effra-road, and at the place of sale.

FREEHOLD BUILDING LAND, to be SOLD by PUBLIC AUCTION, at the Essex Arms Inn, Watford, Herts, on FRIDAY, the 28th day of August, 1846, at Five o'clock, in Twelve Lots, each having a depth of about 200 feet, with a frontage on the turnpike-road of about 50 feet, situate between the Watford station and the town of Watford; in all respects particularly well adapted for the erection of modern residences, in which the town of Watford is at present so singularly and notoriously deficient, that a builder might rely upon a certain and speedy return of his capital.—Particulars, with plans, may be obtained of Messrs. J. and W. LOWE, No. 2, Tanfield-court, Temple, and of Messrs. BOODLE, 9, Davies-street, Berkeley-square, London; at the New Inn, 3, Edgeware-road, or of Mr. HUMBERT, Surveyor, Auctioneer, &c., Watford, Herts.

TO BUILDERS, CAPITALISTS, &c.—PEREMPTORY SALE.—KENTISH-TOWN.

MR. ELGOOD respectfully announces that the SALE of the whole of the FORTESS TERRACE ESTATE, put up to AUCTION at the Mart, on the 3rd of June, being now completed, except Lot 16, in the particulars of sale, he is instructed to submit that lot for sale on the 31st inst. (unless previously disposed of). It comprises a carcase, No. 3, on the terrace, with garden The Fortess-mews, a uniform and substantial pile of building, let on lease at 100*l.* per annum, and half an acre of garden ground, with about 40 feet frontage, adapted for building upon, &c., forming a very eligible investment, and held for nearly 70 years at a low ground-rent; land-tax redeemed. May be viewed, and printed particulars had at No. 11, on the terrace; at the Mart; of Mr. J. B. KELLY, solicitor, Temple; and at Mr. ELGOOD'S Office, 98, Wimpole-street.

NITON UNDERCLIFF, ISLE OF WIGHT. VALUABLE BUILDING LAND TO BE LET ON BUILDING LEASES.

TO BE LET by AUCTION, by Mr. FRANCIS PITTIS, at the Sandrock Hotel, Niton, on Friday, the 4th September next, at Three o'Clock in the afternoon, several very valuable lots of land, presenting sites for building scarcely equalled in the Undercliff. The property now offered to the public immediately adjoins the sea shore at Buddle, to which there is convenient access by the roads lately formed. The bathing on the shore is excellent, and, from the position of the land, it is well sheltered from the prevailing winds. Immediately in front of the property the Trinity Board are now contemplating the erection of a breakwater, or landing-place; and as it is the only spot along the whole range of the Undercliff where such an undertaking would be practicable, this will afford facilities for landing materials, avoiding the expense of land carriage. An Hotel, including a bathing establishment, capable of first-rate accommodation, is now in course of erection, and fast approaching to completion, on the adjoining property, and houses are rapidly springing up in all directions in the neighbourhood. As an inducement to parties willing to build, the property will be offered at ground-rents upon lease, for terms of 500 years, with an agreement that the lessee shall be at liberty to purchase the fee simple on certain terms within seven years.—For further particulars, apply to the Auctioneer, or to Messrs. SEWELLS, NORRIS, and ESTCOURT, Solicitors, Newport, Isle of Wight.

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The Builder.

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ADVERTISEMENTS.

TO BUILDERS.

PARTNER WANTED.—An opportunity now offers to become a Partner in a genuine old-established business in a county town in the West of England, with the view to the retirement of the present proprietor.—Apply to the office of "The Builder."

TO BUILDERS' CLERKS.

WANTED a Person experienced in the accounts of a general builder, to assist in bringing up arrears, and after their completion, should he suit, the situation may become permanent, for which a knowledge of surveying, drawing, &c., would be necessary. Salary, 2*l.* per week.—Letters, post-paid, stating age, where last employed, and reference for ability and respectability, to be addressed to A. D., Messrs. MANSELL and Co., 2, Bucklersbury.

WANTED, in a Surveyor's Office a short distance from town, a respectable youth of about eighteen years of age. One who has been brought up in an architect's, surveyor's, or engineer's office will be preferred. He will be required to write a good, expeditious, and ornamental hand, and also have a knowledge of drawing and ornamental plan printing. He must be a good penman and arithmetician. The salary at first will be moderate. The situation will in all probability lead to a permanent one, and to improvement.—Testimonials, with specimens of writing and printing, with amount of salary expected per month, to be addressed, post-paid, to A. Z., Messrs. KEITH, PROWSE and Co., 48, Cheapside, London.

TO BUILDERS, PLUMBERS, AND GLAZIERS.

A YOUNG MAN, who has served his time to the above business, is desirous to meet with a respectable SITUATION. Respectable references can be given.—Address, C. GILLATT, 54, Johnson-street, Clarendon-square.

TO BUILDERS.

A YOUNG MAN, Nineteen Years old, who has been used to general work as a Carpenter, wishes to place himself for two or three years in a shop where he can have the opportunity of improving in the trade. Low wages only required.—Address, W. S., 102, Wickham-street, Vauxhall.

TO BUILDERS, &c.

A YOUNG MAN, who has been brought up in the building business, and who has for some time been engaged in land-surveying, is desirous of obtaining the run of a builders' yard and workshops, to superintend work in progress; his object being to improve himself in the various branches. He is competent to square and abstract, and writes a good business hand. A very small remuneration would be at first received.—Address to J. W., Paine's Library, 46, High-street, Marylebone.

UNION SAW, PLANING MILLS AND TIMBER YARD, LISSON-STREET, PADDINGTON.

E. VIGERS, jun., begs to inform the Public he has re-opened the above premises (late Gatehouse and Co.), and that he intends keeping a first-rate stock of all the usual descriptions of yellow and white deals, battens, spruce and pine deals, and plank, mahogany, prepared flooring, matched boarding, machine struck mouldings, beech quarters, and plank, and all descriptions of timber and deals, fit for immediate use, at the lowest prices, for ready money,

CONTRACTS.

TO BUILDERS AND PAINTERS.

THE Trustees of St. James's Chapel, in the Hampstead-road, are desirous of receiving TENDERS for sundry repairs and decorations to be done to the said chapel. The specification may be seen at the offices of Mr. CHARLES MAYHEW, Architect, 14, Argyll-street, Regent-street, daily, from Ten to Four o'clock. The tenders are to be sent to me, under seal, at the Parochial Office, Poland-street, Oxford-street, on or before Tuesday, the 8th of September next.

The Trustees do not pledge themselves to accept the lowest tender.

GEORGE BUZZARD,
Agent to the Trustees.

WANTED, for the Great Yarmouth Gas Works, a GASOMETER and CAST-IRON TANK. The tank to be 60 feet diameter, and 17 feet deep; the bottom of the tank will require to be laid on planking, and level with the surface of the ground. There must be six guide rods, with cast-iron framing, but no balance-weights.

The contractor to be responsible for the tank holding full of water for six months, and the whole to be of the best workmanship and materials. No one need tender who has not erected similar work. For further particulars inquire of Mr. CLEGG, Civil Engineer, 24, Regent-square, London. Sealed tenders to be delivered, addressed to JOSEPH DAVEY, Esq., Secretary to the Gas Company, Regent-street, Great Yarmouth, on or before the 15th of September, 1846.

HOLBORN AND FINSBURY SEWERS, MIDDLESEX.

THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persons about to Purchase or Rent Houses or Property, or take Land for Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Persons to apply for at the above Office.

By the Court,
STABLE and LUSH, Clerks.

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDDLESEX, No, 1, Greek-street, Soho-square.

TO BUILDERS and Others interested in buildings or in ground for building upon, within the district under the jurisdiction of this Court, drained by watercourses falling into the river Thames, between the city of London and the parish of Fulham.

The Commissioners hereby give notice, that by an Act of the 47th Geo. III. (chap. 7, local) it is required that, previously to the making of any new sewer in any street, lane, or public way, or in any part intended to become a street, lane, or public way, or to carry or drain off water from any house, building, yard, or ground, into any sewer under their management, or within their jurisdiction, a notice in writing shall be given to them, or to their clerk at their office, and that such new sewer or sewers shall be constructed and made in such manner and form as shall be directed by the said Commissioners, and not otherwise.

And, in order to prevent the serious evils and inconveniences that must arise from ground proposed to be built upon being excavated at too great a depth, the Commissioners have directed that, upon application being made at this office previously to the excavation of such ground, information shall be given as to the lowest depth at which the same can be drained.

And the Commissioners do also give notice that, whenever the lower floors or pavements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any sewers, or drains into sewers, to be made for the service of such buildings.

It is recommended to all persons about to purchase or take houses, or other premises, to ascertain whether such premises have separate and distinct drains into common sewers.

All petitions must be delivered at this office at least three clear days before they are presented to the commissioners; and all such petitions will be called on in the order of their application, and the name of any party not present when called on to support the application will be struck out, and the proceedings must in consequence be commenced de novo.

All communications made with any sewer without leave of the Commissioners will be cut off, and the parties making the same will subject themselves to a fine.

The provisions of the Metropolitan Buildings Act (7 and 8 Victoria, c. 84) do not supersede the authority of the Commissioners of Sewers in the above respects, but their powers are expressly reserved, and their regulations made subservient to the purposes of the Act. The execution of such works, under the superintendence of the district surveyor alone, cannot therefore warrant the making of any sewers or drains within this commission, nor relieve the parties making them from the penalties above mentioned.

By order of the Court,
LEWIS C. HERTSLET, Clerk,

ART-UNION OF LONDON.—Evening Exhibition. The Works of Art selected by the Prize Holders of the year 1846, now Exhibiting at the Gallery of the Society of British Artists, Suffolk-street, Pall Mall, East, will be open from Seven till Ten on the Evenings of the 1st, 2nd, 3rd, 4th, 8th, 9th, 10th, and 11th of September. Admission by Tickets only.

GEORGE GODWIN,
26th Aug., 1846. LEWIS POCOCK, } Hon. Secs.

PUBLICATIONS.

CHEAP EDITION.

Now ready, in a wrapper, price 2*s.* 6*d.*; or 4*s.* 6*d.* neatly bound in roan, with tuck, gilt edges, and lettered, a Pocket Edition of

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By the late A. BARTHOLOMEW, Esq., F.S.A., Architect, Surveyor of the Hornsey District.

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TO HEIRS AT LAW AND NEXT OF KIN.

A complete List of the Advertisements that have appeared during the present century is now publishing in

THE CRITIC, the largest and cheapest literary journal in Europe, every Saturday, 32 folio pages, price 4*d.*, or 5*d.* stamped. THE CRITIC contains also many new and original features. A copy, as specimen, sent to any person transmitting three postage stamps to the Critic Office, 29, Essex-street, Strand. To be had by order of all booksellers and newsmen.

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ARNEWAY'S CHARITY.—NOTICE is HEREBY GIVEN, that the Trustees of this Charity are now enabled to LEND out the TRUST MONEYS to "Poor Occupiers or Traders resident within the City and Liberty of Westminster; that is to say, within the parishes of St. Margaret and St. John the Evangelist, St. Ann, Soho; St. Clement Danes, St. George, Hanover-square, St. James, St. Martin-in-the-Fields, St. Mary-le-Strand, and St. Paul, Covent Garden."

The amount of each loan is not to exceed 100*l.*; is to bear interest after the rate of 3*l.* per cent. per annum, and is to be secured by the bond of the borrower with two sureties.

Printed forms of application and all necessary information may be obtained by applying personally, between the hours of Ten and Three o'clock in the day, at the office of the Clerk and Solicitor to the Trustees, No. 12, Great Queen-street, St. James's-park.—By order,

EDWARD S. STEPHENSON,
Clerk and Solicitor to the Trustees.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 33, Chiswell-street, Finsbury-square, near Whitbread's Brewery

Best Patent Cut Clasp.

3d.	4d.	5d.	8d.	10d.	20d.
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Self-acting Kitchen Ranges with Oven and Back Boiler.
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3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
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3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
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Do. Elliptic do., at 3½d., and 4d. do.

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HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 168, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

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LEADBEATER,





125, Aldersgate-street, City Nine Years Sole Manufacturer for Chubb, St. Paul's Church Yard, has on sale a large assortment of fire-proof book-safes and chests; wrought-iron fire-proof doors for strong rooms; fire-proof jewel cases, cash, and deed boxes; fire-proof plate-chests, &c., &c., all secured by LEADBEATER'S IMPROVED DETECTOR LOCKS, throwing from three to twenty bolts, at prices 20 per cent. under any other house in London. All the above-named fire-proof articles, manufactured in the best manner, afford perfect security against fire and thieves.

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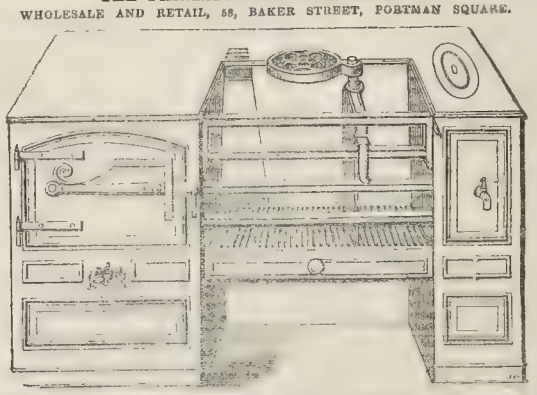
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N.B. Workmen sent to any part of the kingdom.
*** An Apprentice wanted.

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Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

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CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

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TO BUILDERS.
SASHES PRIMED and GLAZED with Crown Glass at 5d. per foot. Foreign and British Sheet at 4d. and 5d. per foot. Ground Glass, 9d. per foot.
Stained and Painted Windows for churches or staircases, executed by first-rate artists in a superior style, on very low terms. Designs furnished.—Flatted Crown and best polished Sheet Glass, for shop windows, &c.—For ready money only. EDWARDS and PELL, 15, Southampton-street, Strand, and No. 7, Maiden-lane.

BRITISH and FOREIGN SHEET GLASS for Horticultural purposes, &c., may be had at JAMES BROMLEY'S, 315, Oxford-street, London, at the following reduced prices:—
In crates, containing about 200 feet, of coarse 13 oz., at 4½d. per foot, or fourth quality, 5d. per foot; ditto, 16 oz. coarse, 5½d.; ditto, fourth quality, 6d.; or cut to any size not exceeding 40 inches long by 10 inches wide at 4d. per foot extra. Also Microscopical Glass, French Shades, Plate and Crown Window Glass.—A discount to the Trade.

TO THE PLATE GLASS TRADE.
THE BIRMINGHAM PLATE AND CROWN GLASS COMPANY, "Registered," beg to inform the Trade and Public, that the extension of their Works at Smethwick, near Birmingham, being now completed, their Warehouse, 141, Fleet-street, London, is now open for the Sale of their Crystal Plate Glass, which will be found to stand unrivalled by that of any other manufactory. They are also in a position to supply Rough Plate of any substance for Skylights or Floorings on the shortest notice.—Orders addressed to B. MOSS, Company's Warehouse, 141, Fleet-street, London, will be promptly attended to.

SASHES primed, glazed, and sent to any part of London at 5d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.
FOREIGN SHEET. BRITISH SHEET.
BRITISH CROWN. PROPAGATING GLASSES.
Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Shew-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.
Dry and Good Colours of the best quality; Brushes Dryers, and every article used in the Trade Warranted.
VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.
For complete lists priced.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

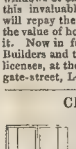
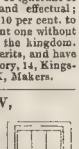
WINDOW GLASS, LEAD, VARNISH, and COLOUR MANUFACTORY.—Crown Window Glass, in squares under two feet, 4½d. per foot; glazing, 5d. per foot; sheet glass, 4d. per foot; best white lead, 26s.; seconds, 24s.; thirds, 22s. per cwt.; linseed oil, 2s. 2d.; boiled oil, 2s. 5d.; turpentine, 3s. 9d.; fine oak varnish, 10s.; carriage, 12s.; copal, 14s.; body copal, 20s.; gold size, 10s.; paper varnish, 10s.; linseed oil putty, 7s. 6d. per cwt. per firkin; patent dryers, 42s.; black paint, 28s.; lead colour, 24s.; Oxford ochre, 42s. per cwt.; best pan water-closet, 34s. complete; 2-brass cocks, 2s. 8d. each. Milled sheet lead, patent pipe, beer-machines, tapping-cocks, and brushes and colours of every description. Thomas Millington being the manufacturer, can supply a much better article than most other houses. Address, THOMAS MILLINGTON, 87, Bishopsgate-street Without, London.—Established upwards of 90 years.

MR. W. SAWYER having taken the Old Established Sash Manufactory of the Late Mr. GREENWOOD, of 49, Ashford-street, Hoxton, is now manufacturing sashes and frames, shop-fronts, doors, stairs, hand-railing, &c., lower than ever was offered to the public. W. S., in calling the attention of builders and consumers to a few of his prices, confidently presumes on being able to supply them on such terms as will ensure and merit their favour. W. S. is enabled through the increasing demand, to make a reduction from his original list of prices.

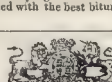
	s.	d.
1¾-inch ovolow sashes and frames....per foot	0	8
2-inch ditto ditto	0	10
1¾-inch ovolow sashes framed glazed	1	1
2-inch ditto ditto	1	3
2-inch mahogany shop-fronts perfect	0	10
1¾-inch side doors	0	6½
2-inch ditto	0	8½

Superior Workmanship guaranteed. Country orders immediately attended to. No extra charge made within five miles.

HERRING'S PATENT SAFETY WINDOW.—All danger from cleaning or repairing windows at an end. No housekeeper should be ignorant of this invaluable invention. Simple, cheap, and effectual; will repay the cost every two years; adds 5 to 10 per cent. to the value of houses. No one should buy or rent one without it. Now in full operation in most parts of the kingdom. Builders and the public can inspect its real merits, and have licenses, at the Patent Steam Bed-feather Factory, 14, Kingsgate-street, London.—JOHNSON and PASK, Makers.

CHAS. WM. WATERLOW,

Manufacturer of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square. Well-seasoned materials, superior workmanship, lowest prices. Upwards of 400 Doors and a large variety of Sashes and Frames always on Sale. Glazed goods securely packed for the country.

Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged on building.

PAVING, 2s. 9d. PER SQUARE YARD. Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 13, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27s. 6d. per ton.

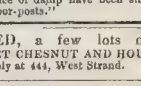

COMMISSIONERS OF FINE ARTS' REPORT ON THE MEANS OF PREVENTING DAMP IN WALLS.

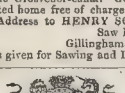
THE DIRECTORS of the SEYSSEL ASPHALTE COMPANY have much pleasure in recommending to the notice of Architects, Builders, and others, the application of the ASPHALTE of SEYSSEL as the only effectual means of preventing DAMP rising in WALLS.
J. FARRELL, Secretary.
Seyssel Asphalte Company's Works,
"Claridge's Patent."
Stangate Depôt, London.

The following account of its application is extracted from "The Appendix to the Commissioners of Fine Arts' Report," page 18:—
"In 1839 I superintended the construction of a house of three stories on the Lac d'Enghien. The foundation of the house is constantly in water, about 19½ inches below the level of the ground floor. The entire horizontal surface of the external and internal walls was covered, at the level of the internal ground-floor, with a layer of SEYSSEL ASPHALTE, less than half an inch thick, over which coarse sand was spread.
"Since the above date no trace of damp has shewn itself round the walls of the lower story, which are for the most part painted in oil of a grey stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so painted, yet the pavement of the floor, resting on the soil itself, is only about 2½ inches above the external surface of the soil, and only 19½, at the utmost, above that of the sheet of water.
"The layer of Asphalte having been broken and removed, for the purpose of inserting the sills of two doors, spots indicating the presence of damp have been since remarked at the base of the door-posts."

WANTED, a few lots of YOUNG SWEET CHESNUT AND HOUSE CHESNUT TIMBER.—Apply at 444, West Strand.

DRUCE'S No. 3, WHARF, late Paradise-wharf, Chelsea.
TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Pantiles.

MUIR'S PATENT  PLANING MACHINERY.
SAW MILLS, GILLINGHAM-STREET, PIMLICO.
TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.
Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.
N.B. Estimates given for Sawing and Planing.


TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.

THE GENERAL WOOD CUTTING COMPANY continue to receive the most satisfactory assurances from all who have given their improved machinery a trial, that there is no method of preparing floor-boards, matched linings, skirtings, &c., by which accuracy, dispatch, and economy of material are so certainly obtained. In shooting, or groving and tongueing a board (although curved), the machine follows the edge, removing no more than the skin of the wood, and by the use of a peculiar saw for deep cutting, the board comes off with a perfect surface, thus obviating the necessity of reducing its thickness in order to plane out the hollows. The Company being neither builders nor timber merchants, unconnected with any trade but that of sawing and planing, and depending solely on the public for a moderate interest on their capital, are determined, by an assiduous attention to the interests of their customers, both as regards workmanship and general business arrangements, to merit a continuance of their support.

PREPARED FLOORING BOARDS.
AT REDUCED PRICES.
ALWAYS ON SALE, a LARGE ASSORTMENT of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from 1 inch to 1¼ inch thick. Rough Boarding for Flats.
TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.
Apply at W. CLEAVE'S Timber Yard, Smith-street, Westminster.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, at Old-Barge-Wharf, Upper Ground-street, Blackfriars, and at Hy. Castle's, Ship-yard, Millbank-street, Westminster, a large, very general, and well-seasoned stock of all kinds of Prepared Floor and Match Boarding, planed to a parallel breadth and thickness, fit for immediate use; also a great variety of machine-prepared mouldings, very accurately finished.
A. R., in calling the attention of builders and consumers, confidently presumes on being able to supply them on such terms as will ensure and merit their favours, &c.

SIR WILLIAM BURNETT'S PATENT for the Preservation of Timber, Canvas, Cordage, Cotton, Woollen, &c., from Decay.
TESTIMONIALS.
From THOMAS GRAHAM, Esq., M.A., F.R.S., L. and E., Professor of Chemistry, University College, London.
"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.
"The wood appears to be fully and deeply penetrated by the metallic salt; I have found it in the centre of a large prepared paving block.
"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the crystallizable salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.
"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Teplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.
"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the lignous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotised principles it contains, by entering into chemical combination with them.
(Signed) "THOMAS GRAHAM."
"University College, 25th October, 1845.
From Professors BRANDE and COOPER.
"London, 4th November, 1845.
"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.
"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.
"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.
"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.—(Signed) "WILLIAM THOMAS BRANDE,
"JOHN THOMAS COOPER."
"To SIR William Burnett, K.C.H., F.R.S., &c. &c."
Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 53, King William-street, London-bridge.

TO COMMISSION AGENTS IN THE STONE TRADE.
AN AGENT of Respectability who calls on Stone Merchants, Paviors, and Builders, may have a Commission for Selling Scotch Flag Stones, in Cargoes.—Address, with references, to W. M., Messrs. Knight and Fosters, 5, Eastcheap.

ARBROATH and CAITHNESS FLAG STONES.—Merchants, paviors, masons, and builders can be supplied with the above stones, in natural planed and polished faces, in cargoes direct from the quarries, at first cost prices, delivered free from ship's side in River Thames, or free on board at quarries in Scotland.—Samples of stones may be seen at ALEX. REID'S, 70, Lower Thames-street, City.

CAEN STONE.
TUCKWELL'S Norway Sufferance Wharf, Greenwich.—Architects and Stone Merchants are informed, that this stone may be procured at the above Wharf in any quantity, in blocks up to 12 tons. The stone, which is exclusively the product of the Allemagne Quarries, and of the very finest quality, is consigned solely to W. TUCKWELL, who is prepared to execute orders to any extent, having a Large Stock always on the Wharf.—Orders received by, and further information with samples may be obtained of Mr. R. A. WITHALL, Surveyor, 80, Cheapside, and of Mr. W. TUCKWELL, at the Wharf.
N.B. Cargoes shipped direct to any Port.

CITY of LONDON UNION.—Wanted to PURCHASE, in or near London, a PLOT of GROUND, for a Union Workhouse.—Persons desirous of offering land for sale are requested to send the particulars in writing, with the price, addressed to the "Special Committee of Guardians," 35, Canon-street.
Aug. 18, 1846. JOHN THOMAS ROWSELL, Clerk.

GROUND TO BE LET on Building Leases for 99 years, at Gloucester-street, Churchlane, Kensington.—For particulars, apply to Mr. SALMON, Allsaon-terrace, Kensington.

TO BUILDERS AND BUILDING SOCIETIES.

PLOTS of GROUND, most eligibly situated in the New North Road, Islington, thoroughly drained, Land Tax redeemed, belonging to the Worshipful Company of Clothworkers, TO BE LET on Building Leases.—For Plans, &c., apply to Messrs. ROBSON and ESTALL, Elcomb-terrace, New North-road.

TO CARPENTERS, PACKING-CASE MAKERS, AND OTHERS.

AN old-established Carpenter's and Packing-case Maker's Business TO LET, in the neighbourhood of Oxford-street. No premium required for goodwill.—For particulars apply by letter, post-paid, to Mr. HENRY SOUTHAM, Sawing and Planing Mills, Grosvenor Basin, Pimlico.

TO BUILDERS, TIMBER MERCHANTS, IRON MERCHANTS, &c.

WATERSIDE PREMISES.—TO LET, part of Albion Wharf, Holland-street, Surrey, foot of Blackfriars' Bridge, with large Warehouse and Sheds, and use of a 16 ton crane.—Apply on the premises.
N.B. This wharf is never overflowed by high tides.

BUILDING GROUND.

TO BE LET, a Plot of nearly Two Acres, containing good Brick Earth (which may be used or not), having a most desirable frontage of about 500 feet, situate in a highly respectable neighbourhood, within three miles of Hyde-park-corner; the whole or part may be taken.—Apply to Mr. BOND, Auctioneer, &c., Dorcas-terrace, Hammersmith Gate.

TO LET on Building Lease for 99 Years. Twenty beautifully situated PLOTS of BUILDING GROUND, in the immediate vicinity of the flourishing market town of Uxbridge, and within a few minutes' walk of the proposed Cowley station, on the Great Western and Uxbridge Railway. It is admirably adapted for the erection of villa residences, which are in great demand in the neighbourhood.—Plans may be seen and particulars known by application to Mr. JOHN HARDY, Surveyor, Cowley, near Uxbridge.

WHARF.—TO BE LET, part of a desirable Wharf, abutting on the Regent's Canal Bridge, City-road, with a counting-house, a good entrance, and water-way, and the use of a very powerful crane. These elegible premises are well adapted for the coal, slate, cement, tile, timber, iron, or stone trade.—Apply to JAMES COVINGTON and SON, Licensed Lightermen, Coal Merchants, Wharfingers, and General Agents, 8, Wharf, City-road Basin.
N.B. Goods of every description landed, warehoused, and carted on moderate terms.

TO BUILDERS.—MATERIALS AND MONEY ADVANCED.

TO BE LET, on BUILDING LEASES, for ninety-six years, several very eligible plots of Freehold Building Ground, land-tax redeemed, for fourth-rate houses, situated in streets leading from the Queen's-road, Dalston, to Lansdown-place. This is one of the most rapidly improving neighbourhoods near London, and will be the principal thoroughfare from all parts westward to the new Victoria Park, from which it is only a quarter of a mile distant.—Apply to Mr. PALMER, on the premises.

ST. JOHN'S WOOD PARK!!! IMMEDIATE CONNECTION WITH REGENT'S PARK.

BUILDING PLOTS TO BE LET in this most desirable and salubrious situation!! commanding picturesque views of the surrounding beautiful neighbourhood, and elevated within a few feet of the summit of the monument, with the best approaches of any suburban district near the metropolis, and greatest facilities of access to all the fashionable resorts and promenades of the West End and the City!—For particulars and plans, apply to W. H. TWENTYMAN, Esq., 11, Regent's-villas, Avenue-road, Regent's-park.

FOR DISPOSAL.—GRAND SURREY CANAL and COMMERCIAL SAWING and PLANING MILLS, near Plough-bridge, Rotherhithe, on the banks of the Surrey Canal.

These mills, now in perfect working order, comprize two first-class engines, two new boilers, six saw frames, one planing machine, two circular saw benches, and several unfixed, one veneer saw, shafting gearing tools, &c., complete in all its branches, are now to be disposed of.

The situation of these mills, communicating with the Thames by the Surrey Canal, are first-rate, being in the very heart of the timber market, and within one minute's walk from the Commercial, East Country, and Surrey Docks, with 400 feet canal frontage, and the same length of high road frontage, with abundance of water; capable of adaptation, in addition to its own business, to any other branch, such as sawing stone, marble, &c., engineering, grinding flour, or any other purposes where steam is required.

Held under lease for about fifty-seven years, unexpired, from the Surrey Canal Company, at the trifling ground rent of 60*l.* per annum.

The formation of a company or society of builders, timber merchants, engineers, wharfingers, or any trade where steam and water carriage, or where connection with the railways on the South Eastern Lines is required, would find this an eligible spot to carry on a very profitable and extensive business.

These mills are now in full work, and may be seen daily.

The Diamond Funnel Steamboats for Woolwich and Greenwich go to the Commercial Dock's Pier, and omnibuses from Gracechurch-street, to within five minutes' walk from the mills, four times an hour.

For further particulars and to view apply at the sawmills, or to
HENRY JACOBS,
35, Surrey-street, Strand.

CARCASES.—TO BUILDERS, CARPENTERS, AND OTHERS.

TO BE SOLD, Four capital CARCASES, (either together or separate), with large gardens attached, situate in a highly respectable and well-formed neighbourhood, held for a term of eighty years, at low ground rents.—For further particulars apply to Messrs. ROBERTS and ROBY, 24, Moorgate-street, Bank.

FOR SALE. Mahogany Doors, of the following dimensions and descriptions:—

			high.		wide.
			ft. in.		ft. in.
No. 1 pair	2¼	in. four-panel folding doors	7 6	by	3 8
1 ..	2¼	,, folding doors, with circular fan-light over	7 0	..	3 8
1 ..	2	,, circular head glass door	7 4	..	3 1
1 ..	2	,, blank door, six panels to match other doors	7 6	..	3 5
9 ..	2	,, 6-panel dble. molded doors	7 6	..	3 6
2 ..	2	,, ditto ditto	7 6	..	3 5
1 ..	2	,, ditto ditto	7 5½	..	3 4
1 ..	2	,, ditto ditto	7 4½	..	3 2½
1 ..	2	,, ditto ditto	7 6½	..	3 2
4 ..	2½	,, ditto ditto	6 10	..	3 2
2 ..	2½	,, ditto ditto	6 10½	..	3 2
2 ..	2½	,, ditto ditto	6 11½	..	3 3
1 ..	2½	,, ditto ditto	6 10	..	3 3
1 ..	2½	,, ditto ditto	6 11	..	3 2

N.B. The doors have four sets of mahogany architraves; all the other architraves and the jamb linings are deal.

Further information may be obtained on application to Mr. BROWN, Clerk of Works, Stanwick Hall, near Darlington.

SALES BY AUCTION.

FREEHOLD BUILDING LAND, HOUNSLOW, MIDDLESEX.

MESSRS. ROBERTS and ROBY will SELL at the Mart, on WEDNESDAY, Sept. 2nd, at Twelve, in three lots, valuable FREEHOLD BUILDING GROUND, of 160 feet frontage, by a depth of 200 feet, particularly adapted for the erection of six villa residences, beautifully situate in the high Bath-road at Hounslow, adjoining Hope-cottage, and opposite Springcottage and Maitland's-place, a well formed respectable neighbourhood, a short distance from the contemplated station of the Hounslow Railway.—To be viewed till the sale, and particulars had at the various inns at Hammersmith, Turnham-green, Brentford, Twickenham and Hounslow Auction Mart, and at ROBERTS and ROBY'S Offices, 24, Moorgate-street, Bank.

FREEHOLD BUILDING LAND, EALING and HANWELL, MIDDLESEX.

MESSRS. ROBERTS and ROBY are directed to SELL by AUCTION, at the Mart, on Wednesday, September 2, at Twelve, in 15 Lots, the remaining portion of valuable Freehold Building Land, most conveniently and eligibly situate at Ealing and Hanwell, near the Old Hats Inn, and opposite Messrs. Mountjoy and Son's Nursery, on the high road from Acton to Hanwell, within a few minutes' walk of the Hanwell Railway Station, and only a quarter of an hour's ride of London, in a respectable neighbourhood, and about six miles from the metropolis, with the advantage of easy communication by the Great Western Railway, omnibuses, or coach. Well adapted for the erection of Villa and other Residences, which are much in request in this locality.—To be viewed, and Particulars, with Plans, had at the various Inns in the neighbourhood; of Mr. HARRIS, Ealing; of Mr. SCARBOROUGH, Tokenhouse-yard, Lothbury; at the Auction Mart, and at ROBERTS and ROBY'S Offices, 24, Moorgate-street, Bank.

Desirable Freehold Property, New Brentford, Middlesex, exonerated from Land-tax.

MESSRS. KING and SON will offer for peremptory SALE by AUCTION, at the Castle Inn, Brentford, on Tuesday, September 1, at Two, in ten Lots, TEN substantially and well-built FREEHOLD HOUSES, pleasantly situate in the most preferable part of the High-street, New Brentford. The whole are much underlet to respectable tenants of long standing, who have established trades, at rents amounting to 203*l.* per annum. This truly desirable property, forming together a very compact estate, presents to capitalists a most favourable opportunity for a safe investment, being so exceedingly well situate that it will command a constant tenancy. May be viewed by leave of the tenants, and descriptive particulars had of Messrs. CLARK, solicitors, Brentford; Mr. LAMBERT, architect and surveyor, 43, Coleman-street, City; and of Messrs. KING and SON, estate agents, &c., Brentford.

TO ENGINEERS AND BOILER MAKERS.
LAP-WELDED IRON TUBES FOR STEAM BOILERS.

THE BIRMINGHAM PATENT IRON TUBE COMPANY, 42, Cambridge-street, Birmingham, and Smethwick, Staffordshire, manufacture Tubes under an exclusive License from Mr. Richard Prosser, the Patentee. These Tubes are now very extensively used in the Boilers of Marine and Locomotive Steam Engines in England and on the continent, are stronger, lighter, cheaper, and more durable than brass and copper Tubes, and warranted not to open in the Weld. They may be fixed in the Boilers without Ferules, and can be taken out and refixed without addtional trouble or expense.—Address, 42, Cambridge-street, Crescent, Birmingham; London Warehouse, 68, Upper Thames-sstreet.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,
Manufactory, 95, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

INJUNCTION.

BUNNETT and CORPE'S Patent REVOLVING IRON SHUTTERS.—Since the verdict found in favour of the Patentees, in the Court of Exchequer, in the action tried by order of the Court of Chancery, that Court has granted a perpetual injunction for restraining all infringements of this Patent, and therefore all parties are hereby cautioned against infringing the same.

THE PRICES ARE GREATLY REDUCED, and BUNNETT AND CORPE'S PATENT IRON SHUTTERS ARE THE CHEAPEST AS WELL AS THE BEST. They are made with convex laths, if required. The worm and wheel motion for raising and lowering revolving iron shutters (as secured by this Patent) is the only safe and durable mode of effecting that object. In large shutters it is indispensable.

Some thousands of Bunnett and Corpe's Shutters have now been put up, without a single complaint of their want of strength or security; and nine years' practical experience (during which they have adopted every real improvement) enables the Patentees to challenge comparison with any others. They will guarantee all Shutters put up by them to keep in order, and last twice as long as any with thin convex laths.

B. and C. also manufacture REVOLVING WOOD SHUTTERS (the Patent for which has expired), at the same prices as other makers, but greatly superior, being fitted with their patent raising gear, and proper metallic hinges, without which no shutter can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop-fronts fitted with Iron Shutters, Patent Brass or Zinc Sashes, Plain or ornamental, handsomely Engraved, Moulded, Stall-board Plates, best Plate Glass, and Internal Brass Fittings of all kinds, superior in quality and workmanship, and lower in price than any other house.

Contracts taken in Town or Country.

Metal Drawing and Stamping for the Trade.

Office at No. 26, Lombard-street, London; Works, at Deptford, Kent.

Steam-engines, Sawing, Planing, and Moulding, Cutting-machines on Improved Plans, especially adapted for Builders' purposes, may be seen in operation at the Works.

LIGHTNING CONDUCTORS FOR BUILDINGS.

A. SMITH'S PATENT COPPER WIRE ROPE is being daily employed for the protection of CHURCHES and other buildings from the effects of thunder storms; it possesses important advantages over other forms of conductors. References can be given where it has been applied for some time past to CHURCHES, PUBLIC and PRIVATE BUILDINGS, &c., &c. Its general adoption in the Naval and Mercantile Marine of this and other countries is the strongest possible EVIDENCE of its EFFICIENCY, &c.

A. SMITH begs the attention of those engaged in building to his IMPROVED PATENT PANELLED AND REVOLVING IRON SHUTTERS,—Also, the Patent Weather-tight Fastening and Cill Bar, for French Casements, which are so much admired for their security, simplicity, cheapness, and efficiency. Of the merits of his

Patent Double and Single Action Door Springs,
Improved Flooring Cramps,
Patent Wire Sash Lines, &c. &c.,

Little need be said, as they are pretty generally known and appreciated.

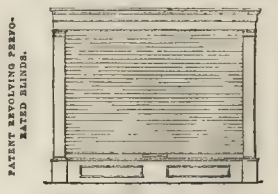
Manufactory for Iron Suspension, Sliding, and other Doors, Strong Rooms, Plain and Ornamental Palisading, Gates, and Columns.—Also, Metal Sashes, Shop-fronts, Stall-board Plates, Brass butt, and other Hinges. Buildings heated upon a new, safe, and superior plan.

Estimates given for every description of Metal-work.

A. Smith, 69, Princes-street, Leicester-square, London.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.

PATENT SAFETY IRON SLIDING SHUTTERS.





The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 115, Old Street, London; or at the Licensees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using BENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licenses Granted.

LONDON: Printed by CHARLES WYMAN, of 49, Cumming-street, Pentonville, in the County of Middlesex, Printer, at the Printing-office of J. & H. COX, *Brothers*, 74 & 75, Great Queen-street, Lincoln's-Inn-Fields, in the Parish of St. Giles-in-the-Fields, in the same County; and published by the said CHARLES WYMAN, at the office of "THE BUILDER," 2, York-street, Covent Garden, in the Parish of Saint Paul, Covent Garden, in the said County,—Saturday, August 29, 1846.

The Builder,

A JOURNAL FOR

The Architect, Engineer, Operative & Artist.

VOL. IV.—No. 187. | SEPTEMBER 5, 1846. | Price ..... 3d. Stamped.. ....4d

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ADVERTISEMENTS.

WANTED, for painting Iron Work, a quantity of METALLIC PAINT, such as will not corrode with the action of the atmosphere; a composition of Zinc, such as is used by Louis Philippe for all such purposes, would be preferred.—All communications addressed, post-paid, to Mr. ROBERTS, "Courier" Office, Chesterfield.

TO PLUMBERS, GLAZIERS, AND PAINTERS.

WANTED, by a Person who thoroughly understands the above Branches, a SITUATION as FOREMAN.—Address, T. WARD, office of "The Builder," 2, York-street, Covent Garden.

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WANTED a genteel Youth, as an Apprentice to a highly respectable business; he will be treated as one of the family; references will be given and required.—Apply by letter, prepaid, to E. F., Mrs. Hoppé, Stationer, 79, Strand.

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WANTED, in London, a thorough Workman, as Leading Hand, who, if suitable, will be engaged at liberal Wages throughout the year. None need apply but those who have had the care of large jobs, and can give reference as to their qualifications, &c.—Address, post-paid to R., at the office of "The Builder," York-street, Covent-garden.

BUILDERS' CLERKS.

WANTED a Person acquainted with the routine of a Builder's office, and used to early hours. One writing an expeditious hand, and practically acquainted with the business, will be preferred.—All applications to state the writer's age, where last employed, and amount of salary required, addressed to A. B., Mr. MILAND'S Library, Chapel-street, Grosvenor-place.

TO CARPENTERS AND UPHOLSTERERS, &c.

AN Experienced Person is desirous of obtaining a Situation as Foreman; can have first-rate recommendations; would prefer an Upholsterers where they employ Joiners.—Address, C. N., 42, Gilbert-street, Oxford-street.

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A YOUTH, about nineteen, who has served four years of Apprenticeship, and wishes for a little more improvement, as wages not so much an object as improvement.—Letters directed P. W., No. 8, Queen-street, Edgeware-road.

TO ARCHITECTS, BUILDERS, AND OTHERS.

A PERSON, accustomed to Superintend Works, and the general duties of an Office, is at liberty for another ENGAGEMENT. Can be well recommended from the Builder with whom he has been two years at the west end, and others of first respectability and experience. Age 42.—Address, G. X., office of "The Builder," 2, York-street, Covent Garden.

No objection to the Country.

THE Advertiser offers himself to make up and balance the books, or calculate and make out estimates, &c., for any party requiring his services; he has had considerable experience in all matters of account, and has no doubt would give satisfaction to any person by whom he may be employed.—Address, M. D., 59, Fleet-street.

ST. BARTHOLOMEW'S HOSPITAL.

A Committee of Governors will meet at this hospital on TUESDAY, the 8th day of September next, at Eleven o'clock in the forenoon precisely, to receive proposals from such persons as may be willing to take on a Building Lease or Leases, for a term of 61 years, from Michaelmas next, a very eligible PLOT of GROUND, situate on the south side of Kent-street, in the borough.—Immediate possession may be obtained, and the plan of the same may be seen on application at the counting-house, any day between the hours of Ten and Three o'clock. WILLIAM WIX, Clerk.

August, 1846.

CONTRACTS.

TO BUILDERS.

TENDERS are required for the Erection of a School and Teacher's Residence, at Seer Green, near Beaconsfield. Plans and Specifications may be seen at Messrs. CHARSLEY and PARTON'S, Solicitors, Beaconsfield, to whom Tenders must be sent, on or before Saturday, the 19th day of September. The lowest Tender will not necessarily be accepted.

TO BUILDERS.

THE Committee for Conducting the Erection of Trinity District Church, in the Parish of Rotherfield Greys, Henley-on-Thames, are desirous of receiving TENDERS for the Erection of the same. The plans and specifications may be seen at the Town Hall, Henley-on-Thames, between the hours of Nine and Four, any day, Sundays excepted, from Monday the 7th of September, till Saturday, the 19th of September, after which day no Tender can be received.

The Committee do not pledge themselves to accept the Lowest Tender. The Tenders are to be delivered sealed, and endorsed "Tender for the Erection of Trinity District Church, Rotherfield Greys, Henley-on-Thames," and are to be addressed to the Rev. F. K. LEIGHTON, Harpsden Rectory, Henley-on-Thames.

TO BUILDERS AND OTHERS.

THE Commissioners of the Birmingham Street Act hereby give notice that they will meet in No. 2 room, Public Office, Birmingham, on THURSDAY, the 17th day of September instant, at Ten o'clock in the forenoon, to receive TENDERS for building sewers in Digbeth, St. Martin's-lane, and Edgbaston-street, being 368 yards in length (class B). Plans and specifications of the works required to be performed may be seen daily at the town surveyor's office, Moor-street, from Nine till Four o'clock. Security will be required from those parties whose tenders may be accepted, and no tender will be received after Ten o'clock on the above day.

The Commissioners do not pledge themselves to accept the lowest tender.

ARNOLD, HAINES and ARNOLD,
Clerks to the Commissioners.

Public Office, Birmingham, Sept. 2nd, 1846.

TO BUILDERS, PAINTERS, DECORATORS, AND OTHERS.

MESSRS. WOOD AND COMPANY, Grainers and Writers to the Trade only, by contract, measure, or otherwise.

62, Waterloo Bridge-road. All letters post paid.

N.B. Workmen sent to any part of the kingdom.

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CHEAP PAN FOR WATER CLOSETS, With Trap, in one Piece.

DOULTON and WATTS, Lambeth Pottery, London, Manufacturers of the above in superior glazed STONE WARE, price 7s. 6d. each. They are of the most durable ware, and are recommended in preference to iron on account of their cleanliness and cheapness. If preferred, they can be had in two parts, the pan at 4s. 6d., and the Trap at 3s. 6d. N.B. Manufacturers of RAIN WATER PIPING for houses.

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GAS LAMPS, GAS BRACKETS, GAS PILLARS, BURNERS, &c. &c. In calling the attention of architects, builders, &c., to their assortment of Gas Furniture in general, C. DEBAUFER and SON respectfully announce they continue to fit up premises of every description on the most approved and newest system of gas fitting. An experience of forty years justifies us in making the above assertion.—P.S. Country orders attended to with dispatch.

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ART-UNION OF LONDON.—Free Exhibition. The Works of Art selected by the Prize Holders of the year 1846, now Exhibiting at the Gallery of the Society of British Artists, Suffolk-street, Pall Mall East, will be open to the public without tickets, Free, from the 7th to the 12th September, from Ten till Six o'clock, and by Tickets from Seven till Ten on the Evenings of the 8th, 9th, 10th, and 11th.

GEORGE GODWIN,
2nd Sept., 1846. LEWIS POCOCK, } Hon. Secs.

WORCESTER ENCAUSTIC TILES.

Specimens of these beautiful Tiles in all their Varieties, may be seen and information obtained at the London Agents, Messrs. GREVE and GRELLIER, Marble-wharf, Belvidere-road, Waterloo-bridge, or at the Encaustic Tile Works, of Messrs. F. ST. JOHN G. BARR, and Co., Worcester.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—J. M. BLASHFIELD, Agent. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

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Tiles form in winter a warmer and in summer a cooler covering than slates or metal, and may be burnt of any desired colour. Address ROBERT BROWN, Tile Works, Surbiton Hill, near Kingston, Surrey.

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CAEN STONE.

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ARNEWAY'S CHARITY.—NOTICE is HEREBY GIVEN, that the Trustees of this Charity are now enabled to LEND out the TRUST MONEYS to "Poor Occupiers or Traders resident within the City and Liberty of Westminster; that is to say, within the parishes of St. Margaret and St. John the Evangelist, St. Ann, Soho; St. Clement Danes, St. George, Hanover-square, St. James, St. Martin-in-the-Fields, St. Mary-le-Strand, and St. Paul, Covent Garden."

The amount of each loan is not to exceed 100*l.*; is to bear interest after the rate of 3*l.* per cent. per annum, and is to be secured by the bond of the borrower with two sureties.

Printed forms of application and all necessary information may be obtained by applying personally, between the hours of Ten and Three o'clock in the day, at the office of the Clerk and Solicitor to the Trustees, No. 12, Great Queen-street, St. James's-park.—By order,

EDWARD S. STEPHENSON,
Clerk and Solicitor to the Trustees.

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WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Millbank-street, Westminster.

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1st.—"The great tenacity with which it adheres to brick, stone, and iron.

2ndly.—"Its freedom (when properly applied) from those cracks and flaws, by which the cements generally used for external stuccoing are so frequently disfigured.

3dly.—"The total absence of the unsightly tint produced by vegetation.

4thly.—"The increased hardness which it acquires from exposure to atmospheric influences.

5thly.—"The great beauty, accuracy, and durability of the mouldings, capitals of columns, crockets, finials, and other architectural enrichments and decorations formed of it, the smallest and most delicate members of which, as well as the sharpest arises, have withstood uninjured the severities of our climate during many winters, and now present the same perfect and highly finished appearance as would be produced by stone carvings carefully executed.

6thly.—"The excellent and agreeable tone of colour which it assumes naturally, and retains without the aid of any colouring or painting.

"And lastly, its extreme hardness and almost entire incompressibility when used as a mortar in the construction of inverted or relieving arches, foundations under important superstructures, and small bearing piers, which have to sustain great weights. For all these purposes it has been extensively used under my directions, and in some cases has been exposed to very severe trials. The results have, however, without one exception, been most satisfactory; and I do not believe that there are any known substances so well adapted for the execution of works, in which the greatest strength and durability are essential."

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Further information will be given, and specimens shewn, on application to Mr. C. K. DYER, 4, New Broad-street, and at the Metallic Cement Wharf, King's-road (opposite Pratt-street), Camden New Town, London.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

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ATKINSON'S CEMENT.

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1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds; to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 189, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

TO ARCHITECTS, BUILDERS, AND THE PUBLIC IN GENERAL.

GEORGE JENNINGS, of 29, GREAT CHARLOTTE STREET, BLACKFRIARS ROAD, begs to call the attention of Architects, Builders, &c., to his REGISTERED FASTENING for SHOP SHUTTERS, &c., which entirely supersedes the use of shutter-bars. Thereby effecting a great saving of labour, as by the old method, the bar has to pass through the hands of some one upwards of six hundred times in twelve months, which tends to deface the whole front more or less every time the bar is put up or removed. The fastening is secret, simple, and sure, in its action, and can be affixed to any shop-front in two hours, without any alteration to the shutters. New fronts fitted at a less expense than a shutter-bar would amount to. A liberal allowance to the trade, and any further information may be obtained by inclosing a postage stamp to the above address.—A Model may be seen at the office of "The Builder."

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

LIGHTNING CONDUCTORS FOR BUILDINGS.

A. SMITH'S PATENT COPPER WIRE ROPE is being daily employed for the protection of CHURCHES and other buildings from the effects of thunder storms; it possesses important advantages over other forms of conductors. References can be given where it has been applied for some time past to CHURCHES, PUBLIC and PRIVATE BUILDINGS, &c., &c. Its general adoption in the Naval and Mercantile Marine of this and other countries is the strongest possible EVIDENCE of its EFFICIENCY, &c.

A. SMITH begs the attention of those engaged in building to his IMPROVED PATENT PANELLED AND REVOLVING IRON SHUTTERS,—Also, the Patent Weather-tight Fastening and Gib Bar, for French Casements, which are so much admired for their security, simplicity, cheapness, and efficiency. Of the merits of his

Patent Double and Single Action Door Springs,
Improved Flooring Cramps,
Patent Wire Sash Lines, &c. &c.,

Little need be said, as they are pretty generally known and appreciated.

Manufactory for Iron Suspension, Sliding, and other Doors, Strong Rooms, Plain and Ornamental Palisading, Gates, and Columns.—Also, Metal Sashes, Shop-fronts, Stall-board Plates, Brass butt, and other Hinges. Buildings heated upon a new, safe, and superior plan.

Estimates given for every description of Metal-work.

A. Smith, 69, Princes-street, Leicester-square, London.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.

PATENT SAFETY IRON SLIDING SHUTTERS.





The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 115, Old Street, London; or at the Licensees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using BENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licenses Granted.

INJUNCTION.

BUNNETT and CORPE'S Patent REVOLVING IRON SHUTTERS.—Since the verdict found in favour of the Patentees, in the Court of Exchequer, in the action tried by order of the Court of Chancery, that Court has granted a perpetual Injunction for restraining all infringements of this Patent, and therefore all parties are hereby cautioned against infringing the same.

THE PRICES ARE GREATLY REDUCED, and BUNNETT AND CORPE'S PATENT IRON SHUTTERS ARE THE CHEAPEST AS WELL AS THE BEST. They are made with convex laths, if required. The worm and wheel motion for raising and lowering revolving iron shutters (as secured by this Patent) is the only safe and durable mode of effecting that object. In large shutters it is indispensable.

Some thousands of Bunnett and Corpe's Shutters have now been put up, without a single complaint of their want of strength or security; and nine years' practical experience (during which they have adopted every real improvement) enables the Patentees to challenge comparison with any others. They will guarantee all Shutters put up by them to keep in order, and last twice as long as any with thin convex laths.

B. and C. also manufacture REVOLVING WOOD SHUTTERS (the Patent for which has expired), at the same prices as other makers, but greatly superior, being fitted with their patent raising gear, and proper metallic hinges, without which no shutter can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop-fronts fitted with Iron Shutters, Patent Brass or Zinc Sashes, Plain or ornamental, handsomely Engraved, Moulded, Stall-board Plates, best Plate Glass, and Internal Brass Fittings of all kinds, superior in quality and workmanship, and lower in price than any other house.

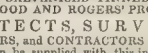
Contracts taken in Town or Country.

Metal Drawing and Stamping for the Trade.

Office at No. 96, Lombard-street, London; Works, at Deptford, Kent.

Steam-engines, Sawing, Planing, and Moulding, Cutting-machines on Improved Plans, especially adapted for Builders' purposes, may be seen in operation at the Works.

PORTER'S CORRUGATED, and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanizing Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway, and other Iron and Smith's work Manufactured of the best quality. Iron Fence and Hurdles as usual.—The Trade Supplied.



PATENT GALVANISED TINNED IRON. (MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and water-closets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 9oz. to any required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quick-set-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

TO ARCHITECTS AND BUILDERS.

DOOR SPRINGS AND HINGES.—GERISH'S PATENT DOOR SPRINGS, for CLOSING every description of DOOR, consists of Single and DOUBLE-ACTION BUTT HINGES in Brass and Iron for Doors to open one or both ways, and Rising Hinges for the convenience of Doors opening on uneven Floors. Likewise Swing Centres, which consist of a combination of power unequalled by any made at present. Manufactured by F. W. Gerish, East-road, City-road; and sold by all respectable Ironmongers in the United Kingdom.

WILSON'S PATENT
VENTILATING
SPIRAL CHIMNEY POT,



For the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY Article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success.

This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance.

The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory,

Southwark-bridge Iron Roofing Works.

DAY'S PATENT WINDGUARD, for
ventilating

Churches,	Shops,	Kitchens,
Hospitals,	Bed-rooms,	Offices,
Factories,	Smoking-rooms,	Ships,
Theatres,	School-rooms,	Mines,
Breweries,	Nurseries,	Vaults,
Malt-houses,	Stables,	Tunnels,
Club-houses,	Larders,	&c. &c.

Also for preventing down draft; and is guaranteed to cure all smoky chimneys caused by wind; and entirely supersedes the use of revolving cowls, or any thing moveable or unsightly on the tops of chimneys or ventilators.

The object of this invention is to create a draft where otherwise it would not exist, by the spontaneous action of the external air. The Windguard forms a pleasing octagonal pillar, and by its peculiar construction to carry out the principle on which it is based, which consists of the wind giving a disposition for a vacuum within, thereby causing a continual upward current about equal to the velocity of the wind at the time acting upon it, which averages about six feet per second thirty days out of thirty-one; therefore, will nearly at all times ensure a continual change of air, being no impediment to spontaneous ventilation, even on a perfectly calm day. One five feet square will ventilate a building containing upwards of 1,000 persons. The Windguard applied to ships and steam vessels, in the form of a sky-light, prevents rain or the sea entering within, however boisterous the weather may be, thereby affording excellent ventilation as well as light. The Windguard is simply applied for effectually ventilating bed-rooms, nurseries, smoking-rooms, offices, &c., causing the air of the apartment to be at all times as pleasant as can be desired. It is fixed at the top of the chimney, in addition to which a cast-iron frame and valve (about one foot area), made to open or shut at pleasure, is let into the flue, near the ceiling of the room, to allow the constant ascending vitiated air being immediately carried off. The opening is guarded by a neat venetian blind or grating; and so powerful is the effect on a windy day that if a handkerchief be thrown up to the grating, it will remain there—i. e. if the valve be open. In winter the valve would be only partially open, to allow the smoke from the fire to ascend, but if the room be found too cold, can be entirely closed. The Windguard applied to the tops of chimneys prevents all annoyance from smoke (caused by wind); indeed, where it does not, nothing else applied at top will (of the same size); care, therefore should be taken to have the proper size applied. It is simple in its application, reasonable in price, ornamental in appearance; no machinery or anything moveable in it, therefore, cannot get out of order; free from noise or any unpleasantness whatever; not liable to choke up with soot; no obstacle to the machines used for sweeping chimneys. May be had of all respectable ironmongers in town and country; and may be seen daily in operation, where its powers and usefulness are exhibited by the severest tests, at THE PATENT VENTILATING WORKS, COMMERCIAL-ROAD, PIMLICO, LONDON; where also may be seen Mr. G. T. Day's plans illustrating the different applications of his Patent Archimedian Ventilator and his Portable Water Apparatus) for effectually Ventilating, Warming, and Cooling the Air of Buildings, Ships, Mines, &c. &c. By the use of these inventions many thousand cubic feet, or any quantity of pure warm or cold air, can be guaranteed to be continually exchanged per minute, day and night, winter and summer; thereby insuring, at all times, free ventilation to the rooms and passages of buildings, &c. from the basement to the roof, at the same time in such a manner as shall not be inconveniently perceptible. The size of the apparatus depends on the nature and use of the building and its occupants. The Patentee has been honoured by his inventions being applied at the following places:—

Windsor Castle,	Trinity House,
Buckingham Palace,	Ordnance,
Saint James's Palace,	Greenwich Hospital,
Claremont Palace,	Christ's Hospital,
Walmer Castle	Westminster Hospital,
The Houses of Parliament,	Bethlehem Hospital,
New Conservative Club,	Surrey Lunatic Asylum,
White's Club,	New Royal Exchange,
Travellers' Club,	Mansion House,
Oxford and Cambridge,	Goldsmiths' Hall,
Parthenon,	Fishmongers' Hall,
Wyndham,	Haberdashers' Hall,
Army and Navy,	Dyers' Hall,
Senior United Service,	Grocers' Hall,
Junior United Service,	Armourers' Hall.
Admiralty,	Weigh-house Meeting-house
British Museum,	Hanover Square Rooms,
Somerset House,	Theatre of the Westminster
Custom House,	Literary and Scientific In-
Mint,	stitution,
Hon. Artillery Company,	Grand Cigar Divan, Strand,
H. M. S. Salamander,	City Club,

And many other Public Buildings in Town and Country as well as to the Mansions of many Noblemen and Gentlemen. Licenses granted for Manufacturing the above.

Drawings and Plans made for Ventilating and Warming Buildings of every description.

W. OATLEY and SON, Inventors and Manufacturers of the SELF-ACTING VENTILATOR. [Registered pursuant to the Act of Parliament, August 14th, 1846.]

W. O. and Son, 25, Aldermanbury, City, beg to call the attention of Architects, Builders, and others, to the imperfect method of VENTILATION. The Ventilator offered to the public is complete in itself; it is adapted for buildings of all dimensions requiring ventilation. The Ventilator acts by means of boxes and pipes, so constructed as to discharge all tainted air, whether it arises from gas-lights or an overheated atmosphere, or other causes. The pipes act as suction pipes, by the current of fresh air entering the room by the opening of the door, giving a healthful and pure air to the room where the Self-Acting Ventilator is used.—Builders and others supplied.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 168, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

CHARLES SMITH and SON, 52, GREAT CHARLES-STREET, BIRMINGHAM (late STANDLY and SMITH, formerly STANDLY and GALE, Bull-street), Locksmiths, Bell-hangers, Brass-founders, Whitesmiths, &c., beg most respectfully to solicit the attention of MAGISTRATES, ARCHITECTS, and ENGINEERS to their inventions for prisons, lunatic asylums, &c. C. S. and Son will be happy to attend any committee of magistrates without charge, and submit a VARIETY of patterns of peculiar locks, signals, inspection apparatus, chapel door-fastenings, iron frames, hinges, &c., as supplied by them at the MODEL PRISON, LONDON, and TWENTY-THREE SIMILAR GAOLS, where they have given entire satisfaction. Among other testimonials, can be shewn that of Major Jebb, attesting the efficiency of the labels, &c., invented by them. The contracts will be executed to the approval of the inspector-general of prisons, and the architects, C. Smith and Son; also are prepared to contract for the supply of the whole of the ironmongery requisites for the residences of the nobility and gentry, churches, banks, barracks, gaols, asylums, and workhouses, including locks, bells, hinges, grates, kitchen-ranges, staircases, grates, park-fencing, fire-proof safes, bookcases, doors, metal sashes of all kinds, and every description of ornamental brass and iron work, light castings, &c.

C. S. and Son beg to refer to the extensive works performed by them at Windsor Castle, Northumberland and Sion House, Blenheim Palace, Chatsworth, &c., as a guarantee for the superiority and durability of their work, in confirmation of which numerous letters from nobleman can be shewn.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery

Best Patent Cut Clasp,

3d.	4d.	6d.	8d.	10d.	20d.
5d.	6d.	7d.	11d.	1s. 4d.	1s. 10d. per 1000.

Best Sheet Floor Brads 15s. per cwt.

Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross,

Elliptic Stoves, 3d. per inch. Registers, 6½d., 7d., 8d. per inch.

Self-acting Kitchen Ranges with Oven and Back Boiler. Wrought Bars and Bright Fittings.

3 ft., 3l. 3s. 3 ft. 6 in., 3l. 12s. 6d. 4 ft., 4l.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3l. 5s.	3l. 13s.	3l. 16s.	4l.	4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5l.	5l. 15s.	6l. 5s.	6l. 10s.	7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.

Do. Elliptic do., at 3½d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 10s. per gallon.

CHEAP AND DURABLE ROOFING.

By Her Majesty's Royal Letters Patent.

F. McNEILL and Co. of Lamb's Buildings, Bunhill Row, London, Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronized by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE BOARD OF ORDNANCE,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK,

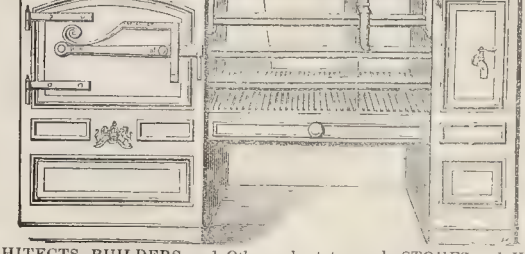
And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing also used for under slates at the Royal Agricultural Society's House, in Hanover-square.

Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, AS THE ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW, LONDON.

Roofs covered with the felt to be seen at the Factory, also the new Vice-Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the new Houses of Parliament.

A Liberal Discount allowed to the Trade.

THE PANKLIBANON IRON WORKS,
WHOLESALE AND RETAIL, 58, BAKER STREET, PORTMAN SQUARE.



ARCHITECTS, BUILDERS, and Others, about to supply STOVES and KITCHEN APPENDAGES, will find at this Establishment the most unique and elegant assortment of STOVE-GRATES, FENDERS, and FIRE-IRONS ever offered to the Public, at prices considerably below the usual charges. The Proprietors at the same time beg to invite attention to their extensive Stock of FURNISHING IRONMONGERY, Tinned Copper, Tin and Iron Cooking Vessels, Block Tin Dish-Covers, Japanned Ware, Table Cutlery, and especially their Sheffield Plate and German Silver Wares, embracing every Article suitable for the Table, comprising Dish and Plate Covers, Liquor Frames, Epergnes, &c. &c. The plan adopted by the Proprietors of affixing the price to each article for cash, enables all purchasers to have the same advantage. The Patent Thermio Stove is in daily operation. Also Cundy's Improved Hot-air Stoves, for Heating and Ventilating Rooms.

THORPE, FALLOWS & COMPANY, 58, Baker-street, Portman-square, London.

FREEHOLD LAND.

WANTED to PURCHASE in or near London, a PLOT of FREEHOLD LAND, suitable for a workhouse for the City of London Union.—Persons desirous of offering land for sale, are requested to send the particulars in writing, with the price, addressed to the "Special Committee of Guardians," 35, Cannon-street.

JOHN THOS. ROWSELL,
Septemb r 1, 1846. Clerk to the Union.

TO BUILDERS.

TO BE DISPOSED OF, a Freehold House, situated in a most improving neighbourhood at the East end of London. Lets at 26*l.* per annum, price 370*l.*—For particulars, apply by letter only, to Q., 30, Tavistock-street, Strand.

TO BUILDERS, COACH-MAKERS, PIANOFORTE-MAKERS, AND OTHERS.

THE Lease of Large and most complete Premises TO BE SOLD, Workshop 100 feet long, heated with steam and lighted with gas.—Apply at 14½, Osnaburg-street, Regents-park.

A NUMBER of MARBLE CHIMNEY-PIECES, consisting of Statuary and Vein, some of which are suitable for drawing-rooms, &c., and some suitable for second and third-rate houses. Also two monumental tablets for sale, cheap, under peculiar circumstances.—Apply 34, Chichester-place, Gray's-inn-road. Approved bills at three months.

TO BUILDERS, TIMBER MERCHANTS, IRON MERCHANTS, &c.

WATERSIDE PREMISES.—TO LET, part of Albion Wharf, Holland-street, Surrey, foot of Blackfriars' Bridge, with large Warehouse and Sheds, and use of a 16 ton crane.—Apply on the premises.

N.B. This wharf is never overflowed by high tides.

TO COPPERSMITHS AND OTHERS REQUIRING EXTENSIVE PREMISES.

TO BE LET on a repairing lease of 21 years, eligible premises, consisting of capital light workshops, with a good dwelling-house and two tenements attached, situate in the Whitechapel-road.—For particulars apply at Mr. ANGELL's Office, 18, Gower-street, Bedford-square, between the hours of Ten and Four.

FREEHOLD LAND AND COTTAGE, Church Road, Edmonton, a few paces from the High-street.—To Brickmakers, Builders, and others.

TO BE LET on Lease, or SOLD, about two acres of Land, containing fine malm Brick Earth to a considerable depth. If used for building purposes, there is an extensive and valuable Frontage. Together with a Cottage Residence, now let at the low rent of 16*l.* per annum.—Apply to Mr. LAMBERT, Surveyor, 40, Coleman-street: or to Mr. HOLLAND, next the Chapel, Church-road, who will show the premises.

TO BUILDERS.—MATERIALS AND MONEY ADVANCED.

TO BE LET, on BUILDING LEASES, for ninety-six years, several very eligible plots of Freehold Building Ground, land-tax redeemed, for fourth-rate houses, situated in streets leading from the Queen's-road, Dalston, to Lansdown-place. This is one of the most rapidly improving neighbourhoods near London, and will be the principal thoroughfare from all parts westward to the new Victoria Park, from which it is only a quarter of a mile distant.—Apply to Mr. PALMER, on the premises.

ST. JOHN'S WOOD PARK!!! IMMEDIATE CONNECTION WITH REGENT'S PARK.

BUILDING PLOTS TO BE LET in this most desirable and salubrious situation!! commanding picturesque views of the surrounding beautiful neighbourhood, and elevated within a few feet of the summit of the monument, with the best approaches of any suburban district near the metropolis, and greatest facilities of access to all the fashionable resorts and promenades of the West End and the City!—For particulars and plans, apply to W. H. TWENTYMAN, Esq., 11, Regent's-villas, Avenue-road, Regent's-park.

SALES BY AUCTION.

TO PAPERHANGERS, HOUSE DECORATORS, BUILDERS, AND OTHERS.

MR. BRAY, Jun., will SELL, at his Rooms, 259, High Holborn, on WEDNESDAY, September the 9th, 1846, at Twelve, upwards of 4,000 pieces of PAPERHANGINGS of excellent workmanship and modern design, including drawing and dining room satin, rich crimson and other flocks, mock flock, damask, and embossed satins, oak, Elizabethan and Morpeth, parlour, and bedroom papers in chintz, shaded, and plain, trellis, Berlin, and bouquet, hall and staircase in gothics, granites, painted and other marbles, scagliola, &c.—May be viewed one day prior and morning of sale, and catalogues had at the rooms as above.

KENNINGTON.—To Railway Carriers, Builders, Livery Stable-keepers, Omnibus Proprietors, &c.—An Important Estate, covering nearly two acres.

MESSRS. BROWN and ROBERTS are instructed to submit for AUCTION, at the Mart, on THURSDAY, September 10, at Twelve, in four lots, by order of the proprietor, and with consent of the mortgagee, a valuable LEASEHOLD ESTATE, situate at Kennington-cross, comprising a new brick dwelling-house and shop, fronting the high road; also the whole of the premises distinguished as the Golden Cross Livery Stables, including stabling for 120 horses, extensive ranges of coach-houses, omnibus sheds, harness rooms, corn and hay lofts, granaries, counting-house, &c.; also a neat family residence and two cottages, with workshops, large paved yards, and an extensive plot of ground, admirably adapted for building purposes; together with two houses and a plot of ground in Cardigan-street, Kennington-lane, the whole approaching two acres; held of the Duchy of Cornwall for three young lives at 9*l.* per annum ground rent.—May be viewed, and printed particulars, with plans, had of Mr. BALLS, on the premises; of Messrs. JENKINSON, solicitors, 76, Cannon-street; of Mr. R. F. LONG, solicitor, 15, Old Broad-street; at the Mart; of Messrs. HENRY BROWN and T. A. ROBERTS, 22, Throgmorton-street.

TO MANUFACTURING CHEMISTS, ENGINEERS, BREWERS, AND OTHERS.

MESSRS. JOHN and THOMAS FRY have received instructions to SELL by AUCTION, on TUESDAY, the 15th instant, at Twelve o'clock, without the slightest reserve, all the new and expensive Machinery and Plants at the Chemical Works of Messrs. BANKS and CO., Thames-street, Greenwich, adjoining the Phœnix Gas Works (the premises late in the occupation of T. Martyr, Esq.), comprising a high-pressure steam-engine of five-horse power, complete by Middleton; gasometer and retort for manufacturing gas; boiler for generating steam; two large tanks for ditto, lined with lead, tubular pipes, &c.; three large coolers lined with lead; four capital stout deal tanks, iron-fastened, 21 feet by 8 feet each, and 4 feet deep; one smaller ditto; two wrought-iron tanks, 10 feet by 7 feet each; six cast-iron sal almoniac pans and covers, weighing upwards of 3 tons each; furnaces for ditto; large iron boiler; one other large wrought-iron water-tank; triangle crane; scales and weights; large quantity of brickwork; five thousand square and arched fire-bricks; sixty large iron-bound casks; wood-bound ditto; five tarpaulins; ladders; iron pump; a variety of implements, sundry deals, and a large quantity of useful stuff and fire-wood.—May be viewed, and catalogues had of the Auctioneer, 43, Chiswell-street, Finsbury-square, and at Greenwich, facing the church.

PUBLICATIONS.

WESTMINSTER BRIDGE.

The architectural history, original defects, gradual subsidence, and recent condemnation of Westminster Bridge explained in a Pamphlet, entitled

METROPOLITAN BRIDGES and WESTMINSTER IMPROVEMENTS.
By Maj.-Gen. Sir HOWARD DOUGLAS, Bart. M.P.
Second Edition, price One Shilling.
T. and W. BOONE, 29, New Bond-street, London, Publishers.

GOTHICK ARCHITECTURE.

This Day is Published, No. 27, royal 4to., price 2s. 6d.

AN ANALYSIS of GOTHICK ARCHITECTURE; illustrated by Drawings made from actual measurement of existing examples throughout England, and carefully delineated to scale.

By RAPHAEL and J. ARTHUR BRANDON, Architects, 11, Beaufort-buildings, Strand.

Review.—"This is essentially a practical work, and one that will be of infinite use to the professor, the amateur, and the workman. The engravings are remarkably well finished, and the mouldings and outlines sharp, and so well defined, that any work may be executed from them."—*Era.*

TO HEIRS AT LAW AND NEXT OF KIN.

A complete List of the Advertisements that have appeared during the present century is now publishing in

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N.B. The fourth monthly part for the present year is now ready, containing 128 large pages of amusing and instructive matter for eighteen-pence only.

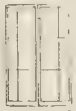
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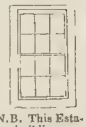
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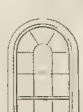
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By the Court,
STABLE and LUSH, Clerks.

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LEWIS C. HERSLET,
Clerk to the Commission.

CONTRACTS.

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THE Court of Sewers for Westminster and part of Middlesex will be ready on Friday, the 18th September, at One o'clock P.M., to receive TENDERS for cleansing about 1,400 feet of sewer in the Edgware-road, Marylebone. The soil taken out will become the property of the contractor.—Further particulars may be obtained on application at this office between Nine and Ten o'clock A.M.

LEWIS C. HERTSLET, Clerk.
Sewers' Office, 1, Greek-street, Soho-square.
Sept. 12, 1846.

CONTRACT FOR SEWERS.

THE Commissioners for Improving the Town of Ventnor, in the Isle of Wight, are desirous of receiving TENDERS for Building about 600 YARDS OF SEWERS in that town. Plans, sections, and specifications may be seen daily at the Office of the said Commissioners. Sealed tenders to be sent in on or before the 23rd instant.

The Commissioners do not pledge themselves to accept the lowest tender.—By order of the Commissioners,

JOHN BURT, Clerk.
Ventnor, September 10th, 1846.

TO BUILDERS.

TENDERS are required for the Erection of a School and Teacher's Residence, at Seer Green, near Beaconsfield. Plans and Specifications may be seen at Messrs. CHARSLEY and PARTON'S, Solicitors, Beaconsfield, to whom Tenders must be sent, on or before Saturday, the 19th day of September. The lowest Tender will not necessarily be accepted.

GRAVESEND AND MILTON UNION WORKHOUSE.—TO BUILDERS.

THE Guardians of the Gravesend and Milton Union, are ready to receive TENDERS for the erection of a new workhouse in the parish of Gravesend, the plan of which has been altered and reduced from the former one. The drawings, specifications, and conditions may be seen at the Board Room of the present workhouse after Wednesday next, the 16th day of September instant, between the hours of Ten and Six o'clock, until Wednesday, the 30th day of September instant (Thursday's excepted). Tenders are to be delivered at the workhouse, on Thursday, the 1st day of October next, at Twelve o'clock, after which no tenders will be received.

All information required in respect of the works may be obtained from Mr. JOHN GOULD, jun., surveyor, Bath-street, Gravesend. The Guardians do not pledge themselves to accept the lowest or any tender.

By order of the Guardians,
FRAS. SOUTHGATE, Clerk to the Board.
Gravesend, September 10th, 1846.

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A. R., in calling the attention of builders and consumers, confidently presumes on being able to supply them on such terms as will ensure and merit their favours, &c.

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J. T. M. and Co. have also a regular supply of French papers of all the newest patterns.

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From the 1st of September,

THE EXPRESS.—THE TRIUMPHANT SUCCESS of the "DAILY NEWS" has led to numerous inquiries, whether it might not be practicable to PUBLISH AN EVENING EDITION, CONTAINING REPORTS OF PRICES AND PROCEEDINGS IN THE DIFFERENT MARKETS ON THE DAY OF PUBLICATION. The Proprietors of the "DAILY NEWS" have resolved to comply with the wish of the Public; but to prevent confusion, the paper will appear under a different name—that of THE EXPRESS. The EXPRESS will contain, in addition to the news in the Morning Paper, a SUMMARY of the HOME and FOREIGN INTELLIGENCE which may arrive on the day of publication. THE EXPRESS will have the advantage of Foreign Expresses, Correspondence, and other costly characteristics of a Morning Journal. But the full and carefully prepared REPORTS of the MONEY, RAILWAY, PRODUCE, CORN, CATTLE, and other MARKETS will be the marking feature.

As, however, the interest in such a paper must necessarily be limited to a Class, or a Locality, the Proprietors cannot hope that either the sale or the advertisements will be so extensive or remunerative as those of a Morning Paper. They propose, therefore, that THREEPENCE shall be the price to the public of THE EXPRESS.

The Proprietors believe that every respectable news-agent will transmit the new Journal, on receiving a Post-office order, at the rate of 19s. 6d. per quarter; but should any difficulty arise, all persons desirous of being supplied with THE EXPRESS are requested to remit a Post-office order for that amount, payable to Mr. HENRY WALLBRIDGE, 90, Fleet-street, London, who will transfer it to a respectable London Agent.

THE EXPRESS will be published every Afternoon, at Four o'clock, with the latest details of the Markets of the day.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

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THE London and Manchester Glass Company are prepared to receive proposals from any person fully versant with the Plate-Glass Trade, to conduct the Agency in their premises, No. 12, Rathbone-place.—Applications to be addressed to GEO. WADSWORTH, Esq., Manager, Sutton, near St. Helen's, Lancashire, or to Mr. THOS. TIMS, 63, Upper Charlotte-street, Fitzroy-square, London.

TO THE PLATE GLASS TRADE.

THE BIRMINGHAM PLATE AND CROWN GLASS COMPANY, "Registered," beg to inform the Trade and Public, that the extension of their Works at Smethwick, near Birmingham, being now completed, their Warehouse, 141, Fleet-street, London, is now open for the Sale of their Crystal Plate Glass, which will be found to stand unrivalled by that of any other manufactory. They are also in a position to supply Rough Plate of any substance for Skylights or Floorings on the shortest notice.—Orders addressed to B. MOSS, Company's Warehouse, 141, Fleet-street, London, will be promptly attended to.

WINDOW GLASS, LEAD, VARNISH, and COLOUR MANUFACTORY.—Crown Window Glass, in squares under two feet, 4½d. per foot; glazing, 5d. per foot; sheet glass, 4d. per foot; best white lead, 26s.; seconds, 24s.; thirds, 22s. per cwt.; linseed oil, 2s. 9d.; boiled oil, 2s. 6d.; turpentine, 3s. 9d.; fine oak varnish, 10s.; carriage, 12s.; copal, 14s.; body copal, 20s.; gold size, 10s.; paper varnish, 10s.; linseed oil putty, 7s. 6d. per cwt. per firkin; patent dryers, 42s.; black paint, 28s.; lead colour, 24s.; Oxford ochre, 42s. per cwt.; best pan water-closet, 34s. complete; 3-brass cocks, 2s. 8d. each. Milled sheet lead, patent pipe, beer-machines, tapping-cocks, and brushes and colour of every description. Thomas Millington being the manufacturer, can supply a much better article than most other houses. Address, THOMAS MILLINGTON, 57, Bishopsgate-street Without, London.—Established upwards of 90 years.

SASHES primed, glazed, and sent to any part of London at 5d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.

FOREIGN SHEET. BRITISH SHEET.
BRITISH CROWN. PROPAGATING GLASSES.
Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Shew-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.

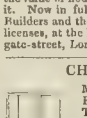
Dry and Good Colours of the best quality; Brushes Dryers, and every article used in the Trade Warranted.

VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.

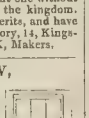
For complete lists priced.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

HERRING'S PATENT SAFETY WINDOW.—All danger from cleaning or repairing windows at an end. No housekeeper should be ignorant of this invaluable invention. Simple, cheap, and effectual; will repay the cost every two years; add 5 to 10 per cent. to the value of houses. No one should buy or rent one without it. Now in full operation in most parts of the kingdom. Builders and the public can inspect its real merits, and have licenses, at the Patent Steam Bed-feather Factory, 14, Kingsgate-street, London.—JOHNSON and PASK, Makers.

CHAS. WM. WATERLOW,



Manufacturer of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square. Well-seasoned materials, superior workmanship, lowest prices. Upwards of 400 Doors and a large variety of Sashes and Frames always on Sale. Glazed goods securely packed for the country.



Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged on building.

LAWRENCE AND SON,



SHOP FRONT & SASH MANUFACTURERS,
26 and 27, Tottenham-st. Fitzroy-square.

Shop Fronts of every description executed with dispatch, elegance, and economy. Doors, shutters, staircases, and handrails, upon the most reasonable terms. Glass cases and fittings of every kind prepared on the shortest notice.



ARCHITECTURAL SUBJECTS (Outlines) coloured for competition or exhibition, and embellished with landscape, &c. Buildings, portraits, and views of every description, lithographed in a superior manner, by GEORGE CHILDS, 12, Amwell-street, Pentonville.

TO ARCHITECTS, BUILDERS, &c.

GAS LAMPS, GAS BRACKETS, GAS PILLARS, BURNERS, &c. &c. &c. In calling the attention of architects, builders, &c., to their assortment of Gas Furniture in general, C. DEBAUFER and SON respectfully announce they continue to fit up premises of every description on the most approved and newest system of gas fitting. An experience of forty years justifies us in making the above assertion.—P.S. Country orders attended to with dispatch.

10 and 11, Creed-lane, St. Paul's.

WORCESTER ENCAUSTIC TILES. Specimens of these beautiful Tiles in all their Varieties, may be seen and information obtained at the London Agents, Messrs. GRIEVE and GRELLIER, Marble-wharf, Belvidere-road, Waterloo-bridge, or at the Encaustic Tile Works, of Messrs. F. ST. JOHN G. BARR, and Co., Worcester.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—J. M. BLASHFIELD, Agent. The above tiles have lately been considerably reduced in price.

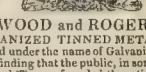
N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.



PATENT GALVANISED TINNED IRON.
(MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and water-closets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in, and 3 feet wide, and 9oz. to any required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quicksset-row, New-road, St. Paneras, where references and testimonials of the highest respectability of extensive works already done can be had.

By Her Majesty's  Royal Letters Patent.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED METAL.—This article was at first sold under the name of Galvanised Tin Plates, but the Patentees finding that the public, in some instances, overlooking the word Tin, confounded the article with Galvanised Iron, and that the character of their metal has thereby sustained injury, are desirous of giving it a name so distinctive as to prevent such mistakes, and consequent disappointment to purchasers in future. They therefore respectfully request purchasers to inquire for MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON. In order to enable the public readily and at first sight to distinguish between the two metals, it may be well to inform them, that Galvanised Iron has a plain zinc-like appearance, while M. and R.'s Patent Galvanized Tinned Iron has a smooth crystalline surface.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON, Patronized by the Admiralty and the Honourable Board of Ordnance, being extensively used in her Majesty's Dock-yards, at the Tower, and elsewhere, for every variety of Roofing, and other purposes, where a strong, light, cheap, and durable material is required.

It has been found by experience that this article is beyond all comparison superior to zinc; possessing, as it does, all the advantages arising from the strength and firmness of iron, combined with perfect immunity from rust; whilst it is free from the very serious objection which applies to zinc, viz. its contraction and expansion, consequent upon every change of temperature, and from which circumstance leakage must of course result.

This material is not likely to be destroyed by fire, as is the case with zinc and lead, which melt and run down, thus freely admitting fresh air to the fire, and causing it to burn more fiercely. It is, therefore, obviously well adapted for all the purposes above-named, and most importantly so, when there is the possibility of fire. It is also peculiarly suitable for chimney-tops, gutters, spouting, and out-door work generally, possessing the strength of iron, without its liability to corrosion. It is by far the most economical metal roofing that can be obtained, in consequence of its strength, as it may be laid without boards, and upon the lightest rafters.

This mode of preserving metal from rust does not only apply to sheet-iron, but also to manufactured iron in any form, as bolts, nuts, hinges, nails, &c. &c.

For full Particulars apply to S. HOLLAND, 34, Grace-church-street.

TO BUILDERS AND CARPENTERS.

Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery

Best Patent Cut Clasp.

3d.	4d.	6d.	8d.	10d.	20d.
5d.	6d.	7d.	11d.	1s. 4d.	1s. 10d. per 1000.

Best Sheet Floor Brads 15s. per cwt.

Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6½d., 7d., 8d. per inch.

Self-acting Kitchen Ranges with Oven and Back Boiler.

Wrought Bars and Bright Fittings.

3 ft., 3l. 3s.	3 ft. 6 in., 4l. 12s. 6d.	4 ft., 4l.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3l. 6s.	3l. 13s.	3l. 16s.	4l.	4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5l.	5l. 15s.	6l. 5s.	6l. 10s.	7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.

Do. Elliptic do., at 3½d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and affecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

HOT WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories, and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises. BENJAMIN FOWLER, 68, Dorset-street, Fleet-street.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 16B, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

WM. OATLEY and SON, 25, Aldermanbury, City, Inventors and Manufacturers of the SELF-ACTING VENTILATOR (Registered August 14th, 1846), beg to inform the Profession and others that they can be supplied with the Ventilator, and every information given as to fixing. It is adapted for infirmaries, hospitals, barracks, smoking divans, and buildings of all dimensions where ventilation is required.

FIRE-PROOF SAFE MANUFACTORY,

LEADBEATER,



125, Aldersgate-street, City Nine Years Sole Manufacturer for Chubb, St. Paul's Church Yard, has on sale a large assortment of fire-proof book-safes and chests; wrought-iron fire-proof doors for strong rooms; fire-proof jewel cases, cash, and deed boxes; fire-proof



plate-chests, &c., &c., all secured by LEADBEATER'S IMPROVED DETECTOR LOCKS, throwing from three to twenty bolts, at prices 20 per cent. under any other house in London. All the above-named fire-proof articles, manufactured in the best manner, afford perfect security against fire and thieves.

LEADBEATER'S IMPROVED DETECTOR LOCKS for universal purposes, afford perfect security against false keys and pick-locks. Sold at prices equally reduced.

ZINC WORKS, 15, New-road, Fitzroy-square, London.—W. STAMPER, Manufacturer of Ornamental Conservatories, Greenhouses, Window Sashes, Sky-lights, Fan-lights, Flower Cases, &c. &c.

Zinc sash-bar mouldings, bell-wire rope, &c. &c. Perforated zinc for safes, ventilators, &c. &c. Roofs, flats, and verandahs, covered on the newest principle. Manufacturer of the improved Sliding Glass Pane Ventilator.—ZINC WORKS, 15, New-road, opposite Fitzroy-square.

CAEN STONE.

TUCKWELL'S Norway Sufferance Wharf, Greenwich.—Architects and Stone Merchants are informed, that this stone may be procured at the above Wharf in any quantity, in blocks up to 12 tons. The stone, which is exclusively the product of the Allemagne Quarries, and of the very finest quality, is consigned solely to W. TUCKWELL, who is prepared to execute orders to any extent, having a Large Stock always on the Wharf.—Orders received by, and further information with samples may be obtained of Mr. R. A. WITHALL, Surveyor, 80, Cheapside, and of Mr. W. TUCKWELL, at the Wharf.

N.B. Cargoes shipped direct to any Port.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

SAMUEL CUNDY begs to inform Architects and others that every description of Stone, Marble, and Granite work is executed at the cheapest possible rate.

MARBLE WORK for Halls, Dairies, Tables, Columns, Vases, at most reasonable prices.

A large collection of Designs for Memorials, Crosses, Mural and other Monuments.

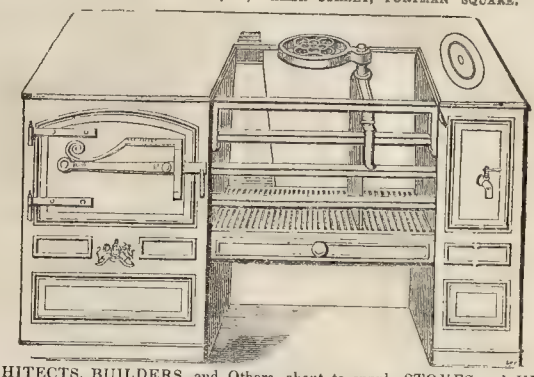
BOX CHIMNEY PIECES from Twelve Shillings upwards.

Depôt for Caen and other Stones.

N.B. Mason's Work in all its branches prepared at the works, ready for fixing to drawings and dimensions sent, and fixed if required, including York paving, squared jambs, mantles, sills, slate shelves, &c. &c.

THE PANKLIBANON IRON WORKS,

WHOLESALE AND RETAIL, 58, BAKER STREET, PORTMAN SQUARE,



ARCHITECTS, BUILDERS, and Others, about to supply STOVES and KITCHEN APPENDAGES, will find at this Establishment the most unique and elegant assortment of STOVE-GRATES, FENDERS, and FIRE-IRONS ever offered to the Public, at prices considerably below the usual charges. The Proprietors at the same time beg to invite attention to their extensive Stock of FURNISHING IRONMONGERY, Tinned Copper, Tin and Iron Cooking Vessels, Block Tin Dish-Covers, Japanned Ware, Table Cutlery, and especially their Sheffield Plate and German Silver Wares, embracing every Article suitable for the Table, comprising Dish and Plate Covers, Liquor Frames, Epergnes, &c. &c. The plan adopted by the Proprietors of affixing the price to each article for cash, enables all purchasers to have the same advantage. The Patent Thermio Stove is in daily operation. Also Cundy's Improved Hot-air Stoves, for Heating and Ventilating Rooms.

THORPE, FALLOWS & COMPANY, 58, Baker-street, Portman-square, London.

ECONOMICAL RADIATING STOVE-GRATE

SHOW-ROOMS AND MANUFACTORY,

5, JERMYN STREET, REGENT STREET.

PIERCE and KOLLE solicit the inspection of an extensive variety of new and elegant STOVE GRATES, with FENDERS and FIRE-IRONS, *en suite* from the most *recherché* designs; just completed in the Grecian, Elizabethan, Louis Quatorze, and Gothic Styles, upon their much-improved

RADIATING PRINCIPLE.

These Grates combine the useful and ornamental, blend economy with comfort, display a cheerful fire with a clean hearth, diffuse a genial warmth throughout the apartment, retain the heat many hours after the fire is burnt out, and are adapted for general use. P. & K. being the sole manufacturers, are enabled to guarantee a select style with first-rate workmanship.

They also invite attention to their IMPROVED METHOD OF HEATING BY HOT WATER through large pipes, combining WARMTH WITH VENTILATION; being the most healthy, simple, and economical mode that can be adopted for warming Mansions, Halls, Churches, or other large Buildings; possessing also the important advantage of safety from fire, and freedom from dust or smell; and is so arranged as to warm the entire of a large mansion from one moderate fire, without excluding the use of the ordinary Grates.

Grates expressly made to cure Smoky Chimneys; references to noblemen, gentlemen, and architects furnished with them.

KITCHENS, LAUNDRIES, BREW-HOUSES, &c., fitted up in the most complete and efficient manner, with Ranges, Ovens, Coppers, Hot Hearths, Smoke-Jacks, and every other requisite, with the latest improvements.

BATHS of every description, comprising the Warm, Cold, Vapour, Shower, Douche, Fumigating, Hip, and Sponging, in great variety, both portable and otherwise.

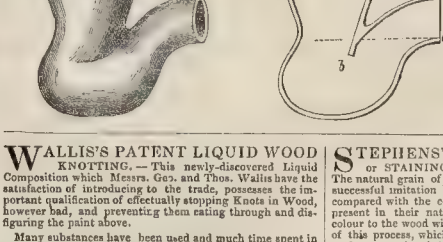
OPINIONS OF THE PRESS.

"ROYAL EXCHANGE.—Among the useful additions to Lloyd's Rooms, may be reckoned the hospitable-looking, yet really Elegant Stove Grates, that have been fitted up by Pierce and Kolle of Jermyn-street. To judge from the very powerful heat thrown out by the fires, these Grates appear to combine all the warmth of a German Stove with the cheerfulness as well as healthful ventilation of the open fire. These Stove-Grates, with their massive fenders, are really ornaments to Lloyd's Rooms, and are highly creditable to Pierce and Kolle." *Morning Herald*, Dec. 30, 1844. See also the *Morning Post* and *Observer*, Jan. 5, 1845.

"FINE ARTS AS APPLIED TO GRATES.—A few months since we had occasion to speak with eulogium of the manner in which the works generally had been done at the new Royal Exchange, and more particularly alluded to the admirable way in which the warming and ventilation of its large rooms had been managed. The Grates, too, came in deservedly for their share of praise. They were from the Messrs. Pierce and Kolle, who have since been completing several splendid works for large mansions, and amongst others for Lord Francis Egerton, for his new mansion at Worsley Hall, which is now near completion; for Crewe Hall, the seat of Lord Crewe, one of the most perfect specimens of the earlier Elizabethan style of architecture in this country; and also for Merivale Hall and Coolhurst, in Sussex; and moreover for the banqueting-room of Beaufort House. All these Grates exhibit a correct taste, and it is highly creditable to the Manufacturers to find that Artists of unquestionable talent and standing have been employed thereon. It is really to be wished that such exquisite works of art were generally exhibited for awhile, or ably lithographed, that the Public might possess some more accurate and detailed notion than the pen is capable of affording."—*Morning Post*, April 23, 1845. See also the *Morning Chronicle* and the *Standard*, April 28, 1845.

PIERCE AND KOLLE, FURNISHING IRONMONGERS,

No. 5, JERMYN STREET, REGENT STREET.



CHEAP PAN FOR WATER CLOSETS,

With Trap, in One Piece.

DOULTON AND WATTS,

LAMBETH POTTERY, LONDON,

Manufacturers of the annexed in superior glazed STONE WARE,

Price 7s. 6d. each.

They are of the most durable ware, and are recommended in preference to iron on account of their cleanliness and cheapness.

If preferred, they can be had in two parts, the Pan at 4s. 6d., and the Trap at 3s. 6d.

N.B. Manufacturers of RAIN-WATER PIPING for houses.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 16s. per gallon.

STEPHENS'S PROCESS for DYEING or STAINING WOOD, as a substitute for Paint. The natural grain of wood is imitated by art, but the most successful imitation has a sameness of appearance when compared with the continual variety which different woods present in their natural grain. To give an ornamental colour to the wood without obscuring the grain, is the object of this process, which surpasses paint in appearance, while at the same time it is so economical that the whole interior of a house, which would take a month or six weeks to paint in the usual manner, may be finished in one week by the process above named, and be more pleasing when finished. The dyes or stains are prepared and sold by HENRY STEPHENS, 54, Stamford-street, Blackfriars-road, London, in bottles of 6d. and 1s. each, and at 10s. per gallon. The oak colour may be obtained in powder at 8s. per pound, which dissolves in water to form the liquid, and one pound will make one gallon of stain.

N.B. The Trade supplied.

CLARENDON PANTECHNICON, North-row, North Audley-street, Grosvenor-square. The proprietor, Mr. JAMES PONSFORD, begs most respectfully to inform the nobility, gentry, and public, that he has those exceedingly convenient ware and store-rooms for depositing furniture and other valuable property, and that the greatest attention is given to receiving and delivering all articles, and to their safety while in the ware-rooms, and the moderate charge he makes for the convenience is considerably less than similar Establishments in London.

TO LET.—To Builders, Stonemasons, and others, requiring Waterside Premises.

CONVENIENT PREMISES of the above description TO BE LET, with immediate possession, in Stangate, Lambeth.—For particulars, inquire of SEARLE and SON, Boat Builders, Stangate, Lambeth.

FREEHOLD BUILDING GROUND.

TO BE LET, on long Building Leases, a few Plots of Ground, fronting the outer circle of the Regent's Park, near the proposed New Church in the Albert-road, Regent's-park. For particulars, apply to Mr. LITTLE, 36, Northumberland-street, New-road.

TO COPPERSMITHS AND OTHERS REQUIRING EXTENSIVE PREMISES.

TO BE LET on a repairing lease of 21 years, eligible premises, consisting of capital light workshops, with a good dwelling-house and two tenements attached, situate in the Whitechapel-road.—For particulars apply at Mr. ANGELL's Office, 18, Gower-street, Bedford-square, between the hours of Ten and Four.

TO BUILDERS.—MATERIALS AND MONEY ADVANCED.

TO BE LET, on BUILDING LEASES, for ninety-six years, several very eligible plots of Freehold Building Ground, land-tax redeemed, for fourth-rate houses, situated in streets leading from the Queen's-road, Dalston, to Lansdown-place. This is one of the most rapidly improving neighbourhoods near London, and will be the principal thoroughfare from all parts westward to the new Victoria Park, from which it is only a quarter of a mile distant.—Apply to Mr. PALMER, on the premises.

ST. JOHN'S WOOD PARK!!! IMMEDIATE CONNECTION WITH REGENT'S PARK.

BUILDING PLOTS TO BE LET in this most desirable and salubrious situation!! commanding picturesque views of the surrounding beautiful neighbourhood, and elevated within a few feet of the summit of the monument, with the best approaches of any suburban district near the metropolis, and greatest facilities of access to all the fashionable resorts and promenades of the West End and the City!—For particulars and plans, apply to W. H. TWENTYMAN, Esq., 11, Regent's-villas, Avenue-road, Regent's-park.

CARCASES.—TO BUILDERS, CARPENTERS, AND OTHERS.

TO BE LET OR SOLD, several capital and substantial built Four and Eight Roomed Carcases with Large Gardens attached, situate in a highly respectable neighbourhood in which houses are in great request. Held for Terms of Eighty Years at Low Ground Rents.—For further particulars, apply to Messrs. ROBERTS and ROBY, Surveyors, 24, Moorgate-street, Bank.

FREEHOLD BUILDING LAND.

TO BE SOLD, Five Large Plots of Freehold Land, about five miles from town, adjoining a Railway Station; admirably adapted for the erection of Villa or Cottage Residences, which are much required. The Lots being small in amount, are well suited for small capitalists, and members of building societies, and command votes for the County of Middlesex.—For Particulars apply to Messrs. ROBERTS and ROBY, Land Agents, 24, Moorgate-street.

ON SALE, by HAYWARD, TYLER and Co., engineers, 85, Upper Whitecross-street, St. Luke's, a second-hand, 12-horse, high-pressure, pedestal STEAM ENGINE, without boiler, in excellent condition; a powerful Hydrostatic Press, with 14-inch ram; a set of Pumps for ditto, with gearing to work by steam engine.

TO UPHOLSTERERS AND CABINET-MAKERS.

A FIRST-RATE BUSINESS TO BE DISPOSED OF. No Premium required, but an improved Rent for the Premises. Stock to be taken at a valuation, about 700*l*.—Apply, by letter only, to M. L., Office of "The Builder," 2, York-street, Covent-garden.

FOR DISPOSAL.—GRAND SURREY CANAL and COMMERCIAL SAWING and PLANING MILLS, near Plough-bridge, Rotherhithe, on the banks of the Surrey Canal.

These mills, now in perfect working order, comprise two first-class engines, two new boilers, six saw frames, one planing machine, two circular saw benches, and several unfixed, one veneer saw, shafting gearing tools, &c., complete in all its branches, are now to be disposed of.

The situation of these mills, communicating with the Thames by the Surrey Canal, is first-rate, being in the very heart of the timber market, and within one minute's walk from the Commercial, East Country, and Surrey Docks, with 400 feet canal frontage, and the same length of high road frontage, with abundance of water; capable of adaptation, in addition to its own business, to any other branch, such as sawing stone, marble, &c., engineering, grinding flour, or any other purposes where steam is required.

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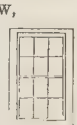
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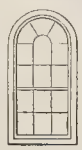
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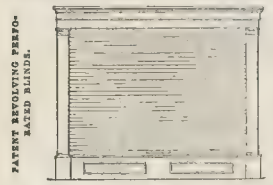
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REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using BENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licenees Granted.

INJUNCTION.

BUNNETT and CORPE'S Patent REVOLVING IRON SHUTTERS.—Since the verdict found in favour of the Patentees, in the Court of Exchequer, in the action tried by order of the Court of Chancery, that Court has granted a perpetual Injunction for restraining all Infringements of this Patent, and therefore all parties are hereby cautioned against infringing the same.

THE PRICES ARE GREATLY REDUCED, and BUNNETT AND CORPE'S PATENT IRON SHUTTERS ARE THE CHEAPEST AS WELL AS THE BEST. They are made with convex laths, if required. The worm and wheel motion for raising and lowering revolving iron shutters (as secured by this Patent) is the only safe and durable mode of effecting that object. In large shutters it is indispensable.

Some thousands of Bunnett and Corpe's Shutters have now been put up, without a single complaint of their want of strength or security; and nine years' practical experience (during which they have adopted every real improvement) enables the Patentees to challenge comparison with any others. They will guarantee all Shutters put up by them to keep in order, and last twice as long as any with thin convex laths.

B. and C. also manufacture REVOLVING WOOD SHUTTERS (the Patent for which has expired), at the same prices as other makers, but greatly superior, being fitted with their patent raising gear, and proper metallic hinges, without which no shutter can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop-fronts fitted with Iron Shutters, Patent Brass or Zinc Sashes, Plain or ornamental, handsomely Engraved, Moulded, Stall-board Plates, best Plate Glass, and Internal Brass Fittings of all kinds, superior in quality and workmanship, and lower in price than any other house.

Contracts taken in Town or Country.

Metal Drawing and Stamping for the Trade.

Office at No. 26, Lombard-street, London; Works, at Deptford, Kent.

Steam-engines, Sawing, Planing, and Moulding, Cutting-machines on Improved Plans, especially adapted for Builders' purposes, may be seen in operation at the Works.

NEW EVENING LONDON NEWSPAPER.

From the 1st of September,

THE EXPRESS.—THE TRIUMPHANT SUCCESS of the "DAILY NEWS" has led to numerous inquiries, whether it might not be practicable to PUBLISH AN EVENING EDITION, CONTAINING REPORTS OF PRICES AND PROCEEDINGS IN THE DIFFERENT MARKETS ON THE DAY OF PUBLICATION. The Proprietors of the "DAILY NEWS" have resolved to comply with the wish of the Public; but to prevent confusion, the paper will appear under a different name—that of THE EXPRESS. The EXPRESS will contain, in addition to the news in the Morning Paper, a SUMMARY of the HOME and FOREIGN INTELLIGENCE which may arrive on the day of publication. THE EXPRESS will have the advantage of Foreign Expresses, Correspondence, and other costly characteristics of a Morning Journal. But the full and carefully prepared REPORTS of the MONEY, RAILWAY, PRODUCE, CORN, CATTLE, and other MARKETS will be the marking feature.

As, however, the interest in such a paper must necessarily be limited to a Class, or a Locality, the Proprietors cannot hope that either the sale or the advertisements will be so extensive or remunerative as those of a Morning Paper. They propose, therefore, that THREEPENCE shall be the price to the public of THE EXPRESS.

The Proprietors believe that every respectable news-agent will transmit the new Journal, on receiving a Post-office order, at the rate of 19s. 6d. per quarter; but should any difficulty arise, all persons desirous of being supplied with THE EXPRESS are requested to remit a Post-office order for that amount, payable to Mr. HENRY WALLBRIDGE, 99, Fleet-street, London, who will transfer it to a respectable London Agent.

THE EXPRESS will be published every Afternoon, at Four o'clock, with the latest details of the Markets of the day.

LIGHTNING CONDUCTORS FOR BUILDINGS.

A. SMITH'S PATENT COPPER WIRE ROPE is being daily employed for the protection of CHURCHES and other buildings from the effects of thunder storms; it possesses important advantages over other forms of conductors. References can be given where it has been applied for some time past to CHURCHES, PUBLIC and PRIVATE BUILDINGS, &c., &c. Its general adoption in the Naval and Mercantile Marine of this and other countries is the strongest possible EVIDENCE of its EFFICIENCY, &c.

A. SMITH begs the attention of those engaged in building to his IMPROVED PATENT PANELLED AND REVOLVING IRON SHUTTERS,—Also, the Patent Weather-tight Fastening and Cill Bar, for French Casements, which are so much admired for their security, simplicity, cheapness, and efficiency. Of the merits of his

Patent Double and Single Action Door Springs,
Improved Flooring Cramps,
Patent Wire Sash Lines, &c. &c.,

Little need be said, as they are pretty generally known and appreciated.

Manufactory for Iron Suspension, Sliding, and other Doors, Strong Rooms, Plain and Ornamental Palisading, Gates, and Columns.—Also, Metal Sashes, Shop-fronts, Stall-board Plates, Brass butt, and other Hinges. Buildings heated upon a new, safe, and superior plan.

Estimates given for every description of Metal-work.

A. Smith, 69, Princes-street, Leicester-square, London.

TO ARCHITECTS, BUILDERS, AND THE PUBLIC IN GENERAL.

GEORGE JENNINGS, of 29, GREAT CHARLOTTE STREET, BLACKFRIARS ROAD, begs to call the attention of Architects, Builders, &c., to his REGISTERED FASTENING for SHOP SHUTTERS, &c., which entirely supersedes the use of shutter-bars. Thereby effecting a great saving of labour, as by the old method, the bar has to pass through the hands of some one upwards of six hundred times in twelve months, which tends to deface the whole front more or less every time the bar is put up or removed. The fastening is secret, simple, and sure, in its action, and can be affixed to any shop-front in two hours, without any alteration to the shutters. New fronts fitted at a less expense than a shutter-bar would amount to. A liberal allowance to the trade, and any further information may be obtained by inclosing a postage stamp to the above address.—A Model may be seen at the office of "The Builder."

CHEAP ROMAN CEMENT is sold in Casks that will not contain five bushels, even by some manufacturers of a very respectable name. Consumers should see that the standard size cask is 29 inches long by 17½ across the head, outside measure. Any workman with a rule in his pocket can ascertain this.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had.

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

MESSRS. THOMAS FREEN and CO., beg to inform their customers and builders generally, that they have made considerable additions to their Works, which will enable them to execute with dispatch all orders with which they may be favoured either for home use or export; they manufacture only one quality, THE BEST ROMAN CEMENT, and all the packages bearing their brand contain full measure.—ROMAN CEMENT WORKS, Tuscany Wharf, Kingsland Road, London.

PATENT METALLIC SAND CEMENT, requiring no colour or paint, and free from cracks and blisters, mixed ready for use at 8s. per cask; 2s. 6d. allowed for each cask returned in good order. 3½ bushels common sand to be added to each cask of Metallic Cement, which will float 14 square yards of stucco.—Apply at the Metallic Cement Wharf, King's-road, Camden New Town.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.

Manufactured by J. B. WHITE and SONS, of Millbank-street, Westminster; and sold at their warehouses—Earl-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

GREAVE'S LIAS CEMENT, stone-colour, free from vegetation, does not crack, and is well adapted for every description of modelling and casting. GROUND LIAS LIME, for concrete, or as mortar for sewers, dock-walls, and hydraulic works generally; is superior to any other lime or cement.—Office, 2, South Wharf, Paddington, and Stratford-on-Avon.

Agent for Liverpool—Mr. Wylie, 56, Gloster-street.
Ditto, Manchester—Mr. J. Thompson, Back King-street.
Ditto, Chester—Mr. J. Harrison, Linen Hall-street.
N.B. Marble Floors. A large quantity of Vein and Black Marble on sale at reduced prices.

ATKINSON'S CEMENT.

Rotherhithe Cement Works, Church-street, Rotherhithe.

WILLIAM WOOD, Jun., Manufacturer of Bath, Portland, and Roman Cements, Blue and White Lias Lime, &c. &c., begs to inform Architects, Builders, and others, that he is appointed AGENT for the sale of ATKINSON'S CEMENT, and has just received a shipment direct from the Works, which is now ready for sale, in any quantity, at the price of 2s. 3d. per bushel.—WILLIAM WOOD, Jun., also begs to call the attention of the public to his Bath Cement, which he thinks will merit approbation. It is of a very light colour, and will take up more sand than any cement now in use; requires no paint, and is well adapted for ornamental castings of every description, however elaborate; 2s. per bushel, delivered free within three miles of the works.

KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Milbank-street, Westminster,

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery

Best Patent Cut Clasp.

3d.	4d.	6d.	8d.	10d.	20d.
5d.	6d.	7d.	11d.	1s. 4d.	1s. 10d. per 1000.

Best Sheet Floor Brads 15s. per cwt.

Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6½d., 7d., 9d. per inch. Self-acting Kitchen Ranges with Oven and Back Boiler.

Wrought Bars and Bright Fittings.

2 ft., 3l. 3s.	3 ft. 6 in., 3l. 12s. 6d.	4 ft., 4l.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 195, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3l. 6s.	3l. 13s.	3l. 16s.	4l.	4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5l.	5l. 15s.	6l. 5s.	6l. 10s.	7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.

Do. Elliptic do., at 5½d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 169, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

ZINC WORKS, 15, New-road, Fitzroy-square, London.—W. STAMPER, Manufacturer of Ornamental Conservatories, Greenhouses, Window Sashes, Sky-lights, Fan-lights, Flower Cases, &c. &c.

Zinc sash-bar mouldings, bell-wire rope, &c. &c. Perforated zinc for safes, ventilators, &c. &c. Roofs, flats, and verandahs, covered on the newest principle. Manufacturer of the improved Sliding Glass Pane Ventilator.—ZINC WORKS, 15, New-road, opposite Fitzroy-square.

PAVING, 2s. 9d. PER SQUARE YARD. Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27s. 6d. per ton.



COMMISSIONERS OF FINE ARTS' REPORT ON THE MEANS OF PREVENTING DAMP IN WALLS.

THE DIRECTORS of the SEYSSEL ASPHALTE COMPANY have much pleasure in recommending to the notice of Architects, Builders, and others, the application of the ASPHALTE of SEYSSEL as the only effectual means of preventing DAMP rising in WALLS.

J. FARRELL, Secretary.

Seyssel Asphalte Company's Works,
"Claridge's Patent."
Stangate Depôt, London.

The following account of its application is extracted from "The Appendix to the Commissioners of Fine Arts' Report," page 18:—

"In 1839 I superintended the construction of a house of three stories on the Lac d'Enghien. The foundation of the house is constantly in water, about 19½ inches below the level of the ground floor. The entire horizontal surface of the external and internal walls was covered, at the level of the internal ground-floor, with a layer of SEYSSEL ASPHALTE, less than half an inch thick, over which coarse sand was spread.

"Since the above date no trace of damp has shewn itself round the walls of the lower story, which are for the most part painted in oil of a gray stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so painted, yet the pavement of the floor, resting on the soil itself, is only about 2½ inches above the external surface of the soil, and only 19½, at the utmost, above that of the sheet of water.

"The layer of Asphalte having been broken and removed, for the purpose of inserting the sills of two doors, spots indicating the presence of damp have been since remarked at the base of the door-posts."

STEPHENS'S PROCESS for DYEING or STAINING WOOD, as a substitute for Paint. The natural grain of wood is imitated by art, but the most successful imitation has a sameness of appearance when compared with the continual variety which different woods present in their natural grain. To give an ornamental colour to the wood without obscuring the grain, is the object of this process, which surpasses paint in appearance, while at the same time it is so economical that the whole interior of a house, which would take a month or six weeks to paint in the usual manner, may be finished in one week by the process above named, and be more pleasing when finished. The dyes or stains are prepared and sold by HENRY STEPHENS, 54, Stamford-street, Blackfriars-road, London, in bottles of 6d. and 1s. each, and at 10s. per gallon. The oak colour may be obtained in powder at 8s. per pound, which dissolves in water to form the liquid, and one pound will make one gallon of stain.

N.B. The Trade supplied.

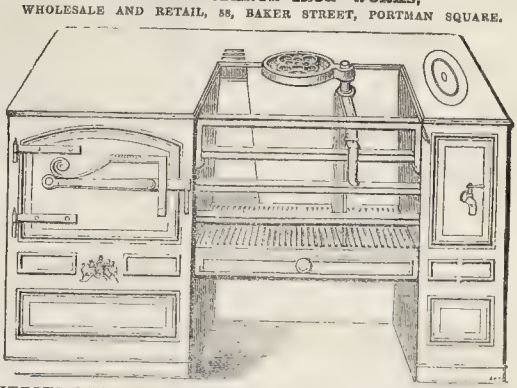
TO ARCHITECTS AND BUILDERS.

DOOR SPRINGS AND HINGES.—GERISH'S PATENT DOOR SPRINGS, for CLOSING every description of DOOR, consists of single and DOUBLE-ACTION BUTT HINGES in Brass and Iron for Doors to open one or both ways, and Rising Hinges for the convenience of Doors opening on uneven Floors. Likewise Swing Centres, which consist of a combination of power unequalled by any made at present. Manufactured by F. W. Gerish, East-road, City-road; and sold by all respectable Ironmongers in the United Kingdom.

FIRE BRICKS, Stourbridge, Welsh, and Newcastle; also Lumps, Tiles, and Clays, a large Stock of the best made Goods are selling at very reduced prices (a great reduction having taken place in freights) at WARD'S Honduras Wharf, Bankside. Windsor Nonsuch, and Town-made Oven Tiles, PP.N. and Circular Red Fire Bricks, Country Pan, Plain and Ridge Tiles, Paving Bricks, Corn Drying and Patent Malting Tiles.—Country Builders promptly supplied. Rough River Ballast for Concrete and Thames Sand, above and below bridge, by freights or loads. Prepared Sand for Plastering.

THE PANKLIBANON IRON WORKS,

WHOLESALE AND RETAIL, 58, BAKER STREET, PORTMAN SQUARE.



ARCHITECTS, BUILDERS, and Others, about to supply STOVES and KITCHEN APPENDAGES, will find at this Establishment the most unique and elegant assortment of STOVE-GRATES, FENDERS, and FIRE-IRONS ever offered to the Public, at prices considerably below the usual charges. The Proprietors at the same time beg to invite attention to their extensive Stock of FURNISHING IRONMONGERY, Tinned Copper, Tin and Iron Cooking Vessels, Block Tin Dish-Covers, Japanned Ware, Table Cutlery, and especially their Sheffield Plate and German Silver Wares, embracing every Article suitable for the Table, comprising Dish and Plate Covers, Liquor Frames, Epergnes, &c. &c. The plan adopted by the Proprietors of affixing the price to each article for cash, enables all purchasers to have the same advantage. The Patent Thermio Stove is in daily operation. ALSO CUNDY'S IMPROVED HOT-AIR STOVES, for Heating and Ventilating Rooms.

THORPE FALLOWS & COMPANY, 58, Baker-street, Portman-square, London.

ECONOMICAL RADIATING STOVE-GRATE

SHOW-ROOMS AND MANUFACTORY,

5, JERMYN STREET, REGENT STREET.

PIERCE and KOLLE solicit the inspection of an extensive variety of new and elegant STOVE GRATES, with FENDERS and FIRE-IRONS, *en suite* from the most *recherché* designs; just completed in the Grecian, Elizabethan, Louis Quatorze, and Gothic Styles, upon their much-improved

RADIATING PRINCIPLE.

These Grates combine the useful and ornamental, blend economy with comfort, display a cheerful fire with a clean hearth, diffuse a genial warmth throughout the apartment, retain the heat many hours after the fire is burnt out, and are adapted for general use. P. & K. being the sole manufacturers, are enabled to guarantee a select style with first-rate workmanship.

They also invite attention to their IMPROVED METHOD OF HEATING BY HOT WATER through large pipes, combining WARMTH WITH VENTILATION; being the most healthy, simple, and economical mode that can be adopted for warming Mansions, Halls, Churches, or other large Buildings; possessing also the important advantage of safety from fire, and freedom from dust or smoke; and is so arranged as to warm the entire of a large mansion from one moderate fire, without excluding the use of the ordinary Grates.

Grates expressly made to cure Smoky Chimneys; references to noblemen, gentlemen, and architects furnished with them.

KITCHENS, LAUNDRIES, BREW-HOUSES, &c., fitted up in the most complete and efficient manner, with Ranges, Ovens, Coppers, Hot Hearths, Smoke-Jacks, and every other requisite, with the latest improvements.

BATHS of every description, comprising the Warm, Cold, Vapour, Shower, Douche, Fumigating, Hip, and Sponging, in great variety, both portable and otherwise.

OPINIONS OF THE PRESS.

"ROYAL EXCHANGE.—Among the useful additions to Lloyd's Rooms, may be reckoned the hospitable-looking, yet really Elegant Stove Grates, that have been fitted up by Pierce and Kolle of Jermyn-street. To judge from the very powerful heat thrown out by the fires, these Grates appear to combine all the warmth of a German Stove with the cheerfulness as well as healthful ventilation of the open fire. These Stove-Grates, with their massive fenders, are really ornaments to Lloyd's Rooms, and are highly creditable to Pierce and Kolle."—*Morning Herald*, Dec. 30, 1844. See also the *Morning Post* and *Observer*, Jan. 5, 1845.

"FINE ARTS AS APPLIED TO GRATES.—A few months since we had occasion to speak with eulogium of the manner in which the works generally had been done at the new Royal Exchange, and more particularly alluded to the admirable way in which the warming and ventilation of its large rooms had been managed. The Grates, too, came in deservedly for their share of praise. They were from the Messrs. Pierce and Kolle, who have since been completing several splendid works for large mansions, and amongst others for Lord Francis Egerton, for his new mansion at Worsley Hall, which is now near completion; for Crewe Hall, the seat of Lord Crewe, one of the most perfect specimens of the earlier Elizabethan style of architecture in this country; and also for Merivale Hall and Coolhurst, in Sussex; and moreover for the banqueting-room of Beaufort House. All these Grates exhibit a correct taste, and it is highly creditable to the Manufacturers to find that Artists of unquestionable talent and standing have been employed thereon. It is really to be wished that such exquisite works of art were generally exhibited for awhile, or ably lithographed, that the Public might possess some more accurate and detailed notion than the pen is capable of affording."—*Morning Post*, April 23, 1845. See also the *Morning Chronicle* and the *Standard*, April 28, 1845.

PIERCE AND KOLLE, FURNISHING IRONMONGERS,
No. 5, JERMYN STREET, REGENT STREET.

CHEAP AND DURABLE ROOFING.

By Her Majesty's  Royal Letters Patent.

F. McNEILL and Co. of Lamb's Buildings, Bunhill Row, London, Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING

HOUSES, VERANDAHS, SHEDS, &c.

Patronized by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE BOARD OF ORDNANCE,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose gre national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing, also used for under slates at the Royal Agricultural Society's House, in Hanover-square.

Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, AS THE ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW, LONDON.

Roofs covered with the felt to be seen at the Factory, also the new Vice-Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the new Houses of Parliament.

A Liberal Discount allowed to the Trade.

WORCESTER ENCAUSTIC TILES. Specimens of these beautiful Tiles in all their Varieties, may be seen and information obtained at the London Agents, Messrs. GRIEVE and GRELLIER, Marble-wharf, Belvidere-road, Waterloo-bridge, or at the Encaustic Tile Works, of Messrs. F. ST. JOHN G. BARR, and Co., Worcester.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—J. M. BLASHFIELD, Agent. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

ORNAMENTAL TILES FOR COVERING BUILDINGS.

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TO BE LET, a Seven-acre FIELD of superior CLAY, at Bell-green, Sydenham, about a mile from Forest-hill and Sydenham Stations on the Croydon Railway.—To view, apply to Mr. DALE, at Bell-green; for particulars, by letter, post-paid, to G. M., Mr. Pigott's, 3, Charles-street, Grosvenor-square.

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TO BE LET, on long Building Leases, a few Plots of Ground, fronting the outer circle of the Regent's Park, near the proposed New Church in the Albert-road, Regent's-park. For particulars, apply to Mr. LITTLE, 36, Northumberland-street, New-road.

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ELIGIBLE BUILDING GROUND, NEWINGTON, SURREY (exonerated from Land-tax).

W. and C. PUGH are directed by the Very Rev. the Dean and Chapter of Canterbury, and the Trustees of the Estate of Thomas and Samuel Brandon, Esqs., deceased, to LET, by Public AUCTION, at the Elephant and Castle, Newington, on Wednesday, the 30th instant, at Twelve, in several lots, for a term of Ninety-nine Years, at the highest annual rents, as may be then bid, various plots of BUILDING GROUND, forming part of the Bee Hive Cricket-ground and Manor of Walworth, presenting a favourable opportunity of progressing with the attractive buildings of this respectable district.—Particulars are preparing, and may be had of Mr. T. B. FLEMING, Solicitor, 1, Trinity-square; of Messrs. SUDLOW, SONS, and TORR, 20, Chancery-lane; of Mr. SCARGILL, 2, Hatton-court, Threadneedle-street; of Mr. POUGET, Architect, 52, Trinity-square; and of W. and C. PUGH, 6, Blackman-street.

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TO BUILDERS AND OTHERS.—About 600,000 Bricks, near Bromley, Kent.—By

MESSRS. HOGGART and NORTON, at the White Hart, Bromley, on TUESDAY next, at One for Two, about 600,000 Stock and Place BRICKS, lying near the Bird in Hand, on the road from Bromley to Chiselhurst, and about a mile from the town of Bromley. They will be offered in lots of from 5,000 to 10,000.—May be viewed and catalogues had at the White Hart, Bromley, and of Messrs. HOGGART and NORTON, 62, Old Broad-street, Royal Exchange.

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MESSRS. HOGGART and NORTON, at the White Hart Inn, Bromley, on Tuesday next, at One for Two o'clock precisely, in lots. This valuable and important Freehold Property comprises upwards of 26 acres of land, the land-tax of which is redeemed, most eligibly situate close to the town of Bromley, and opposite the grounds attached to the Palace, lately occupied by the Bishop of Rochester, commanding the most extensive and beautiful prospects, and in the finest possible situation for building. It has a frontage to the Widmore-road of nearly 700 feet, and another frontage in the rear to the road leading from Chiselhurst to Lewisham. It is intended to subdivide the property into lots, part of which will have frontages of about 80 feet to the Widmore-road, and the remainder into plots of from one to two acres each, which will be adapted either for accommodation, occupation, or for building purposes, reserving for the purchasers a roadway 30 feet wide, so as to connect the two roads; and, looking to the prospect of communication by railway with the town of Bromley, and the great increase in the value of property in the immediate neighbourhood, investments of this character cannot fail to produce very profitable results.—May be viewed, and particulars, with plans shewing the division, may be had at the White Hart, Bromley; of Messrs. WOOD and BLAKE, Solicitors, Falcon-street; of Messrs. BLAKE, KEITH, and BLAKE, Solicitors, Norwich; at the Mart; and of Messrs. HOGGART and NORTON, 62, Old Broad-street, Royal Exchange.

KENT.—Extensive Sale of Valuable Building Materials at Woolwich, by order of the Right Honourable the Lords Commissioners of the Admiralty.

MR. G. HUDSON has been honoured by directions from their Lordships to SELL by AUCTION, on Monday, September 21st, 1846, at Eleven o'clock, on the premises, George-street, Woolwich, near the principal entrance to her Majesty's Dock Yard, the whole of the valuable Materials of eight first and second class Houses, six tenements, stabling, coach-houses, school-rooms, greenhouse, and other buildings, in the rear, (some recently erected,) brick boundary walls, iron palisade fences, fixtures, &c., comprising about 180 rods of good sound stock brickwork, a quantity of plain and ridge tiles, York paving, stone coping, lead in gutters, flats, spouts, pipes, and cisterns, fir joists, rafters, and quarters of large scantlings, modern sashes and frames, doors, panelled partitions, cupboards, good flooring boards, iron palisade, railing, and gates, marble chimney-pieces, leaden pumps, shop front and baker's fittings, stoves, ranges, coppers, dressers, bells, and other fixtures, and a great variety of useful materials.—May be viewed the Saturday preceding the sale. Catalogues may be had at Garraway's Coffee House, Change-alley, London; at the Dover Castle, Deptford; Greyhound, Greenwich; Bull, Dartford; and of the Auctioneer and Surveyor, Brewer-street, Woolwich.

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GUILDHALL, Sept. 19, 1846.

THE Committee for Letting the City's Lands will MEET at Guildhall, on Wednesday, the 14th day of October next, at One o'clock precisely, to receive TENDERS for LETTING on LEASE for twenty-one years from Michaelmas, 1846, a HOUSE, No. 19, on the north side of the Broad-street-buildings, and also a House, No. 36, on the south-west side of Houndsditch.—Further particulars may be obtained and plans seen by applying at the Office of Works, Guildhall.

THOMAS SAUNDERS, Comptroller.

METROPOLIS IMPROVEMENTS, OXFORD-STREET.

THE Commissioners of her Majesty's Woods, &c., HEREBY GIVE NOTICE that they propose to LET by PUBLIC TENDER, the few remaining lots of BUILDING GROUND in Oxford-street, and also to LET or SELL the newly-built CARCASES of three houses in Bloomsbury-street. And they will receive Tenders for the same any time before Twelve o'clock on TUESDAY, the 20th day of October next.—Plans and particulars may be obtained at the Office of Woods, &c., No. 2, Whitehall-place, and at Mr. PENETHORNE'S Office, No. 7, Whitehall-yard, any day between the hours of Ten and Four, at which places may also be obtained plans and particulars of the plots of ground in Endell-street, remaining unlet.

ELIGIBLE BUILDING GROUND, NEWINGTON, SURREY (exonerated from Land-tax).

W. and C. PUGH are directed by the Very Rev. the Dean and Chapter of Canterbury, and the Trustees of the Estate of Thomas and Samuel Brandon, Esqs., deceased, to LET, by Public AUCTION, at the Elephant and Castle, Newington, on Wednesday, the 30th instant, at Twelve, in several lots, for a term of Ninety-nine Years, at the highest annual rents, as may be then bid, various plots of BUILDING GROUND, forming part of the Bee Hive Cricket-ground and Manor of Walworth, presenting a favourable opportunity of progressing with the attractive buildings of this respectable district.—Particulars are preparing, and may be had of Mr. T. B. FLEMING, Solicitor, 1, Trinity-square; of Messrs. SUDLOW, SONS, and TORR, 20, Chancery-lane; of Mr. SCARGILL, 2, Hatton-court, Threadneedle-street; of Mr. POUGET, Architect, 52, Trinity-square; and of W. and C. PUGH, 6, Blackman-street.

CONTRACT.

BOROUGH GAOL, BIRMINGHAM.
NOTICE TO BUILDERS, CONTRACTORS, AND OTHERS.

PERSONS desirous of CONTRACTING to COMPLETE the WORKS of the above-mentioned GAOL, and to supply the necessary Materials and Labour for that purpose, are hereby informed that the Drawings and Specifications of the Works to be performed are prepared, and may be inspected from the 28th of September to the 17th day of October next, at the office of the Architect, Mr. D. R. Hill, in Christ Church-buildings, Waterloo-street, Birmingham, and that Copies of the Conditions for the Contracts may be had on application to Mr. Hill, personally or by letter.- Sealed Tenders for the completion of the whole of the works (or for any portion thereof), endorsed "Tender for completing the Borough Gaol of Birmingham," to be sent (post paid) under cover to the Town Clerk of Birmingham, on or before the 17th day of October next.

By order,
S. BRAY, Town Clerk.

Birmingham, Sept. 19, 1846.

TO BUILDERS AND OTHERS.

THE Court of Sewers for Westminster and part of Middlesex, will be ready at the Court House, No. 1, Greek-street, Soho-square, on Friday, 2nd October, 1846, to receive TENDERS for the following works viz.: —

400 feet of Sewer in Denmark-street, St. Giles's.
350 feet of do. in Thorney-street, Bloomsbury.
640 feet of do. in St. James's-place, St. James's.
530 feet of do. in Green-lane, Paddington, and under Paddington Canal, near Kensal New Town.
205 feet of do. in John-street, Berkeley-square, and Repairs and other works to the Sewer in Hill-street, Berkeley-square.

Plans of the above works may be inspected, and specifications, forms of tender, and other particulars obtained at this office daily, between the hours of Nine and Four. Parties offering must be in attendance at Two o'clock precisely on the 2nd October, with separate sealed tenders, specifying on the outside for which of the above works the tender is made. Each tender must be strictly in the form prescribed, and contain the names of two securities for the due performance of the works. The Court does not bind itself to accept the lowest Tender.

LEWIS C. HERTSLET, Clerk.
Sewers' Office, No. 1, Greek-street, Soho-square, 23rd Sept. 1846.

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JOHN CHARLES DENHAM,
London. Secretary.

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TO BUILDERS and OTHERS.—£2,000 ready to be advanced by way of Annuity on Ground Rents, Freehold or long Leasehold, House or Landed Property. Apply to Mr. THOMAS WYATT, Surveyor, &c. 359, Strand.

TO LET.—To Builders, Stonemasons, and others, requiring Waterside Premises.

CONVENIENT PREMISES of the above description TO BE LET, with immediate possession, in Stangate, Lambeth.—For particulars, inquire of SEARLE and SON, Boat Builders, Stangate, Lambeth.

FREEHOLD BUILDING GROUND.

TO BE LET, on long Building Leases, a few Plots of Ground, fronting the outer circle of the Regent's Park, near the proposed New Church in the Albert-road, Regent's-park. For particulars, apply to Mr. LITTLE, 36, Northumberland-street, New-road.

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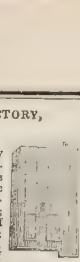
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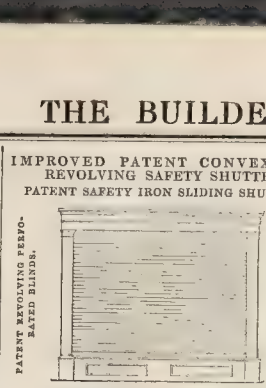
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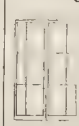
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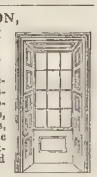


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Specimens of these beautiful Tiles in all their Varieties, may be seen and information obtained at the London Agents, Messrs. GRIEVE and GRELLIER, Marble-wharf, Belvidere-road, Waterloo-bridge, or at the Encaustic Tile Works, of Messrs. F. ST. JOHN G. BARR, and Co., Worcester.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—J. M. BLASHFIELD, Agent. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.



STEDALL'S
PATENT SCOLECOTHIC VENTILATOR,
AND CURE FOR SMOKY CHIMNEYS.

The most effectual and most ornamental Chimney-pot yet invented, entirely obviating the objection to which all others are open, namely, that of soon becoming clogged with soot, and, consequently, useless.

A large quantity has been made in various parts of the kingdom, which have given the greatest satisfaction.

Price, Strong Painted Iron..... 32s.
,, Strong Galvanized Iron .. 40s.

To be had of R. STEDALL, 13, Nelson-street, Greenwich.—The Trade supplied, and also licences granted to Manufacturers.



PATENT GALVANISED TINNED IRON.
(MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, {BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and water-closets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 9oz. to any required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quicksett-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

By Her Majesty's Royal Letters Patent.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED METAL.—This article was at first sold under the name of Galvanised Tin Plates, but the Patentees finding that the public, in some instances, overlooking the word Tin, confounded the article with Galvanised Iron, and that the character of their metal has thereby sustained injury, are desirous of giving it a name so distinctive as to prevent such mistakes, and consequent disappointment to purchasers in future. They therefore respectfully request purchasers to inquire for MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON. In order to enable the public readily and at first sight to distinguish between the two metals, it may be well to inform them, that Galvanised Iron has a plain zinc-like appearance, while M. and R.'s Patent Galvanized Tinned Iron has a smooth crystalline surface.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON, Patronized by the Admiralty and the Honourable Board of Ordnance, being extensively used in her Majesty's Dock-yards, at the Tower, and elsewhere, for every variety of Roofing, and other purposes, where a strong, light, cheap, and durable material is required.

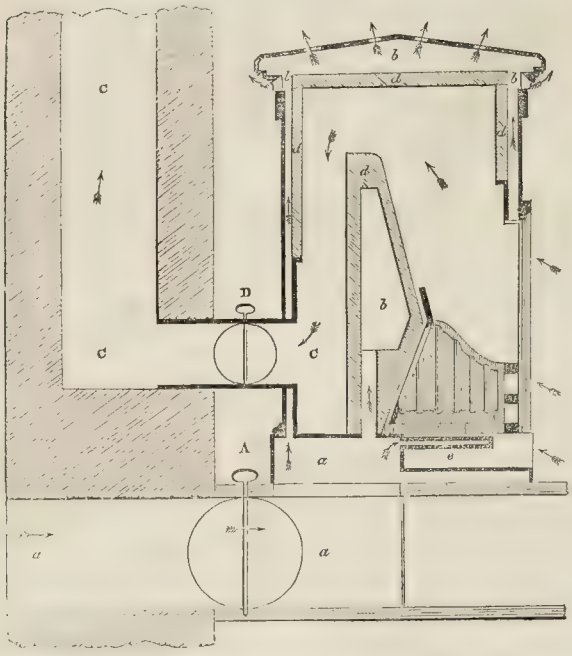
It has been found by experience that this article is beyond all comparison superior to zinc; possessing, as it does, all the advantages arising from the strength and firmness of iron, combined with perfect immunity from rust; whilst it is free from the very serious objection which applies to zinc, viz. its contraction and expansion, consequent upon every change of temperature, and from which circumstance leakage must of course result.

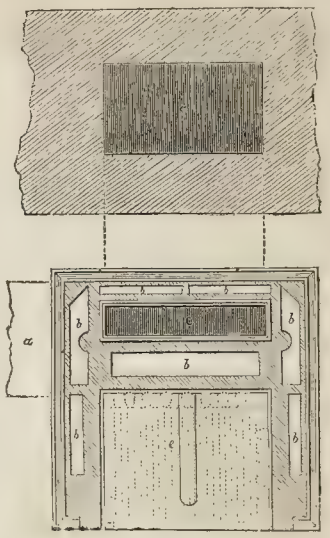
This material is not likely to be destroyed by fire, as is the case with zinc and lead, which melt and run down, thus freely admitting fresh air to the fire, and causing it to burn more fiercely. It is, therefore, obviously well adapted for all the purposes above-named, and most importantly so, when there is the possibility of fire. It is also peculiarly suitable for chimney-tops, gutters, spouting, and out-door work generally, possessing the strength of iron, without its liability to corrosion. It is by far the most economical metal roofing that can be obtained, in consequence of its strength, as it may be laid without boards, and upon the lightest rafters.

his mode of preserving metal from rust does not only apply to sheet-iron, but also to manufactured iron in any form, as bolts, nuts, hinges, nails, &c. &c.

For full Particulars apply to S. HOLLAND, 34, Grace-church-street.

CUNDY'S PATENT IMPROVED OPEN FIRE PLACE, HOT AIR, VENTILATING STOVE.





PLAN.

Description of Diagram.

a a a a Fresh air channel, for admission of external air.
b b b b Hot air chambers (formed with artificial stone, *d d d d*) through which the air passes into the room, and is heated without being injured.
C C C The direction the smoke and vitiated air takes after it has passed through the fire and heated the artificial stone of the hot air chambers.
e Blow pipe to preserve perfect combustion placed immediately underneath the grating of fire place.
A and *D* are regulators.
The arrows shew the way the external fresh air is admitted, next passing through the hot-air chambers into the room, and lastly taken out of the room through the fire and up the chimney—thus completing ventilation.

This STOVE embraces the following most important principles connected with the economy of

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and other Public and Private Buildings, viz.:—

HEAT by RADIATION from the Open Fire.

HEAT by CONDUCTION.—A copious and continuous stream of PURE WARM AIR is conducted into the room through the large Stove, at a regulated rate, by means of an air channel underneath the floor, communicating with the external air.

HEAT by REFLECTION.—The external casing of the Stove becoming warm, communicates its heat to the surrounding atmosphere.

VENTILATION produced by the OPEN FIRE—which will carry off the Vitiated Air through the chimney at the same rate the Pure Air is conducted into the room through the interior HEATING APPARATUS of the Stove, thereby keeping up a regular and agreeable system of Ventilation.

ECONOMY of FUEL.—This Stove, from the peculiar construction of the Fire Place, will produce a most BRILLIANT FIRE with the least possible quantity of fuel, and will continue to burn so long as any particle of coal remains.

Two of CUNDY'S PATENT STOVES, 27 inches square and 42 inches high, will be found sufficient to warm and ventilate a Church containing an area of Two Hundred Thousand Cubic Feet, and having One Thousand Feet superficial of Glass; vide St. Thomas's, Charter-House, Goswell-street, in which church two have been fixed, producing a genial and refreshing warmth throughout the church, in the place of three very large Arnott's Stoves, previously found to be totally inefficient.

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This STOVE is admirably calculated for the room of an Invalid, inasmuch as it supplies the room with pure warm air, and, after circulating through the apartment, it is conducted through the stove to keep up combustion; consequently the room may be fitted with double doors and windows, to the otherwise exclusion of the external atmosphere, without the disagreeable accompaniment of a smoky room.

CUNDY'S PATENT STOVE possesses the ENGLISHMAN'S OPEN FIRE PLACE, therefore can be applied to warm and ventilate a room in the basement, and the pure warm air which passes through the stove can be conducted into a room above.

The INTERNAL construction of this Stove is so contrived, that the fire does not come in contact with iron as a heating medium, consequently the heated air is not deprived of its freshness, nor does it become vapid and enervating.

CUNDY'S PATENT STOVE can be recommended to the Public as offering (at less expense, and in principle less complicated) a more healthful medium of warmth than Dr. Arnott's, or any other stoves in general use, all of which burn the already vitiated air of the room, and thereby add to its injurious effects upon the lungs; and as this burning process is repeated as often as the air becomes saturated with moisture from respiration, and insensible perspiration from the body, there being no ventilating principle in any of these stoves, from the small quantity of air they cause to be drawn into the room to supply combustion, Persons of DELICATE CONSTITUTIONS, exposed to the DELETERIOUS ATMOSPHERE engendered by such stoves, even for a short time, become afflicted with Drowsiness, Headache, and loss of appetite.

The principle of this Stove embraces the luxury of radient heat from the open fire, which spreads through the air, and other gaseous bodies with an immense velocity, and it passes through them without materially increasing the temperature: but it effectually warms the solid bodies exposed to its action. It is radient heat we receive from the sun,—it is radient heat we feel when approaching an open fire; it warms the solid matters of an apartment, and these slowly communicate the heat to the surrounding air; hence, in a room warmed by an open fire, combined with the introduction of pure warm air, conducted into the room through the stove, a person may enjoy a comfortable degree of warmth, and yet breathe in a comparatively cool atmosphere from the circulation of air it induces, besides permitting each individual to adjust the distance from the fire which may be most suitable to his constitution.

CUNDY'S PATENT STOVE is a certain PREVENTIVE and CURE for the DRY ROT, from the circulation of air it induces underneath the floor upon which it is fixed.

This Stove will be found the most economical stove in use, because the moveable iron gratings which surround the fire is the only part of the stove that can be destroyed (and they will last for many years). These gratings are so contrived that any person can take them out and substitute a new set at a small expense.

CUNDY'S PATENT STOVE requires the same management as a common fire-place.

TESTIMONIALS.

29, Charter-house-square, Monday, Feb. 17, 1845.

DEAR SIR,—The Stoves which you have recently erected in my church have been highly successful, and I have great pleasure in expressing to you the entire satisfaction which they have given to all parties. The church, which was notoriously noted for its coldness and bad ventilation, is now most agreeably warmed and well ventilated. I shall be most happy, on any occasion, to bear testimony to the excellency of your stoves; and I will endeavour, to the best of my power, to make them known, and I will certainly recommend them to my friends.

I remain, Dear Sir, yours faithfully,
JN. WM. ROGERS, St. Thomas's Charter-house.

Letter from the Rev. MATTHEW O'BRIEN, (Professor of Natural Philosophy and Astronomy), M.A., F.R.S., &c., King's College.

Upper Norwood, 22nd June, 1846.

I beg to certify that one of Mr. Cundy's Patent Stoves was put up in my lecture room at King's College, last year, in place of a common stove (of Arnott's construction, I believe). I have no hesitation in saying from actual experience, that Mr. Cundy's Stove is far superior both in producing warmth over the whole room, and in promoting ventilation, without disagreeable currents of air, or close smell.

MATTHEW O'BRIEN.

*** Since this stove was put up, four others have also been fixed, one of which is placed in the Medical Library.

To be had of the Manufacturers,

MESSRS. DOWSON, 69, WELBECK-STREET, CAVENDISH-SQUARE,

Where they may be SEEN IN OPERATION, and where also may be seen an ELEGANT assortment of REGISTER and other STOVES, FENDERS, CULINARY APPARATUS, &c. &c. ARCHITECTS and BUILDERS supplied with IRON and BRASS CASTINGS, at Messrs. DOWSON'S FOUNDRY, 5, SEYMOUR-PLACE, BRYANSTON-SQUARE. Smith's Work, Gas Fittings, and all other works appertaining to a Smith and Founder, undertaken at estimated prices.

LONDON: Printed by CHARLES WYMAN, of 49, Camming street, Pentonville, in the County of Middlesex, Printer, at the Printing-office of J. & H. COX, *Brothers*, 74 & 75, Great Queen-street, Lincoln's-Inn Fields, in the Parish of St Giles-in-the-Fields, in the same County; and published by the said CHARLES WYMAN, at the office of "THE BUILDER," 2, York-street, Covent Garden, in the Parish of Saint Paul, Covent Garden, in the said County.—Saturday, September 26, 1846.

The Builder,

A JOURNAL FOR

The Architect, Engineer, Operative & Artist.

VOL. IV.—No. 191. | OCTOBER 3, 1846. | *Price* ..... 3*d.* *Stamped* ... ... 4*d.*

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ADVERTISEMENTS.

TO BRICKMAKERS.

WANTED a Situation as Foreman, by an Experienced Practical Brickmaker, thoroughly competent in all branches of the business; can be well recommended.—Address A. B., Post-office, Highgate Middlesex.

TO ARCHITECTS, BUILDERS, AND RAILROAD CONTRACTORS.

WANTED, by a Person who has just completed an engagement, a Situation as Clerk of Works, or Foreman, in town or country. The highest testimonials for ability and sobriety can be given.—Address, pre-paid, to A. B., 3, Mount-street, Lambeth.

ARCHITECTS' ASSISTANT.

WANTED, by an Architect and Surveyor, an experienced Clerk. He must be intimately acquainted with measuring, taking out quantities, making out specifications and working drawings, and capable of keeping accounts. The situation is very respectable.—Direct, post-paid, giving references, to A. B., Messrs. Fores, 41, Piccadilly.

BUILDERS' CLERKS.

WANTED, a Person acquainted with the routine of a Builder's Office, and used to early hours: one writing an expeditious hand, and practically acquainted with the business will be preferred. All applications to state the writer's age, where last employed, and amount of salary required, addressed to A. B., Mr. Miland's Library, Chapel-street, Grosvenor-place.

TO BUILDERS AND HOUSE DECORATORS.

WANTED, by a steady Young Man, a permanent Situation, as Painter, Grainer, Gilder, and Writer. Has been some years in the business, and worked in first-rate shops. Is also accustomed to drawing out Plans for Decorations. Wages a secondary consideration.—Address, post-paid, with particulars, to R. P., 98, Murray-street, New North Road, London.

TO BUILDERS, &c.

WANTED by a Young Man of Respectability, a Situation in a Builder' Office; he has been similarly engaged, writes a neat hand, and would make himself generally useful. Would have no objection to fill up any leisure time at the bench if required. Salary of little importance, as a respectable situation is the chief object.—Address, J. C., office of "The Builder."

MONEY.—The Advertiser having commenced a business for the manufacture of articles of the first importance (required by every builder), upon improved principles, finding the business rapidly extending, desires to meet with a man of active habits, who can command from 200*l.* to 400*l.*, in order to take advantage of the first markets. He can be received as a partner, or can be guaranteed constant employment at a liberal weekly salary, and interest paid upon capital invested. The work would be light and wholesome, and he would be learning a valuable business.—For particulars, address, post-paid, to R. R., Post-office, Mount-street, Lambeth.

BOOK-KEEPING.

AN experienced Accountant adjusts Tradesman's Accounts and keeps them in order on moderate Terms.—Apply, by letter, G. F., 22, Upper Ebury-street, Pimlico.

TO ARCHITECTS AND BUILDERS.

A YOUNG MAN of highly respectable connections wishes for an engagement either in an Architect's or Builder's Office. Is experienced in drawing, estimating, measuring, keeping accounts, &c. No objection to the country.—Address, stating full particulars, to J. D., office of "The Builder."

TO SURVEYORS, BUILDERS, &c.

A YOUNG MAN, of the greatest respectability, is desirous of engaging for a time in a Surveyor's or Builder's Office, or a similar situation; he would make himself generally useful, and would have no objection to give his services gratis in a suitable situation.—Address, B. C., care of Mr. Collings, Stationer, 49, York-road, Lambeth.

A GENTLEMAN accustomed to write Specifications, make out Estimates, finished working and perspective Drawings, and who has had the superintendence of several works, is desirous of meeting with an Engagement. References given to eminent members of the Profession.—Address, post-paid, to G. W., Literary Institution, Edward-street, Portman-square.

ARTICLED PUPIL WANTED.

AN Architect and Surveyor having a considerable and increasing business in the country, is in want of a respectable and well-educated youth to be articled. He will have the opportunity of obtaining a thorough knowledge of the profession. A moderate premium expected. References will be given and required.—Address to F. N., the library, College-green, Gloucester.

TO IRONMONGERS AND BUILDERS.

THE Advertiser, who has had long experience in hot-water, steam, and general pipe-fitting, wishes for employment, either by the day or piece.—Address, A. J., Jewin-street, City.

TO PLUMBERS, PAINTERS, AND GLAZIERS.

THE Advertiser having a thorough Practical Knowledge of Plumbing, Painting, Glass-cutting, and Glazing, is in want of a Situation as Working Foreman, and where he would be generally useful to his employer.—Please to direct to C. D., at Mr. Jones's, Coffee-house, Howland-street, Tottenham-court-road.

GATTON ESTATE.—TO BUILDERS.

T. DUNN having taken the Lime Works lately occupied by T. Burrell and B. Farrington, respectfully solicits the attention of those who have taken any portion of this land for the erection of houses, &c., as the lime made in this neighbourhood is held in such high esteem, and these works offer peculiar advantages, being situated on a portion of this valuable estate.

Reigate-hill Works, 29th Sept. 1846.

UNIVERSITY COLLEGE, LONDON.

CLASSES OF CIVIL ENGINEERING AND ARCHITECTURE, Session 1846-47.

CIVIL ENGINEERING, Professor Harman Lewis, M.A., Monday, Wednesday, and Friday, during the months of March, April, and May.

First division, first year, from 7½ to 8½ P.M., materials, principles of special construction, surveying in general.

Second division, second year, from 6 to 7 P.M.—Civil engineering and general construction, comprehending land engineering, hydraulic engineering, and various other engineering questions. Fee for each division 5*l.*, for both in one payment 9*l.*

ARCHITECTURE AND CONSTRUCTION.—Professor Donaldson, M.I.B.A., commencing October 20th. This subject is treated of in courses under two heads, architecture as a fine art, architecture as a science; each course consists of 50 or 60 lectures, making in the whole 100 or 120 lectures in two years. Lectures on Tuesday and Thursday Evening throughout the session. Fees for one year's course in either class, 3*l.*; for both 5*l.*; for two years' courses in either class, 5*l.*; or for the two years' courses in both 9*l.*

Prospectuses with full details of these classes and of those of mathematics (Professor De Morgan), natural philosophy (Professor Potter), chemistry (Professor Graham), practical and analytical chemistry (Professor Fownes), of geology (Lecturer Mr. Joyce, F.G.S.), may be obtained at the office of the College.

HENRY MALDEN, M.A., Dean of Faculty of Arts.
CHAS. C. ATKINSON, Secretary to the Council.

30th Sept. 1846.

CONTRACT.

BOROUGH GAOL, BIRMINGHAM.
NOTICE TO BUILDERS, CONTRACTORS, AND OTHERS.

PERSONS desirous of CONTRACTING to COMPLETE the WORKS of the above-mentioned GAOL, and to supply the necessary Materials and Labour for that purpose, are hereby informed that the Drawings and Specifications of the Works to be performed are prepared, and may be inspected from the 28th of September to the 17th day of October next, at the office of the Architect, Mr. D. R. Hill, in Christ Church-buildings, Waterloo-street, Birmingham, and that Copies of the Conditions for the Contracts may be had on application to Mr. Hill, personally or by letter.—Sealed Tenders for the completion of the whole of the works (or for any portion thereof), endorsed "Tender for completing the Borough Gaol of Birmingham," to be sent (post paid) under cover to the Town Clerk of Birmingham, on or before the 17th day of October next.

By order, S. BRAY, Town Clerk.

Birmingham, Sept. 19, 1846.

TO CONTRACTORS, BRICKLAYERS, AND OTHERS, Court of Sewers, Tower Hamlets'.

NOTICE IS HEREBY GIVEN, that the Commissioners of Sewers for the Tower Hamlets' (excluding Saint Katharine's and Blackwall Marsh), at their meeting to be held on TUESDAY, the 13th day of October next, at Two o'clock in the afternoon precisely, at the Office of Sewers, No. 15, Great Alie-street, Goodman's-fields, will be ready to receive TENDERS (sealed up), from any persons or person willing to enter into contract for the works necessary in extending the sewer in Devonshire-street for a length of 750 feet, or thereabouts, in the hamlet of Mile End Old Town; also from Great Garden-street, along Whitechapel-road to Union-street, being a length of 390 feet or thereabouts; and along Union-street, for a length of 212 feet or thereabouts, in the parish of St. Mary, Whitechapel; also in Greenfield-street, Commercial-road, for a length of 676 feet or thereabouts, in the said hamlet; and in Plumber's-row, for a length of 790 feet or thereabouts, in the said hamlet. Plans and specifications of the said several works, with the forms of tender, may be inspected at the Office of Sewers, after Friday, 2nd October, daily, between the hours of Eleven and Three o'clock. Separate contracts will be required for each of the said works respectively.

The contractors will be required to sign a provisional agreement to secure the due execution of the said contracts, and to give the names and addresses of two sureties to become bound in a sufficient penalty for the due performance of each of the said several works. The expense of the deeds will be borne by the Commissioners: no tender will be received after the hour of meeting, nor in any other form than that prescribed by the Commissioners, nor unless the party tendering, or some person duly authorised, attend on his behalf to answer when called upon.—Dated this 30th day of September, 1846.

JOHN WILLIAM UNWIN,
Clerk to the Commissioners.

N.B. The Commissioners do not pledge themselves to accept the lowest tender.

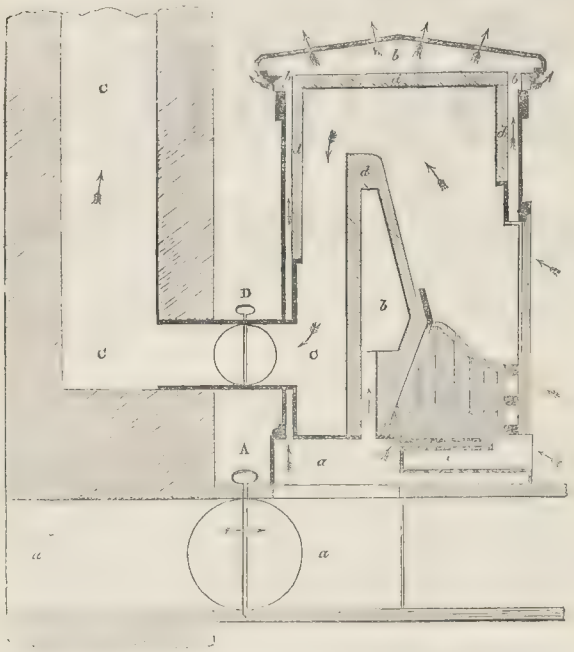
R. GOODLAD and Co., Paper-hanging Manufacturers, 1, Southampton-street, two doors from the Strand, London. R. G. and Co. beg respectfully to express their thanks for past favours, and solicit their friends, and the Trade generally, to inspect their extensive assortment of the choicest Patterns, which they can vouch ranks second to none in the metropolis, either as regards extent of stock, variety, or moderate charges. A liberal allowance to Builders and the Trade. For cash only.

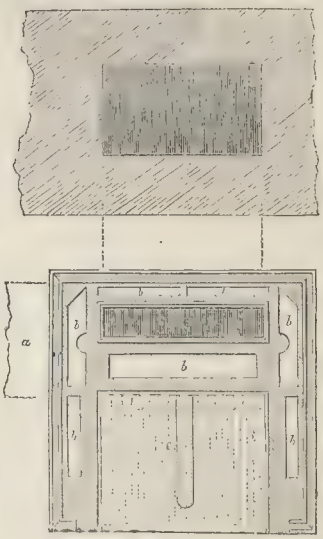
TO ARCHITECTS AND BUILDERS.

DOOR SPRINGS AND HINGES.—GERISH'S PATENT DOOR SPRINGS, for CLOSING every description of DOOR, consists of Single and DOUBLE-ACTION BUTT HINGES in Brass and Iron for Doors to open one or both ways, and Rising Hinges for the convenience of Doors opening on uneven Floors. Likewise Swing Centres, which consist of a combination of power unequalled by any made at present. Manufactured by F. W. Gerish, East-road, City-road; and sold by all respectable Ironmongers in the United Kingdom.

CLARENDON PANTECHNICON, North-row, North Audley-street, Grosvenor-square. The proprietor, Mr. JAMES PONSFORD, begs most respectfully to inform the nobility, gentry, and public, that he has those exceedingly convenient ware and store-rooms for depositing furniture and other valuable property, and that the greatest attention is given to receiving and delivering all articles, and to their safety while in the ware-rooms, and the moderate charge he makes for the convenience is considerably less than similar Establishments in London.

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Description of Diagram.

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The INTERNAL construction of this Stove is so contrived, that the fire does not come in contact with iron as a heating medium, consequently the heated air is not deprived of its freshness, nor does it become vapid and enervating.

CUNDY'S PATENT STOVE can be recommended to the Public as offering (at less expense, and in principle less complicated) a more healthful medium of warmth than Dr. Arnott's, or any other stoves in general use, all of which burn the already vitiated air of the room, and thereby add to its injurious effects upon the lungs; and as this burning process is repeated as often as the air becomes saturated with moisture from respiration, and insensible perspiration from the body, there being no ventilating principle in any of these stoves, from the small quantity of air they cause to be drawn into the room to supply combustion, Persons of DELICATE CONSTITUTIONS, exposed to the DELETERIOUS ATMOSPHERE engendered by such stoves, even for a short time, become afflicted with Drowsiness, Headache, and loss of appetite.

The principle of this Stove embraces the luxury of radient heat from the open fire, which spreads through the air, and other gaseous bodies with an immense velocity, and it passes through them without materially increasing the temperature: but it effectually warms the solid bodies exposed to its action. It is radient heat we receive from the sun,—it is radient heat we feel when approaching an open fire; it warms the solid matters of an apartment, and these slowly communicate the heat to the surrounding air; hence, in a room warmed by an open fire, combined with the introduction of pure warm air, conducted into the room through the stove, a person may enjoy a comfortable degree of warmth, and yet breathe in a comparatively cool atmosphere from the circulation of air it induces, besides permitting each individual to adjust the distance from the fire which may be most suitable to his constitution.

CUNDY'S PATENT STOVE is a certain PREVENTIVE and CURE for the DRY ROT, from the circulation of air it induces underneath the floor upon which it is fixed.

This Stove will be found the most economical stove in use, because the moveable iron gratings which surround the fire is the only part of the stove that can be destroyed (and they will last for many years). These gratings are so contrived that any person can take them out and substitute a new set at a small expense.

CUNDY'S PATENT STOVE requires the same management as a common fire-place.

TESTIMONIALS.

St. John's, Fulham, 2nd May, 1846.

My Dear Sir,—I have very great pleasure in giving my testimony to the efficiency of your stove, as combining the double advantage of thoroughly warming and constantly ventilating any large church or building. Your invention appeared to me to be in theory all that could be desired; and I can honestly say, that I have not yet discovered the point in which the practice falls short of the theory.—The area of my church is computed to be nearly 200,000 cubical feet, and though a second stove will be required, the one already erected has fully answered my highest expectations, and realized all that you had given me to expect. If confirmation were needed for evidence of its efficiency, I might further state, that I had peculiar difficulties to contend with,—that various attempts had been made, and that every attempt had proved a signal failure,—that I was exposed to the charge of boldness in attempting what had baffled others; but that such is the power, the efficiency, and the comfort communicated by your Stove, that I know not of a dissentient voice, and have heard only of approval with unanimous consent.—I might add, that I was first led to the making inquiry respecting your stove, having gathered indirectly, that a disposition not unfavourable towards it was entertained in a certain high quarter, where, on account of ability of discernment, the smallest approach to approval must carry with it great weight.—I remain, Dear Sir, yours faithfully,

WILLIAM GARRATT, Minister of St. John's, Fulham.

St. Thomas's, Charter-house.

We, the undersigned, do hereby certify, that during the last three winters we suffered severely from the cold in the Church of St. Thomas's, Charter-house, although we had three large Arnott's Stoves, which consumed one sack and half of coals each day they were lit. The building was never warm; in consequence of which the congregation fell off, though we had a zealous preacher in the Rev. Dr. James. We have now two of Cundy's Patent Stoves, which consume but one cwt. of coal per day between them, and they impart to the church a comfortable heat and ventilation.

WILLIAM BUSHMAN, Verger.
THOMAS GEORGE, Beadle.

Letter from Professor BRADLEY.

King's College, London, July, 1846.

Sir,—I am happy to be able to bear testimony to the efficiency of your stove, which is fixed in my lecture-room at this Institution. It seems to have all the essential requisites of a good stove, a rapid draught, freedom from all smoke, and from that smell which arises from iron, heated in contact with the air of a dwelling-room, which is entirely avoided by your arrangement.—I am, Sir, your obedient Servant,

THOMAS BRADLEY.

To be had of the Manufacturers,

MESSRS. DOWSON, 69, WELBECK-STREET, CAVENDISH-SQUARE,

Where they may be SEEN IN OPERATION, and where also may be seen an ELEGANT assortment of REGISTER and other STOVES, FENDERS, CULINARY APPARATUS, &c. &c. ARCHITECTS and BUILDERS supplied with IRON and BRASS CASTINGS, at Messrs. DOWSON'S FOUNDRY, 5, SEYMOUR-PLACE, BRYANSTON-SQUARE. Smith's Work, Gas Fittings, and all other works appertaining to a Smith and Founder, undertaken at estimated prices.

CHEAP ROMAN CEMENT is sold in Casks that will not contain five bushels, even by some manufacturers of a very respectable name. Consumers should see that the standard size cask is 29 inches long by 17½ across the head, outside measure. Any workman with a rule in his pocket can ascertain this.

PATENT METALLIC SAND CEMENT, requiring no colour or paint, and free from cracks and blisters, mixed ready for use at 8s. per cask; 2s. 6d. allowed for each cask returned in good order. 3½ bushels common sand to be added to each cask of Metallic Cement, which will float 14 square yards of stucco.—Apply at the Metallic Cement Wharf, King's-road, Camden New Town.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.

Manufactured by J. B. WHITE and SONS, of Millbank-street, Westminster; and sold at their warehouses—Earl-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however HIGHLY VALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Millbank-street, Westminster.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

ATKINSON'S CEMENT.

Rotherhithe Cement Works, Church-street, Rotherhithe.

WILLIAM WOOD, Jun., Manufacturer of Bath, Portland, and Roman Cements, Blue and White Lias Lime, &c. &c., begs to inform Architects, Builders, and others, that he is appointed AGENT for the sale of ATKINSON'S CEMENT, and has just received a shipment direct from the Works, which is now ready for sale, in any quantity, at the price of 2s. 3d. per bushel.—WILLIAM WOOD, Jun., also begs to call the attention of the public to his Bath Cement, which he thinks will merit approbation. It is of a very light colour, and will take up more sand than any cement now in use; requires no paint, and is well adapted for ornamental castings of every description, however elaborate; 2s. per bushel, delivered free within three miles of the works.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 108, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

CHARLES SMITH and SON, 52, GREAT CHARLES-STREET, BIRMINGHAM (late STANDLY and SMITH, formerly STANDLY and GALE, Bull-street), Locksmiths, Bell-hangers, Brass-founders, Whitesmiths, &c., beg most respectfully to solicit the attention of MAGISTRATES, ARCHITECTS, and ENGINEERS to their inventions for prisons, lunatic asylums, &c.

C. S. and Son will be happy to attend any committee of magistrates without charge, and submit a VARIETY of patterns of peculiar locks, signals, inspection apparatus, chapel door-fastenings, iron frames, hinges, &c., as supplied by them at the MODEL PRISON, LONDON, and TWENTY-THREE SIMILAR GAOLS, where they have given entire satisfaction.

Among other testimonials, can be shewn that of Major Jebb, attesting the efficiency of the labels, &c., invented by them.

The contracts will be executed to the approval of the inspector-general of prisons, and the architects.

C. Smith and Son also are prepared to contract for the supply of the whole of the ironmongery requisites for the residences of the nobility and gentry, churches, banks, barracks, gaols, asylums, and workhouses, including locks, bells, hinges, grates, kitchen-ranges, staircases, grates, park-fencing, fire-proof safes, bookcases, doors, metal sashes of all kinds, and every description of ornamental brass and iron work, light castings, &c.

C. S. and Son beg to refer to the extensive works performed by them at Windsor Castle, Northumberland and Sion House, Blenheim Palace, Chatsworth, &c., as a guarantee for the superiority and durability of their work, in confirmation of which numerous letters from nobleman can be shewn.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery

Best Patent Cut Clasp.

3d.	4d.	6d.	8d.	10d.	20d.
5d.	6d.	7d.	11d.	1s. 4d.	1s. 10d. per 1000.

Best Sheet Floor Brads 15s. per cwt.

Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6d., 7d., 3d. per inch. Self-acting Kitchen Ranges with Oven and Back Boiler. Wrought Bars and Bright Fittings.

3 ft., 3l. 3s. 3 ft. 6 in., 3l. 12s. 6d. 4 ft., 4l.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3l. 6s.	3l. 13s.	3l. 15s.	4l.	4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5l.	5l. 15s.	6l. 5s.	6l. 10s.	7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.

Do. Elliptic do., at 3d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.



WILSON'S PATENT VENTILATING SPIRAL CHIMNEY POT,

For the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success.

This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance.

The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory,

Southwark-bridge Iron Roofing Works.

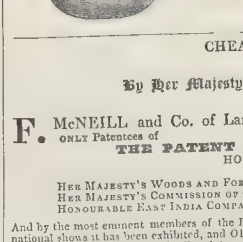
HEAL AND SON have just completed the erection of Machinery for the purifying of feathers on a new principle, by which the offensive properties of the quill are evaporated and carried off in steam; thereby not only are the impurities of the feather itself entirely removed, but they are rendered quite free from the unpleasant smell of the stove, which all new feathers are subject to that are dressed in the ordinary way.

Old Beds re-dressed by this process are perfectly freed from all impurities, and by expanding the feathers the bulk is greatly increased, and consequently the Bed is rendered much softer.

The following are the present Prices of New Feathers:—

Mixed, per lb.	1s. 0d.	Best Foreign Grey Goose	2s. 0d.
Grey Goose	1s. 4d.	Best Irish White Goose	2s. 6d.
Foreign Grey Goose	1s. 8d.	Best Dantzic White Goose	3s. 0d.

HEAL and SON'S LIST OF BEDDING, containing full particulars of Weights, Sizes, and Prices, sent free by post, on application to their Establishment, 196, opposite the Chapel, Tottenham-court-road.



CHEAP PAN FOR WATER CLOSETS, With Trap, in One Piece.

DOULTON AND WATTS,

LAMBETH POTTERY, HIGH-STREET, LAMBETH, LONDON,

Manufacturers of the annexed in superior glazed STONE WARE,

Price 7s. 6d. each.

They are of the most durable ware, and are recommended in preference to iron on account of their cleanliness and cheapness.

If preferred, they can be had in two parts, the Pan at 4s. 6d., and the Trap at 3s.

N.B. Manufacturers of RAIN-WATER PIPING for houses.

CHEAP AND DURABLE ROOFING.

By Her Majesty's Royal Letters Patent.

F. McNEILL and Co. of Lamb's Buildings, Bunhill Row, London, Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronized by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE BOARD OF ORDNANCE,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing also used for under slates at the Royal Agricultural society's House, in Hanover-square.

Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, as THE ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW, LONDON.

Roofs covered with the felt to be seen at the Factory, also the new Vice-Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the new Houses of Parliament.

A Liberal Discount allowed to the Trade.

TO TIMBER MERCHANTS, BUILDERS, AND OTHERS.

THE unexpired Term of a LEASE of PREMISES, occupied for many years by a Timber Merchant, at Hackney (who is about to retire), is now TO BE DISPOSED OF BY PRIVATE CONTRACT.—Apply to Mr. HARRISON, Mare-street, Hackney.

A BARGAIN.—TO BUILDERS AND OTHERS. NOTTING HILL.

TO BE DISPOSED OF, three desirable Leasehold Houses, in carcase, being an attractive corner shop and two private houses adjoining, held for long terms, at low ground-rents; the mortgage on them may remain, if required.—For full particulars, apply to Mr. F. LOMAX, auctioneer, 8, Orchard-street, Portman-square.

TO LET.—To Builders, Stonemasons, and others, requiring Waterside Premises.

CONVENIENT PREMISES of the above description TO BE LET, with immediate possession, in Stangate, Lambeth.—For particulars, inquire of SEARLE and SON, Boat Builders, Stangate, Lambeth.

FREEHOLD BUILDING LAND, CLAPHAM COMMON.

TO BE LET OR SOLD in Plots, a LARGE FRONTAGE in New Park Road, and in proposed road to be made from same into main Clapham-road. Money advanced, and other advantages given in purchasing Freehold Plots upon approved Security.—For plan and particulars, apply to Mr. LLOYD, Architect, Warwick House, Gray's-Inn Place Gateway.

TO BUILDERS, MANUFACTURERS, AND OTHERS.

TO LET, extensive PREMISES in the New Kent-road (near the Elephant and Castle). The premises contain in superficial area not less than 13,000 feet, comprise several valuable warehouses, workshops, &c. —For particulars apply to Messrs. HOWARD, builders, Bridge-house-place, Newington-causeway; or at the office of Mr. JOHN GRIFFITH, architect, 16, Finsbury-place south.

TO BUILDERS.—MATERIALS AND MONEY ADVANCED.

TO BE LET, on BUILDING LEASES, for ninety-six years, several very eligible plots of Freehold Building Ground, land-tax redeemed, for fourth-rate houses, situated in streets leading from the Queen's-road, Dalston, to Londesboro'-place. This is one of the most rapidly improving neighbourhoods near London, and will be the principal thoroughfare from all parts westward to the new Victoria Park, from which it is only a quarter of a mile distant.—Apply to Mr. PALMER, on the premises.

ST. JOHN'S WOOD PARK!!! IMMEDIATE CONNECTION WITH REGENT'S PARK.

BUILDING PLOTS TO BE LET in this most desirable and salubrious situation!! commanding picturesque views of the surrounding beautiful neighbourhood, and elevated within a few feet of the summit of the monument, with the best approaches of any suburban district near the metropolis, and greatest facilities of access to all the fashionable resorts and promenades of the West End and the City!—For particulars and plans, apply to W. H. TWENTYMAN, Esq., 11, Regent's-villas, Avenue-road, Regent's-park.

FIRST-RATE FREEHOLD PROPERTY.

TO BE LET OR SOLD, in one or more Lots, adjoining her Majesty's Marine Residence, Osborne-park, East Cowes Castle, surrounded with about Forty-five Acres of Land, luxuriantly planted, commanding fine Sea Views, late the residence of John Nash, Esq., Architect. To capitalists or builders, this presents an unrivalled opportunity for profitable investments; half the purchase-money may remain at 3½ per cent.; liberal advances made upon approved security being given.—For plan and particulars, apply to Mr. LLOYD, Architect, Warwick House, Gray's-Inn Place Gateway.

TO BRICKLAYERS, PLASTERERS, AND BUILDERS.

TO BE SOLD, on reasonable terms, in consequence of the Proprietor removing, a lot of useful Materials.—Scaffolding, Ladders.—For particulars, apply to NASH Brothers' Newspaper, Office, Bowling-street, Portland-place.

N.B. The House and Premises to be let at a moderate rent.

TO CAPITALISTS, BUILDERS, AND MEMBERS OF BUILDING SOCIETIES.

TO BE SOLD, Fourth-rate Houses and Semi-detached Cottages, finished or in carcase, at Cambridge-road, Hammersmith, or Ground TO BE LET on advantageous terms.—Apply on the premises, or to Messrs. NEWBON and EVANS, Solicitors, 1, Wardrobe-place, Doctors' Commons.

TO BE SOLD, by the Mortgagee, a good HOUSE, with an excellent and valuable range of Workshops, in Little Queen-street, Westminster, which from their immediate contiguity to the Houses of Parliament, the park, &c., are well suited for an engineer, surveyor, lithographer, law stationer, or other person engaged in railway or parliamentary business. The workshops, at a trifling expense, might be made offices. The premises are held at only 40l. At present they are underlet for a term, at a low rent of 75l., leaving a profit rental of 35l., which may be purchased for 250l.; or immediate possession can be had.—Apply to S. W. JOHNSON, Esq., Solicitor, 5, Gray's-inn-square.

TO BUILDERS, SPECULATORS, AND CAPITALISTS.

TO BE SOLD, with immediate possession, an excellent compact MESSUAGE, situate at Cricklewood, facing the Edgeware-road, in the parish of Hendon, Middlesex, recently erected but not finished, with large garden-ground in the rear; held for a term of 99 years from the 24th June, 1842, at a ground-rent of 18l. per annum. The house comprises elegant dining-room, drawing-room 26 feet by 16, library, seven bed-rooms, three water-closets, and capital domestic offices; coach-house, stable, &c.; and is fit for a family of respectability, situate three miles from Cumberland-gate, Hyde-park. Land-tax redeemed. Price 1,100l. Apply to S. W. JOHNSON, Esq., Solicitor, 5, Gray's-inn-square.

A NUMBER of MARBLE CHIMNEY-PIECES, consisting of Statuary and Vein, some of which are suitable for drawing-rooms, &c., and some suitable for second and third-rate houses. Also two monumental tablets for sale, cheap, under peculiar circumstances.—Apply 34, Chichester-place, Gray's-inn-road. Approved bills at three months.

TO BUILDERS AND OTHERS.—Leasehold Property, Newington, Surrey, land-tax redeemed.

TO BE SOLD, by Private Contract, several excellent eight-roomed CARCASES, in a very good situation for letting. Part of the purchase money may remain at interest till the houses are finished, or may be sunk on the ground rent.—Apply to T. B. FLEMING, solicitor, 1, Trinity-square, Southwark.

BUILDERS AND OTHERS.

TO BE SOLD, at Putney, a Barn and Granary, to be pulled down and cleared away immediately upon completion of the purchase. Also, to be let, several Plots of Building Ground, for the erection of Villas, with quick and cheap communication to and from the city, and other parts of the metropolis, by omnibus, steamboat, or Richmond Railway.—Apply to J. LEVEY, on the Premises, by the Duke's Head, or to J. B. SHEPHERD, Surveyor, Chapel-place, Poultry.

SALES BY AUCTION.

TO THE NOBILITY AND GENTRY, ARCHITECTS, AND BUILDERS.

Messrs. Vaughan and Co.'s Extensive and Valuable Stock of Artificial Stone Statues, Figures, and Architectural Ornaments, most appropriate for Parks, Gardens, Shrubberies, Pleasure-grounds, Lodges, &c.

MESSRS. COCKERELL and HOARD have received instructions to SELL by AUCTION, upon the Premises, the Artificial Stone Works, 60, Blackman-street and Borough-road, Southwark, on THURSDAY, October 15th, and following day, at Twelve (in consequence of the rebuilding and enlarging the manufactory), the whole of the much admired and well-finished STOCK; consisting of a variety of figures, complete fountains of the most unique designs, vases, pines, columns, copings, &c.; a finely executed copy of the beautiful figure of Bailey's Eve, Barker's Woodman, Landseer's Dogs, Lions, Cranes, Eagles, Storks, Grecian, Roman, and other figures, in various attitudes and sizes, busts of the Duke of Wellington, Sir Robert Peel, and others, a colossal statue of Father Mathew, capitals of the various orders of architecture, and other items for the interior of mansions; together with a large stock of sinks, window cills, copings, foot tiles, kerbs, and a variety of cieling ornaments and enrichments, of chaste and elegant designs.—May be viewed three days previous to the sale; and catalogues had at the principal hotels in Liverpool, Birmingham, Manchester, Bristol, Exeter, and Dover; at GARRAWAY'S; the Hall of Commerce, Threadneedle-street; of Mr. COCKERELL, Blackman-street; and of the Auctioneers, 26, Conduit-street, Bond-street, London.

N.B. Messrs. COCKERELL and HOARD beg to notify that purchasers may have their lots safely packed for land or water carriage at a moderate charge.

GUILDHALL, Sept. 19, 1845.

THE Committee for Letting the City's Lands will MEET at Guildhall, on Wednesday, the 14th day of October next, at One o'clock precisely, to receive TENDERS for LETTING on LEASE for twenty-one years from Michaelmas, 1845, a HOUSE, No. 19, on the north side of the Broad-street-buildings, and also a House, No. 36, on the south-west side of Houndsditch.—Further particulars may be obtained and plans seen by applying at the Office of Works, Guildhall.

THOMAS SAUNDERS, Comptroller.

METROPOLIS IMPROVEMENTS, OXFORD-STREET.

THE Commissioners of her Majesty's Woods, &c., HEREBY GIVE NOTICE that they propose to LET by PUBLIC TENDER, the few remaining lots of BUILDING GROUND in Oxford-street, and also to LET or SELL the newly-built CARCASES of three houses in Bloomsbury-street. And they will receive Tenders for the same any time before Twelve o'clock on TUESDAY, the 20th day of October next.—Plans and particulars may be obtained at the Office of Woods, &c., No. 2, Whitehall-place, and at Mr. PENETHORNE'S Office, No. 7, Whitehall-yard, any day between the hours of Ten and Four, at which places may also be obtained plans and particulars of the plots of ground in Endell-street, remaining unlet.

ELIGIBLE BUILDING GROUND, NEWINGTON, SURREY (exonerated from Land-tax).

W. and C. PUGH are directed by the Very Rev. the Dean and Chapter of Canterbury, and the Trustees of the Estate of Thomas and Samuel Brandon, Esqs., deceased, to LET, by Public AUCTION, at the Elephant and Castle, Newington, on Friday, October 9th, at Twelve (instead of the 30th ultimo, as before advertised), in Seventeen Lots, for a term of Ninety-nine Years, at the highest annual rents, as may be then bid, various plots of eligible BUILDING GROUND, forming part of the Bee Hive Cricket-ground, Carter-street, Walworth, presenting a favourable opportunity of progressing with the attractive buildings of Sutherland-square and its respectable district, and in which a new church is contemplated.—Descriptive particulars may be had of Mr. T. B. FLEMING, Solicitor, 1, Trinity-square; of Messrs. SUDLOW, SONS, and TORR, 29, Chancery-lane; of Mr. SCARGILL, 2, Hatton-court, Threadneedle-street; of Mr. PUGET, Architect, 22, Trinity-square; and of W. and C. PUGH, 6, Blackman-street.

FIRE BRICKS, Stourbridge, Welsh, and Newcastle; also Lumps, Tiles, and Clays, a large Stock of the best made Goods are selling at very reduced prices (a great reduction having taken place in freights) at WARD'S Honduras Wharf, Bankside. Windsor Nonsuch, and Town-made Oven Tiles, PP.N. and Circular Red Fire Bricks, Country Pan, Plain and Ridge Tiles, Paving Bricks, Corn Drying and Patent Malting Tiles.—Country Builders promptly supplied. Rough River Ballast for Concrete and Thames Sand, above and below bridge, by freights or loads. Prepared Sand for Plastering.

ARCHITECTURAL SUBJECTS (Outlines) coloured for competition or exhibition, and embellished with landscape, &c. Buildings, portraits, and views of every description, lithographed in a superior manner, by GEORGE CHILDS, 13, Amwell-street, Pentonville.

PUBLICATIONS.

In a few days,

THE NEWLEAFE DISCOURSES on the FINE ART ARCHITECTURE; an attempt to talk rationally on the subject.

Contents:—The Fine Art Architecture—the Artist—Constructionism—Archæologism—Precedent—History of Architecture (philosophically)—Rise and Progress of Copyism—Professor Cockerell—Ecclesiologism—Travel—Study—The true Principles of the Art—the Institute.

By ROBERT KERR, (R).

WEALE, High Holborn.

GOTHICK ARCHITECTURE.

This Day is Published, No. 27, royal 4to., price 2s. 6d.

AN ANALYSIS of GOTHICK ARCHITECTURE; illustrated by Drawings made from actual measurement of existing examples throughout England, and carefully delineated to scale.

By RAPHAEL and J. ARTHUR BRANDON, Architects, 11, Beaufort-buildings, Strand.

Review.—"This is essentially a practical work, and one that will be of infinite use to the professor, the amateur, and the workman. The engravings are remarkably well finished, and the mouldings and outlines sharp, and so well defined, that any work may be executed from them."—*Era.*

TO ARCHITECTS, BUILDERS, &c.

Just published, price 7s. 6d.

A SERIES of EIGHT DESIGNS for SHOP-FRONTS, in the Elizabethan, French, and Italian Styles. By GEO. JACKSON and SON, Papier Maché Works, 49 and 50, Rathbone-place, London.

G. J. and Sons solicit the attention of Builders and the Trade in general to their extensive assortment of enrichments, executed in the highest style of art, and with the strictest integrity to the beautiful characteristics of each period. The quality of their works they trust will afford that satisfaction it has been their pleasure to realize for now near half a century. Advancing with the times, their extended operations and facilities of machinery enable them to state a scale of charges quite removed from the antiquated estimate of decorated works.

Designs furnished for general interior finishings. Nos. 1 and 2 of their goods, suitable for the upholsterer and gilder, are ready for sale.

TO HEIRS AT LAW AND NEXT OF KIN.

A complete List of the Advertisements that have appeared during the present century is now publishing in

THE CRITIC, the largest and cheapest literary journal in Europe, every Saturday, 32 folio pages, price 4d., or 5d. stamped. THE CRITIC contains also many new and original features. A copy, as specimen, sent to any person transmitting three postage stamps to the Critic Office, 29, Essex-street, Strand. To be had by order of all booksellers and newsmen.

N.B. The eighth monthly part for the present year is now ready, containing 128 large pages of amusing and instructive matter for eighteen-pence only.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 16s. per gallon.

STEPHENS'S PROCESS for DYEING or STAINING WOOD, as a substitute for Paint. The natural grain of wood is imitated by art, but the most successful imitation has a sameness of appearance when compared with the continual variety which different woods present in their natural grain. To give an ornamental colour to the wood without obscuring the grain, is the object of this process, which surpasses paint in appearance, while at the same time it is so economical that the whole interior of a house, which would take a month or six weeks to paint in the usual manner, may be finished in one week by the process above named, and be more pleasing when finished. The dyes or stains are prepared and sold by HENRY STEPHENS, 54, Stamford-street, Blackfriars-road, London, in bottles of 6d. and 1s. each, and at 10s. per gallon. The oak colour may be obtained in powder at 8s. per pound, which dissolves in water to form the liquid, and one pound will make one gallon of stain.

N.B. The Trade supplied.

ROYAL POLYTECHNIC INSTITUTION.—A Chemical Lecture, by Dr. Ryan, daily, and on the Evenings of Mondays, Wednesdays, and Fridays. A Lecture on the Electro-Magnetic Telegraph, daily. Macintosh's Revolving Engine, Coleman's Patent Locomotive Engine. Farrell's Archimedean Railway, the Atmospheric Railway, all in action. Hallette's Atmospheric Railway Valve. The Opaque Microscope. The Oxy-hydrogen Microscope. A beautiful series of Dissolving Views. A selection of Madrigals of the Sixteenth Century will be performed by a Sax-Horn Band, under the direction of Dr. Wallis, daily, and in the evenings.

Admission, 1s.; Schools, Half-price.

LONDON: Printed by CHARLES WYMAN, of 49, Cumming-street, Pentonville, in the County of Middlesex, Printer, at the Printing-office of J. & H. COX, *Brothers*, 74 & 75, Great Queen-street, Lincoln's-Inn Fields, in the Parish of St. Giles-in-the-Fields, in the same County; and published by the said CHARLES WYMAN, at the office of "THE BUILDER," 2, York-street, Covent Garden, in the Parish of Saint Paul, Covent Garden, in the said County.—Saturday, October 4, 1845.

The Builder,

A JOURNAL FOR

The Architect, Engineer, Operative & Artist.

VOL. IV.—No. 192. | OCTOBER 10, 1846. | Price ..... 3d. Stamped ..... 4d.

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TO CARPENTERS AND JOINERS.

WANTED, as Foreman in a Builder's Shop, a steady, respectable tradesman, who can give satisfactory reference of practical ability.—Apply to the office of "The Builder," 2, York-street, Covent Garden.

TO ARCHITECTS, BUILDERS, &c.

WANTED, by a respectable Person who has just completed an extensive job, a Re-engagement as Shop or Out-door Foreman, in a Builder's employ. A good Draughtsman, &c. Testimonials satisfactory.—Address, post-paid, Y. Z., 89, Great Suffolk-street, Southwark.—N.B. No objections to country.

WANTED, by a Builder, a Person to superintend the erection of a Public Building; he must be thoroughly acquainted with every branch of the business, and have filled a similar situation before.—Letters, pre-paid, containing references, stating where last employed, and salary required, to be addressed to A. Z., Office of "The Builder."

TO ARCHITECTS AND BUILDERS.

WANTED by a Young Man, a Carpenter, a Situation as Foreman or Clerk of the Works, has had considerable experience in Superintending Building in all its Branches, can make Working and other Drawings, keep Accounts, &c.; good references can be given.—Apply by letter, post-paid, to A. B., 19, George-street, Euston-square.

TO BUILDERS' CLERKS.

WANTED a Respectable Young Man, not less than Nineteen Years of Age, who has been accustomed to, and understands the routine of a Builder's Office.—Apply by letter only, to G. A., Mr. Oliver, 10, City-road, Featherstone-street, stating salary required, and how long they have been engaged in a similar capacity. First-rate references expected.

BUILDERS' CLERKS.

WANTED, a Person acquainted with the routine of a Builder's Office, and used to early hours: one writing an expeditious hand, and practically acquainted with the business will be preferred. All applications to state the writer's age, where last employed, and amount of salary required, addressed to A. B., Mr. Miland's Library, Chapel-street, Grosvenor-place.

ARTICLED PUPIL WANTED.

AN Architect and Surveyor having a considerable and increasing business in the country, is in want of a respectable and well-educated youth to be articled. He will have the opportunity of obtaining a thorough knowledge of the profession. A moderate premium expected. References will be given and required.—Address to F. N., the library, College-green, Gloucester.

TO BUILDERS, &c.

A YOUNG MAN, Aged Twenty-seven, of respectable connections, having served his apprenticeship as Carpenter at a Builder's, wishes for an Engagement in a Builder's Office; he is competent to Measure and Estimate Work, and to fulfil the duties of a Clerk generally.—Apply by letter to A. B., Mr. Ward's, Burlington Arcade.

METROPOLITAN BUILDINGS ACT.—NOTICE TO CANDIDATES FOR DISTRICT SURVEYORSHIPS.

Office of Metropolitan Buildings, 6, Adelphi-terrace, October 2, 1846.

NOTICE IS HEREBY GIVEN, that the examiners appointed by and in pursuance of the Metropolitan Buildings Act, will hold their next examination of persons desirous to obtain a certificate of qualification for the office of district surveyor on Friday, the 13th day of October instant.

Persons desirous to be examined must apply on or before the 24th instant, and their applications must be accompanied by a preliminary statement, according to the course of examination prescribed in the rules for that purpose, copies of which, and any information on the subject, may be had at this office, or at Mr. WEALE'S, architectural bookseller, 59, High Holborn.

Subsequent examinations will be held in the months of January, April, and July, or at such other periods as shall be appointed, of which due notice will be given.

ARTHUR SYMONDS,
Registrar of Metropolitan Buildings.

UNIVERSITY COLLEGE, LONDON.

CLASSES OF CIVIL ENGINEERING AND ARCHITECTURE, Session 1846-47.

CIVIL ENGINEERING, Professor Harman Lewis, M.A., Monday, Wednesday, and Friday, during the months of March, April, and May.

First division, first year, from 7½ to 8½ P.M., materials, principles of special construction, surveying in general.

Second division, second year, from 6 to 7 P.M.—Civil engineering and general construction, comprehending land engineering, hydraulic engineering, and various other engineering questions. Fee for each division 5*l.*, for both in one payment 9*l.*

ARCHITECTURE AND CONSTRUCTION.—Professor Donaldson, M.I.B.A., commencing October 20th. This subject is treated of in courses under two heads, architecture as a fine art, architecture as a science; each course consists of 50 or 60 lectures, making in the whole 100 or 120 lectures in two years. Lectures on Tuesday and Thursday Evening throughout the session. Fees for one year's course in either class, 3*l.*; for both 5*l.*; for two years' courses in either class, 5*l.*; or for the two years' courses in both 9*l.*

Prospectuses with full details of these classes and of those of mathematics (Professor De Morgan), natural philosophy (Professor Potter), chemistry (Professor Graham), practical and analytical chemistry (Professor Fownes), of geology (Lecturer Mr. Joyce, F.G.S.), may be obtained at the office of the College.

HENRY MALDEN, M.A., Dean of Faculty of Arts.
CHAS. C. ATKINSON, Secretary to the Council.

30th Sept. 1846.

KINGSLAND, DALSTON, AND DE BEAUVOIR TOWN LITERARY AND SCIENTIFIC INSTITUTION.

TO ARCHITECTS.—The Committee are ready to receive DESIGNS for a building to be erected for the above Institution. Particulars of the site, &c., may be obtained on application to the Honorary Secretary, to whom designs are to be forwarded, on or before the 26th inst. Premium for the first approved, Ten Guineas; for the second, Five Guineas; and for the third, Three Guineas.

ROBERT SIMONS, Hon. Sec.

4, Mayfield-place, Dalston, 2nd Oct. 1846.

ENFIELD AND EDMONTON RAILWAY.

THE Directors of this Company will meet on Monday, the 19th day of October, instant, at their office in Silver-street, Enfield, at 12 o'clock at noon, precisely, to receive TENDERS for the execution of the works of the Line; where plans and specifications may be seen, on and after the 12th day of October instant. Security will be required, and the Directors do not pledge themselves to accept the lowest tender.—By order,

WM. C. SAWYER, Secretary.

Silver-street, Enfield, 6th Oct. 1846.

TO BRICKLAYERS AND BUILDERS.

THE Trustees of St. James's Chapel, in the Hampstead-road, are desirous of receiving TENDERS for sundry works to be done in draining the burial-ground belonging to the said chapel. The particulars may be seen at the offices of Mr. CHARLES MAYHEW, Architect, 14, Argyll-street, Regent-street, daily, from Ten to Four o'clock. The tenders are to be sent to me, under seal, at the Parochial Office, Poland-street, Oxford-street, on or before Saturday, the 17th of October. The Trustees do not pledge themselves to accept the lowest tender.

GEORGE BUZZARD, Agent.

CONTRACTS.

TO DREDGERMEN AND OTHERS.

REMOVAL OF THE ALDERMAN'S SHOAL.

Guildhall, Oct. 3, 1846.

THE Navigation Committee of the Corporation of London will be ready to receive TENDERS on Thursday, the 22nd inst., at 12 o'clock precisely, at Guildhall, from parties who may be willing to undertake the above work. A plan and specification may be seen at the Town Clerk's Office, Guildhall. MEREWETHER.

TO BUILDERS AND OTHERS.

THE Court of Sewers for Westminster and part of Middlesex will be ready at the Court House, No. 1, Greek-street, Soho-square, on Friday, the 16th Oct., 1846, to receive TENDERS for the following works, viz.—

891 feet of Sewer in Stafford-street, Lisson-grove.
350 feet of do. in Stephen-street, Lisson-grove.
304 feet of do. in Great James-street, Lisson-grove.

1545

325 feet of do. in St. Ann's-court, Wardour-street, Soho.
180 feet of do. in Edward-street, Wardour-street, Soho.

505

Plans of the above works may be inspected, and Specifications, forms of Tender, and other particulars, obtained at this office daily, between the hours of Nine and Four.

Parties offering must be in attendance at Two o'clock precisely, on the 16th October, with separate sealed tenders, specifying on the outside for which of the above works the tender is made.

Each tender must be strictly in the printed form prescribed, and contain the names of two securities for the due performance of the respective works.

The Court does not bind itself to accept the lowest tender. LEWIS C. HERTSLET, Clerk.

Sewers' Office, No. 1, Greek-street, Soho-square, 8th October, 1846.

TO CONTRACTORS, BRICKLAYERS, AND OTHERS, Court of Sewers, Tower Hamlets'.

NOTICE IS HEREBY GIVEN, that the Commissioners of Sewers for the Tower Hamlets' (excluding Saint Katharine's and Blackwall Marsh), at their meeting to be held on TUESDAY, the 13th day of October next, at Two o'clock in the afternoon precisely, at the Office of Sewers, No. 15, Great Alie-street, Goodman's-fields, will be ready to receive TENDERS (sealed up), from any persons or person willing to enter into contract for the works necessary in extending the sewer in Devonshire-street for a length of 730 feet, or thereabouts, in the hamlet of Mile End Old Town; also from Great Garden-street, along Whitechapel-road to Union-street, being a length of 390 feet or thereabouts; and along Union-street, for a length of 212 feet or thereabouts, in the parish of St. Mary, Whitechapel; also in Greenfield-street, Commercial-road, for a length of 675 feet or thereabouts, in the said hamlet, and in Plummer's-row, for a length of 790 feet or thereabouts, in the said hamlet. Plans and specifications of the said several works, with the forms of tender, may be inspected at the Office of Sewers, after Friday, 2nd October, daily, between the hours of Eleven and Three o'clock. Separate contracts will be required for each of the said works respectively.

The contractors will be required to sign a provisional agreement to secure the due execution of the said contracts, and to give the names and addresses of two sureties to become bound in a sufficient penalty for the due performance of each of the said several works. The expense of the deeds will be borne by the Commissioners: no tender will be received after the hour of meeting, nor in any other form than that prescribed by the Commissioners, nor unless the party tendering, or some person duly authorised, attend on his behalf to answer when called upon.—Dated this 30th day of September, 1846. JOHN WILLIAM UNWIN,
Clerk to the Commissioners.

N.B. The Commissioners do not pledge themselves to accept the lowest tender.

BOROUGH GAOL, BIRMINGHAM.

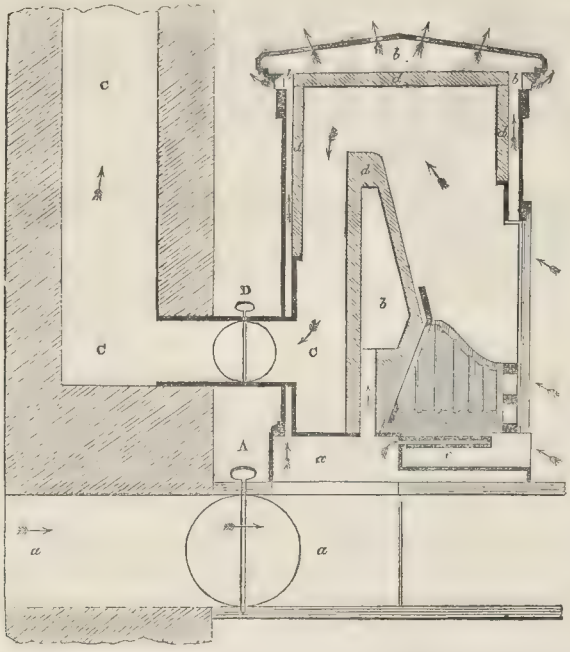
NOTICE TO BUILDERS, CONTRACTORS, AND OTHERS.

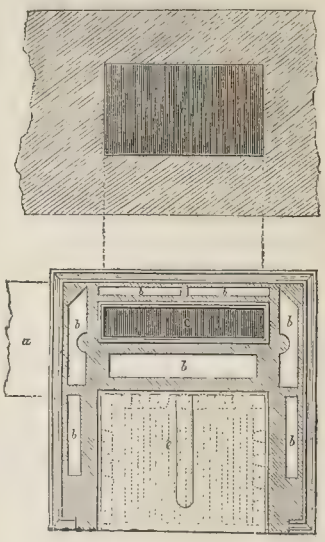
PERSONS desirous of CONTRACTING to COMPLETE the WORKS of the above-mentioned GAOL, and to supply the necessary Materials and Labour for that purpose, are hereby informed that the Drawings and Specifications of the Works to be performed are prepared, and may be inspected from the 20th of September to the 17th day of October next, at the office of the Architect, Mr. D. R. Hill, in Christ Church-buildings, Waterloo-street, Birmingham, and that Copies of the Conditions for the Contracts may be had on application to Mr. Hill, personally or by letter. Sealed Tenders for the completion of the whole of the works (or for any portion thereof), endorsed "Tender for completing the Borough Gaol of Birmingham," to be sent (post paid) under cover to the Town Clerk of Birmingham, on or before the 17th day of October next.

By order, S. BRAY, Town Clerk.

Birmingham, Sept. 19, 1846.

CUNDY'S PATENT IMPROVED OPEN FIRE PLACE, HOT AIR, VENTILATING STOVE.





PLAN.

Description of Diagram.

a a a a Fresh air channel, for admission of external air.
b b b b Hot air chambers (formed with artificial stone, *d d d d*) through which the air passes into the room, and is heated without being injured.
C C C The direction the smoke and vitiated air takes after it has passed through the fire and heated the artificial stone of the hot air chambers.
e Blow pipe to preserve perfect combustion placed immediately underneath the grating of fire place.
A and D are regulators.
The arrows shew the way the external fresh air is admitted, next passing through the hot-air chambers into the room, and lastly taken out of the room through the fire and up the chimney—thus completing ventilation.

This STOVE embraces the following most important principles connected with the economy of

WARMING AND VENTILATING CHURCHES,

and other Public and Private Buildings, viz.:—

HEAT by RADIATION from the Open Fire.

HEAT by CONDUCTION.—A copious and continuous stream of PURE WARM AIR is conducted into the room through the large Stove, at a regulated rate, by means of an air channel underneath the floor, communicating with the external air.

HEAT by REFLECTION.—The external casing of the Stove becoming warm, communicates its heat to the surrounding atmosphere.

VENTILATION produced by the OPEN FIRE.—which will carry off the Vitiated Air through the chimney at the same rate the Pure Air is conducted into the room through the interior HEATING APPARATUS of the Stove, thereby keeping up a regular and agreeable system of Ventilation.

ECONOMY of FUEL.—This Stove, from the peculiar construction of the Fire Place, will produce a most BRILLIANT FIRE with the least possible quantity of fuel, and will continue to burn so long as any particle of coal remains.

Two of CUNDY'S PATENT STOVES, 27 inches square and 42 inches high, will be found sufficient to warm and ventilate a Church containing an area of Two Hundred Thousand Cubic Feet, and having One Thousand Feet superficial of Glass; vide St. Thomas's, Charter-House, Goswell-street, in which church two have been fixed, producing a genial and refreshing warmth throughout the church, in the place of three very large Arnott's Stoves, previously found to be totally inefficient.

If CUNDY'S PATENT STOVE be placed in a Hall or Staircase, it will not only warm and ventilate the Hall or Staircase, but will, by means of the pure warm air conducted through the interior of the Stove, supply all the rooms and passages communicating therewith with pure warm air.

This STOVE is admirably calculated for the room of an Invalid, inasmuch as it supplies the room with pure warm air, and, after circulating through the apartment, it is conducted through the stove to keep up combustion; consequently the room may be fitted with double doors and windows, to the otherwise exclusion of the external atmosphere, without the disagreeable accompaniment of a smoky room.

CUNDY'S PATENT STOVE possesses the ENGLISHMAN'S OPEN FIRE PLACE, therefore can be applied to warm and ventilate a room in the basement, and the pure warm air which passes through the stove can be conducted into a room above.

The INTERNAL construction of this Stove is so contrived, that the fire does not come in contact with iron as a heating medium, consequently the heated air is not deprived of its freshness, nor does it become rapid and enervating.

CUNDY'S PATENT STOVE can be recommended to the Public as offering (at less expense, and in principle less complicated) a more healthful medium of warmth than Dr. Arnott's, or any other stoves in general use, all of which burn the already vitiated air of the room, and thereby add to its injurious effects upon the lungs; and as this burning process is repeated as often as the air becomes saturated with moisture from respiration, and insensible perspiration from the body, there being no ventilating principle in any of these stoves, from the small quantity of air they cause to be drawn into the room to supply combustion, Persons of DELICATE CONSTITUTIONS, exposed to the DELETERIOUS ATMOSPHERE engendered by such stoves, even for a short time, become afflicted with Drowsiness, Headache, and loss of appetite.

The principle of this Stove embraces the luxury of radient heat from the open fire, which spreads through the air, and other gaseous bodies with an immense velocity, and it passes through them without materially increasing the temperature: but it effectually warms the solid bodies exposed to its action. It is radient heat we receive from the sun,—it is radient heat we feel when approaching an open fire; it warms the solid matters of an apartment, and these slowly communicate the heat to the surrounding air; hence, in a room warmed by an open fire, combined with the introduction of pure warm air, conducted into the room through the stove, a person may enjoy a comfortable degree of warmth, and yet breathe in a comparatively cool atmosphere from the circulation of air it induces, besides permitting each individual to adjust the distance from the fire which may be most suitable to his constitution.

CUNDY'S PATENT STOVE is a certain PREVENTIVE and CURE for the DRY ROT, from the circulation of air it induces underneath the floor upon which it is fixed.

This Stove will be found the most economical stove in use, because the moveable iron gratings which surround the fire is the only part of the stove that can be destroyed (and they will last for many years). These gratings are so contrived that any person can take them out and substitute a new set at a small expense.

CUNDY'S PATENT STOVE requires the same management as a common fire-place.

TESTIMONIALS.

Letter from the Rev. MATTHEW O'BRIEN, (Professor of Natural Philosophy and Astronomy), M.A., F.R.S., &c., King's College.

Upper Norwood, 22nd June, 1846.

I beg to certify that one of Mr. Cundy's Patent Stoves was put up in my lecture room at King's College, last year, in place of a common stove (of Arnott's construction, I believe). I have no hesitation in saying from actual experience, that Mr. Cundy's Stove is far superior both in producing warmth over the whole room, and in promoting ventilation, without disagreeable currents of air, or close smell. MATTHEW O'BRIEN.

*** Since this stove was put up, four others have also been fixed, one of which is placed in the Medical Library.

29, Charter-house-square, Monday, Feb. 17, 1846.

DEAR SIR,—The Stoves which you have recently erected in my church have been highly successful, and I have great pleasure in expressing to you the entire satisfaction which they have given to all parties. The church, which was notoriously noted for its coldness and bad ventilation, is now most agreeably warmed and well ventilated. I shall be most happy, on any occasion, to bear testimony to the excellency of your stoves; and I will endeavour, to the best of my power, to make them known, and I will certainly recommend them to my friends.

I remain, Dear Sir, yours faithfully,

JN. WM. ROGERS, St. Thomas's Charter-house.

To be had of the Manufacturers,

MESSRS. DOWSON, 69, WELBECK-STREET, CAVENDISH-SQUARE,

Where they may be SEEN IN OPERATION, and where also may be seen an ELEGANT assortment of REGISTER and other STOVES, FENDERS, CULINARY APPARATUS, &c. &c. ARCHITECTS and BUILDERS supplied with IRON and BRASS CASTINGS, at Messrs. DOWSON'S FOUNDRY, 5, SEYMOUR-PLACE, BRYANSTON-SQUARE. Smith's Work, Gas Fittings, and all other works appertaining to a Smith and Founder, undertaken at estimated prices.

THE BUILDER.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery

Best Patent Cut Clasp.

3d.	4d.	6d.	8d.	10d.	20d.
6d.	7d.	8d.	1s.	1s. 6d.	2s. per 1000.

Best Sheet Floor Brads 15s. 6d. per cwt.

Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6½d., 7d., 8d. per inch. Self-acting Kitchen Ranges with Oven and Hack Boiler. Wrought Bars and Bright Fittings.

3 ft., 3l. 3s. 3 ft. 6 in., 3l. 12s. 6d. 4 ft., 4l.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3l. 6s.	3l. 13s.	3l. 16s.	4l.	4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5l.	5l. 15s.	6l. 5s.	6l. 10s.	7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.

Do. Elliptic do., at 3½d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

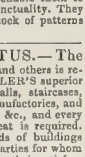
HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Bennet's-buildings) to CHARLES-STREET and 168, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

HOT WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories, and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises. BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

FIRE-PROOF SAFE MANUFACTORY,

LEADBEATER,





125, Aldersgate-street, City Nine Years Sole Manufacturer for Chubb, St. Paul's Church Yard, has on sale a large assortment of fire-proof hook-safes and chests; wrought-iron fire-proof doors for strong rooms; fire-proof jewel cases, cash, and deed boxes; fire-proof plate-chests, &c., &c., all secured by LEADBEATER'S IMPROVED DETECTOR LOCKS, throwing from three to twenty bolts, at prices 20 per cent. under any other house in London. All the above-named fire-proof articles, manufactured in the best manner, afford perfect security against fire and thieves.

LEADBEATER'S IMPROVED DETECTOR LOCKS for universal purposes, afford perfect security against false keys and pick-locks. Sold at prices equally reduced.

PAVING, 2s. 9d. PER SQUARE YARD. Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27s. 6d. per ton.

COMMISSIONERS OF FINE ARTS' REPORT ON THE MEANS OF PREVENTING DAMP IN WALLS.

THE DIRECTORS of the SEYSSEL ASPHALTE COMPANY have much pleasure in recommending to the notice of Architects, Builders, and others, the application of the ASPHALTE of SEYSSEL as the only effectual means of preventing DAMP rising in WALLS.

J. FARRELL, Secretary.

Seyssel Asphalte Company's Works,
"Claridge's Patent,"
Stangate Depôt, London.

The following account of its application is extracted from "The Appendix to the Commissioners of Fine Arts' Report," page 18:—

"In 1839 I superintended the construction of a house of three stories on the Lac d'Enghien. The foundation of the house is constantly in water, about 19½ inches below the level of the ground floor. The entire horizontal surface of the external and internal walls was covered, at the level of the internal ground-floor, with a layer of SEYSSEL ASPHALTE, less than half an inch thick, over which coarse sand was spread.

"Since the above date no trace of damp has shewn itself round the walls of the lower story, which are for the most part painted in oil of a grey stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so painted, yet the pavement of the floor, resting on the soil itself, is only about 2½ inches above the external surface of the soil, and only 19½ at the utmost, above that of the sheet of water.

"The layer of Asphalte having been broken and removed, for the purpose of inserting the sills of two doors, spots indicating the presence of damp have been since remarked at the base of the door-posts."

TO ARCHITECTS, BUILDERS, &c.

GAS LAMPS, GAS BRACKETS, GAS PILLARS, BURNERS, &c. &c. In calling the attention of architects, builders, &c., to their assortment of Gas Furniture in general, C. DEBAUFER and SON respectfully announce they continue to fit up premises of every description on the most approved and newest system of gas fitting. An experience of forty years justifies us in making the above assertion.—P.S. Country orders attended to with dispatch.—10 and 11, Creed-lane, St. Paul's.

GAS.—From 40 to 60 PER CENT. SAVED.

CONTRACTS taken for Lighting Towns, Villages, Mansions, Mills, Factories, Railway Stations, Signal Lights, Dockyards, Lighthouses, Churches, Colleges, Hospitals, Theatres, Public Institutions, Prisons, Barracks, Asylums, Schools, Unions Poor-houses, Public Gardens, &c., with pure and brilliant GAS by FRANCIS' PATENT GAS LIGHT APPARATUS, either by rental or purchase.—Applications at the office and factory, 112, High Holborn, and Eagle-street, Red Lion Square, London, where the gas can be seen manufactured on the principle of this invention, from Ten till Four daily. Prospectuses and every information may be obtained.



PATENT GALVANISED TINNED IRON.
(MOREWOOD AND ROGERS' PROCESS.)

ARCHITECTS, SURVEYORS, BUILDERS, and CONTRACTORS are respectfully informed they can be supplied with this invaluable metal for building purposes, of the best quality and lowest terms. It is superior in every respect to zinc, and two-thirds less price than 7lb. sheet lead for roofing, no woodwork being required, but iron rafters only, 21 inches apart, rendering the whole roof fire-proof. This mode of covering roofs is cheaper than Lead, Zinc, Tiles, or Slates. Parapet and other Gutters formed and fixed, also rain-water pipe, heads, eave gutter, baths, stove and funnel pipe, cisterns and water-closets fixed. The sheets are 6 feet long by 2 ft., 2 ft. 6 in. and 3 feet wide, and 9oz. to any required weight per foot, and can be had either plain or corrugated.

Please apply to CHARLES GELL, Junior, No. 5, Quick-set-row, New-road, St. Pancras, where references and testimonials of the highest respectability of extensive works already done can be had.

By Her Majesty's  Royal Letters Patent.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED METAL.—This article was at first sold under the name of Galvanised Tin Plates, but the Patentees finding that the public, in some instances, overlooking the word Tin, confounded the article with Galvanised Iron, and that the character of their metal has thereby sustained injury, are desirous of giving it a name so distinctive as to prevent such mistakes, and consequent disappointment to purchasers in future. They therefore respectfully request purchasers to inquire for MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON. In order to enable the public readily and at first sight to distinguish between the two metals, it may be well to inform them, that Galvanised Iron has a plain zinc-like appearance, while M. and R.'s Patent Galvanized Tinned Iron has a smooth crystalline surface.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON, Patronized by the Admiralty and the Honourable Board of Ordnance, being extensively used in her Majesty's Dock-yards, at the Tower, and elsewhere, for every variety of Roofing, and other purposes, where a strong, light, cheap, and durable material is required.

It has been found by experience that this article is beyond all comparison superior to zinc; possessing, as it does, all the advantages arising from the strength and firmness of iron, combined with perfect immunity from rust; whilst it is free from the very serious objection which applies to zinc, viz. its contraction and expansion, consequent upon every change of temperature, and from which circumstance leakage must of course result.

This material is not likely to be destroyed by fire, as is the case with zinc and lead, which melt and run down, thus freely admitting fresh air to the fire, and causing it to burn more fiercely. It is, therefore, obviously well adapted for all the purposes above-named, and most importantly so, when there is the possibility of fire. It is also peculiarly suitable for chimney-tops, gutters, spouting, and out-door work generally, possessing the strength of iron, without its liability to corrosion. It is by far the most economical metal roofing that can be obtained, in consequence of its strength, as it may be laid without boards, and upon the lightest rafters.

his mode of preserving metal from rust does not only apply to sheet-iron, but also to manufactured iron in any form, as bolts, nuts, hinges, nails, &c. &c.

For full Particulars apply to S. HOLLAND, 34, Grace-church-street.

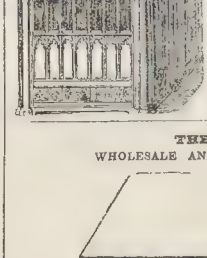
FEATHER BEDS PURIFIED BY STEAM

HEAL AND SON have just completed the erection of Machinery for the purifying of feathers on a new principle, by which the offensive properties of the quill are evaporated and carried off in steam; thereby not only are the impurities of the feather itself entirely removed, but they are rendered quite free from the unpleasant smell of the stove, which all new feathers are subject to that are dressed in the ordinary way.

Old Beds re-dressed by this process are perfectly freed from all impurities, and by expanding the feathers the bulk is greatly increased, and consequently the Bed is rendered much softer. The following are the Prices of New Feathers:—

Mixed, per lb.	1s. 0d.	Best Foreign Grey Goose	2s. 0d.
Grey Goose	1s. 4d.	Best Irish White Goose	2s. 6d.
Foreign Grey Goose	1s. 8d.	Best Dantzic White Goose	3s. 0d.

HEAL and SON'S LIST OF BEDDING, containing full particulars of Weights, Sizes, and Prices, sent free by post, on application to their Establishment, 196, opposite the Chapel, Tottenham-court-road.



NOTT'S PATENT STOVES,

FOR

CHURCHES, HALLS, WAREHOUSES, &c.

THE PATENT having expired, the present Proprietors are enabled to offer these excellent Stoves at

THREE-FOURTHS OF THE PRICES HITHERTO CHARGED.

Engravings of the Patterns, with

THE REDUCED PRICES,

will be forwarded on application to the Warehouse,

80, GREAT QUEEN STREET, LINCOLN'S INN FIELDS.

N.B. Hot-water Pipes can be attached to the Stoves for warming distant apartments, Conservatories, &c.

THE PANKLIBANON IRON WORKS,

WHOLESALE AND RETAIL, 58, BAKER STREET, PORTMAN SQUARE.



ARCHITECTS, BUILDERS, and Others, about to supply STOVES and KITCHEN APPENDAGES, will find at this Establishment the most unique and elegant assortment of STOVE-GRATES, FENDERS, and FIRE-IRONS ever offered to the Public, at prices considerably below the usual charges. The Proprietors at the same time beg to invite attention to their extensive Stock of FURNISHING IRONMONGERY, Tinned Copper, Tin and Iron Cooking Vessels, Block Tin Dish-Covers, Japanned Ware, Table Cutlery, and especially their Sheffield Plate and German Silver Wares, embracing every Article suitable for the Table, comprising Dish and Plate Covers, Liquor Frames, Epergnes, &c. &c. The plan adopted by the Proprietors of affixing the price to each article for cash, enables all purchasers to have the same advantage. The Patent Thermio Stove is in daily operation. ALSO CUNDY'S IMPROVED HOT-AIR STOVES, for Heating and Ventilating Rooms.

THORPE, FALLOWS & COMPANY, 58, Baker-street, Portman-square, London.

HOLBORN AND FINSBURY SEWERS, MIDDLESEX.

THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persons about to Purchase or Rent Houses or Property, or take Land for Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Persons to apply for at the above Office.

By the Court,
STABLE and LUSH, Clerks.

TO OWNERS OF HOUSES IN COURTS, ALLEYS, AND OTHER CONFINED LOCALITIES.

HER MAJESTY'S JUSTICES and COMMISSIONERS of SEWERS for the City and Liberty of WESTMINSTER, and part of Middlesex, hereby GIVE NOTICE, that they have approved a plan, whereby an efficient drainage, at a very moderate cost, may be obtained for property in the above situations, abutting on streets where there are sewers. The plans and sections may be seen at the office of the Commissioners, No. 1, Greek-street, Soho.

LEWIS C. HERSLET,
Clerk to the Commission.

GUILDHALL, Sept. 19, 1846.

THE Committee for Letting the City's Lands will MEET at Guildhall, on Wednesday, the 14th day of October next, at One o'clock precisely, to receive TENDERS for LETTING on LEASE for twenty-one years from Michaelmas, 1846, a HOUSE, No. 19, on the north side of the Broad-street-buildings, and also a House, No. 36, on the south-west side of Houndsditch.—Further particulars may be obtained and plans seen by applying at the Office of Works, Guildhall.

THOMAS SAUNDERS, Comptroller.

REGENT-STREET.—Extensive Premises TO LET, consisting of several ranges of Workshops or Warehouses, with gas laid on, and warmed with hot water. There is also a hot room and two spacious yards, with a residence, suitable for a builder, coach, cabinet, or piano-forte manufacturer, or any other business requiring great space, within a few doors of Regent-street.—Enquire of Messrs. DRUCE and Co., Bazaar, Baker-street.

TO BUILDERS, MANUFACTURERS, AND OTHERS.

TO LET, extensive PREMISES in the New Kent-road (near the Elephant and Castle). The premises contain in superficial area not less than 13,000 feet, comprise several valuable warehouses, workshops, &c.—For particulars apply to Messrs. HOWARD, builders, Bridge-house-place, Newington-causeway; or at the office of Mr. JOHN GRIFFITH, architect, 16, Finsbury-place south.

TO BUILDERS.—MATERIALS AND MONEY ADVANCED.

TO BE LET, on BUILDING LEASES, for ninety-six years, several very eligible plots of Freehold Building Ground, land-tax redeemed, for fourth-rate houses, situated in streets leading from the Queen's-road, Dalston, to Abandown-place. This is one of the most rapidly improving neighbourhoods near London, and will be the principal thoroughfare from all parts westward to the new Victoria Park, from which it is only a quarter of a mile distant,—Apply to Mr. PALMER, on the premises.

ST. JOHN'S WOOD PARK!!! IMMEDIATE CONNECTION WITH REGENT'S PARK.

BUILDING PLOTS TO BE LET in this most desirable and salubrious situation!! commanding picturesque views of the surrounding beautiful neighbourhood, and elevated within a few feet of the summit of the monument, with the best approaches of any suburban district near the metropolis, and greatest facilities of access to all the fashionable resorts and promenades of the West End and the City!—For particulars and plans, apply to W. H. TWENTYMAN, Esq., 11, Regent's-villas, Avenue-road, Regent's-park.

Further Letting of Building Ground belonging to the Clothworkers' Company.

TO BE LET for 80 years (land-tax redeemed), several PLOTS of LAND well adapted in all respects for building purposes, situate on the west side of the New North-road, and South-street, Islington.—For particulars and plans, inquire between the hours of Ten and Four at Clothworkers' Hall, Mincing-lane; or at Mr. ANGELL'S, the surveyor to the estate, 16, Gower-street, Bedford-square.

ROBERT BECKWITH TOWSE, Clerk.
October, 1846.

TO BE SOLD, Two Eight-roomed and One Six-roomed house, with interior and exterior decorations; substantially built under the new Act, and well tenanted.—Apply to Mr. MACKROY, 4, Milton-terrace, Vauxhall-bridge-road, Pimlico.

TO RAILWAY CONTRACTORS AND OTHERS.

TO BE SOLD, on the most moderate Terms, a large CAST-IRON TANK, made about four years ago, and but little used: its dimensions are 32 feet, by 19 feet 6 inches, and 4 feet 2 inches deep, and capable of holding upwards of 15,000 gallons of water: it is divided by one range of plates, so that it may be converted into two if required.—Apply to Mr. DUNNING, Surveyor, Hanover Chambers, Buckingham-street, Adelphi.

TO STEAM-SHIP BUILDERS, WHARFINGERS, OR RAILWAY CONTRACTORS.

FOR SALE.—FOUR REVOLVING JIB CRANES, capable of lifting two tons each; single power, with lowering brakes, brass bushed framings, chains, &c., complete, all ready for fixing.—For further particulars apply to EDMUND WRIGHT, 61, High-street, Wapping, London.

FOR SALE, about 3,000 East-India Teak Boards, and about 1,800 running feet of sound old Oak Ship Planking. The teak boards average 5 feet 6 inches long, 7½ inches wide, and 1¼ inch thick, lying in the West-India Export Dock, *ex* "Paragon," from Moulmein. Suitable for various purposes, particularly for park paling, from their very durable quality. Price 1s. 3d. each board. The oak planking runs in lengths of about 17 feet, 9 inches wide, and 3 inches thick; lying at No. 3, Narrow-street, Ratcliffe, well adapted for repairing embankments. Price 4d. per running foot.—Apply to JOHNSON and Co., 68, Fenchurch-street.

OAK FOR SALE.—Some old Oak, suitable for Window Sills and other purposes.—Apply to Mr. MARSH, Fitzroy Market, Tottenham-court-road.

SIXTY-TWO IRON COLUMNS FOR SALE; 34 Fluted, 28 Plain, about 9 feet long, with 62 Plugs, and 28 cross heads.—Apply to Messrs. DRUCE and Co., Bazaar, Baker-street.

SALES BY AUCTION.

TO PAPERHANGERS, HOUSE DECORATORS, BUILDERS, AND OTHERS.

MR. BRAY, Jun., will SELL, at his Rooms, 259, High Holborn, on WEDNESDAY, October 14th, at Twelve o'clock, upwards of 4,300 Pieces of Paperhangings of excellent workmanship and modern design, including drawing and dining-room satin, rich crimson and other flocks, mock flocks, damask and embossed satins, oak, Elizabethan and Morpeth, parlour and bed-room papers in chintz, shaded and plain, Trellis, Berlin, and bouquet, hall and staircase, in Gothics, granites, painted, and other marbles, &c.—May be viewed one day prior and morning of Sale, and Catalogues had at the Rooms as above.

MILE-END.—FREEHOLD BUILDING GROUND.—LAND-TAX REDEEMED.

MR. ROBERTS (of Old Jewry) is instructed to SELL by AUCTION, at the Mart, near the Bank of England, on FRIDAY, October 23rd, at TWELVE, Nine Plots of very valuable FREEHOLD BUILDING GROUND, desirably situate in Albert-road, East-street, Mile-End, about two miles from the Royal Exchange, and a short remove from the Victoria-park.—Particulars and plans may be had at the Prince Regent Tavern, Globe-road, Mile-End; the New Globe, Mile-End-road; the Salmon and Ball, Bethnal-green; of J. SCARBOROUGH, Esq., 19, Tokenhouse-yard, and of the Auctioneer, 7, Old Jewry.

Capital Building Materials and Timber removed from the Tower of London, and put in Lots suitable for Builders and persons repairing.

TO BE SOLD BY AUCTION, by Mr T. KING, on the Premises, Danston-road, adjoining the Canal Bridge, Kingsland-road, on TUESDAY next, October 13th, at One o'clock. They comprise oak and fir timber trees in long lengths, in girders, joists, rafters, and planks, a large quantity of capital floor-boards, linings, deals, and wainscot, forty pairs sashes and frames, doors, partitions, several logs of English oak, a few dry deals, and a large assortment of every kind of materials.—They may be viewed any time previous, and Catalogues had on the premises and of the Auctioneer, Stonebridge House.

CAEN STONE.

TUCKWELL'S Norway Sufferance Wharf, Greenwich.—Architects and Stone Merchants are informed, that this stone may be procured at the above Wharf in any quantity, in blocks up to 12 tons. The stone, which is exclusively the product of the Allemagne Quarries, and of the very finest quality, is consigned solely to W. TUCKWELL, who is prepared to execute orders to any extent, having a Large Stock always on the Wharf.—Orders received by, and further information with samples may be obtained of Mr. R. A. WITHALL, Surveyor, 80, Cheapside, and of Mr. W. TUCKWELL, at the Wharf.

N.B. Cargoes shipped direct to any Port.

BARRETT, STONE MERCHANT, 24, Wharf, Harrow Road, Paddington, respectfully informs Builders, Stone Masons, and others, that he has opened a Depôt at the Great Western Terminus for the sale of Wall's Quarry Stone. Having been established at the above place for the last twelve months, and the sale of the stone increasing so much, the Great Western Company has had the kindness to favour me with a Depôt at their Terminus. The Wall's Quarry Stone is equal to Portland for Staircases, Hall Floors, Porticoes, Balconies, Chimney-pieces, Coping, Window Sills, &c. The same stone being used in Gloucestershire for all the above purposes. The stone is sawn to all sizes while in the Quarry to save expense of waste and sawing in London, on which account can be rendered much cheaper, and is free from all flints, shells, and holes.—List of prices and samples sent to any part of London, carriage free, by directing all letters to No. 24, Wharf, Paddington.

P.S. Nailsworth and Paniswick Stone in Block.

ARCHITECTS and SURVEYORS will find by making their selection of MARBLE CHIMNEY-PIECES at the Westminster Marble Company's Show Rooms, containing a great variety of elegant drawing and dining-room chimney-pieces, executed in a superior manner, and sold at such reduced prices to enable the public to realize a great saving, by their patent machinery. An unabated zeal will be maintained to continue the patronage so liberally shown to this establishment.

Address, Earl-street, Milbank.

N.B. Country Orders promptly attended to.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

SAMUEL CUNDY begs to inform Architects and others that every description of Stone, Marble, and Granite work is executed at the cheapest possible rate.

MARBLE WORK for Halls, Dairies, Tables, Columns, Vases, at most reasonable prices.

A large collection of Designs for Memorials, Crosses, Mural and other Monuments.

BOX CHIMNEY PIECES from Twelve Shillings upwards. Depôt for Caen and other Stones

N.B. Mason's Work in all its branches prepared at the works, ready for fixing to drawings and dimensions sent, and fixed if required, including York paving, squared jambs, mantles, sills, slate shelves, &c. &c.

BRICKS.—Superior White Facing Bricks (called Suffolk Bricks), and hard Stable Paviors, &c., may be had at W. and S. WRIGHT'S Brick and Tile Manufactory, Hanwell, Middlesex. Moulded Bricks and Tiles made to order on the shortest notice, and on liberal terms.

FIRE BRICKS, Stourbridge, Welsh, and Newcastle; also Lumps, Tiles, and Clays, a large Stock of the best made Goods are selling at very reduced prices (a great reduction having taken place in freights) at WARD'S Honduras Wharf, Bankside. Windsor Nonsuch, and Town-made Oven Tiles, PPN, and Circular Red Fire Bricks, Country Pan, Plain and Ridge Tiles, Paving Bricks, Corn Drying and Patent Malting Tiles.—Country Builders promptly supplied. Rough River Ballast for Concrete and Thames Sand, above and below bridge, by freights or loads. Prepared Sand for Plastering.

PUBLICATIONS.

Now ready, Part 4, price 3s.

GOTHIC ORNAMENTS: containing—1. Stone Ornaments from the Chapter-house, Southwell Minster, Notts—2. Portion of Canopy of Arcade from the same—3. Stone Spandrils from the same—4. Wooden Crockets and Finial, from Screen, in choir, York Minster, and two Springing Crockets from Knapton Church, Norfolk—5. Wooden panelling from the Pulpit, Tattershall Church, Lincolnshire.—Nos. 1 to 3 are reprinted.

GEORGE BELL, 186, Fleet-street.

No. 1 will be Published Nov. 1st, in Monthly Parts, Folio, with Elaborate Steel Plates, price 3s., to non-subscribers 4s.

CITY, TOWN, and COUNTRY ARCHITECTURE, by S. H. BROOKS, Esq., Author of Villa and Cottage Architecture, &c., &c.

Comprising a Series of Original Designs for Street Elevations, adapted to London and other Large Cities and Towns, with Shop-fronts, in various styles; Buildings suitable to New Railway Towns, and edifices calculated to embellish Gentlemen's Demesnes.

This Work will be found equally useful to Gentlemen, Architects, Builders, Students, and all Practical Men.

JOHN WILLIAMS and Co., Library of Arts, 193, Strand.

For 1846.

KELLY'S PRACTICAL BUILDER'S PRICE BOOK, or Safe Guide to the Valuation of all kinds of Artificers' Work; with the Modern Practice of Measuring, and an Abstract of the New Building Act for regulating the Construction of Buildings. Revised and corrected by New Calculations upon the Present Value of Materials and Labour. Arranged by an architect of eminence, assisted by several experienced measuring surveyors. Illustrated and exemplified by steel Engravings and numerous Woodcuts. Royal 8vo., price 8s., neatly bound.

London: Published by T. KELLY, Paternoster-row; SIMPKIN and MARSHALL, and may be had of all Booksellers.

TO HEIRS AT LAW AND NEXT OF KIN.

A complete List of the Advertisements that have appeared during the present century is now publishing in

THE CRITIC, the largest and cheapest literary journal in Europe, every Saturday, 32 folio pages, price 4d., or 5d. stamped. THE CRITIC contains also many new and original features. A copy, as specimen, sent to any person transmitting three postage stamps to the Critic Office, 29, Essex-street, Strand. To be had by order of all booksellers and newsmen.

N.B. The eighth monthly part for the present year is now ready, containing 128 large pages of amusing and instructive matter for eighteen-pence only.

TO ARCHITECTS, BUILDERS, &c.
Just published, price 7s. 6d.

A SERIES of EIGHT DESIGNS for SHOP-FRONTS, in the Elizabethan, French, and Italian Styles. By GEO. JACKSON and SON, Papier Maché Works, 49 and 50, Rathbone-place, London.

G. J. and Sons solicit the attention of Builders and the Trade in general to their extensive assortment of enrichments, executed in the highest style of art, and with the strictest integrity to the beautiful characteristics of each period. The quality of their works they trust will afford that satisfaction it has been their pleasure to realize for now near half a century. Advantage with the times, their extended operations and facilities of machinery enable them to state a scale of charges quite removed from the antiquated estimate of decorated works.

Designs furnished for general interior finishings. Nos. 1 and 2 of their goods, suitable for the upholsterer and gilder, are ready for sale.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering it to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 10s. per gallon.

STEPHENS'S PROCESS for DYEING or STAINING WOOD, as a substitute for Paint. The natural grain of wood is imitated by art, but the most successful imitation has a sameness of appearance when compared with the continual variety which different woods present in their natural grain. To give an ornamental colour to the wood without obscuring the grain, is the object of this process, which surpasses paint in appearance, while at the same time it is so economical that the whole interior of a house, which would take a month or six weeks to paint in the usual manner, may be finished in one week by the process above named, and be more pleasing when finished. The dyes or stains are prepared and sold by HENRY STEPHENS, 54, Stamford-street, Blackfriars-road, London, in bottles of 6d. and 1s. each, and at 10s. per gallon. The oak colour may be obtained in powder at 8s. per pound, which dissolves in water to form the liquid, and one pound will make one gallon of stain.

N.B. The Trade supplied.

GATTON ESTATE.—TO BUILDERS.

T. DANN having taken the Lime Works lately occupied by T. Burrell and B. Farrington, respectfully solicits the attention of those who have taken any portion of this land for the erection of houses, &c., as the lime made in this neighbourhood is held in such high esteem, and these works offer peculiar advantages, being situated on a portion of this valuable estate.

Reigate-hill Works, 29th Sept. 1846.

LONDON: Printed by CHARLES WYMAN, of 42, Camming-street, Pentonville, in the County of Middlesex, Printer, at the Printing office of J. & H. Cox, *Brothers*, 74 & 75, Great Queen-street, Lincoln's-Inn Fields, in the Parish of St. Giles-in-the-Fields, in the same County; and published by the said CHARLES WYMAN, at the office of "THE BUILDER," 2, York-street, Covent Garden, in the Parish of Saint Paul, Covent Garden, in the said County.—Saturday, October 10, 1846.

The Builder,

A JOURNAL FOR

The Architect, Engineer, Operative & Artist.

VOL. IV.—No. 193. OCTOBER 17, 1846. *Price* ..... 3*d*. *Stamped*..... 4*d*.

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ADVERTISEMENTS.

WANTED as Clerk, a Steady, Active, Person, who has been used to Keep Books, and to the Routine of a Builder's Office.—Address, post-paid, stating age, salary expected, and where last employed, to A. Z., Messrs. Brownings and Co., Commercial-road, Lambeth. Respectable references required.

TO ENGINEERS, PATTERN MAKERS, &c.

WANTED, a Working Engineer or Millwright accustomed to the making of patterns. Must be a good hand. Any one having a knowledge of the gearing used for revolving iron shutters, and capable of superintending the same, will be preferred.—Apply personally to Mr. FROWDE, 115, Old-street, London.

WANTED, a Situation for a Youth between 16 and 17 years of age, to complete his apprenticeship as a Carpenter and Builder, in London or the vicinity. The death of his late employer is the reason of his being disengaged. Every satisfaction can be given as to character and ability.—Address, Y. Z., Mr. Blanchard's Library, High-street, Woolwich.

TO BUILDERS, &c.

WANTED, by two respectable and experienced tradesmen, work to take by the piece, either stairs, hand-rails, or general work. Shop-fronts, Gothic work, &c., executed according to design, with the utmost neatness and care. The most satisfactory reference will be given for ability, &c. No objection to go to the country. Please address B. D., office of "The Builder."

TO ARCHITECTS, BUILDERS, &c.

WANTED by a Respectable Person, Age Thirty-six, a Situation as Builder's Foreman, Managing Man, or Clerk of Works; is a Good Draughtsman and Measurer; by profession a Carpenter; has filled similar situations under eminent architects and builders for upwards of ten years. The most satisfactory testimonials and references can be given.—Address, prepaid, H. H., Mr. Smeaton's, 14, John-street, Liverpool-road, Islington.

WANTED by an Architect, Surveyor, and Civil Engineer, whose talents and respectability will bear every inquiry, a situation in a Government or other office, or in the railway interest. The same (if legally saleable) would be purchased.

N.B. The Advertiser has obtained a certificate of qualification as a district surveyor, and other testimonials.—Address to A.B., Mr. ALVEY'S, wholesale stationer, Battlebridge.

TO TIMBER MERCHANTS, BUILDERS, AND COOPERS.

WANTED, a PARTNER with a capital of 2,000*l*., to join a gentleman with the same sum in the working and management of a small compact sawing mill, now in work, in a very excellent situation. To a person connected with either of the above trades it would prove highly profitable and advantageous. For further particulars apply to Messrs. LACY and REYNOLDS, 21, Great St. Helen's, Crosby-square, City.

A FOREMAN.

A COMPETENT FOREMAN WANTED, to take the management of the works at a Railway Station.—Address, stating terms, Reference, &c. to D. REVETT, Builder and Contractor, Stowmarket.

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

A GENTLEMAN of business habits wishes for an engagement in one of the above offices, where he would make himself generally useful. Terms moderate. No objection to the country.—Address, post-paid, to T. G., Mr. TIDD'S newspaper office, 57, Gosswell-road.

TO SURVEYORS, BUILDERS, &c.

A YOUNG MAN who is a good Draughtsman and is accustomed to the Official and Practical Duties of the above, is desirous of obtaining a Comfortable and Permanent Situation at a moderate salary. Can give references of the first degree as to ability, &c.—Address A. X., office of "The Builder," 2, York Street, Covent Garden.

TO BUILDERS.

A YOUNG MAN, an expert accountant, and well acquainted with the routine of a Builder's office, desires a situation, where, in return for his services, he seeks for opportunities to mix with the practical operation of building; and to assist in preparing estimates, surveying, &c. A small salary expected.—Address, post-paid, to A. B., 3, Horace-terrace, Shepperdess-walk, City-road.

TO RAILWAY ENGINEERS AND CONTRACTORS.

A SURVEYOR who has had considerable experience in RAILWAY SURVEYING, but more particularly in measuring artificers' work, taking out quantities and making estimates for all description of buildings and railway contracts generally, and who is also well versed in the higher branches of mathematics, is open to an engagement either with an engineer or contractor, upon such terms as may be mutually agreed upon.—Address (post paid), T. K., care of Messrs. MANSELL and Co., News Agents, Birmingham.

TO ARCHITECTS.

THE Advertiser, having just finished an engagement with an Architect of considerable practice, is desirous of a re-engagement; is fully qualified in making finished, working, and perspective Drawings, and the general routine of an Architect's Office. Satisfactory reference given as to qualification, &c.—Address to S. S., Office of "The Builder."

WORCESTER ENCAUSTIC TILES Specimens of these beautiful Tiles in all their Varieties, may be seen and information obtained at the London Agents, Messrs. GRIEVE and GRELLIER, Marble-wharf, Belvidere-road, Waterloo-bridge, or at the Encaustic Tile Works, of Messrs. F. ST. JOHN G. BARR, and Co., Worcester.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—J. M. BLASHFIELD, Agent. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

WILLIAMS'S PATENT SLATE RIDGES and HIPS.—The above article is recommended as the best and the most suitable covering for Ridges and Hips of slated roofs ever invented, possessing a solid Roll of various sizes, more elegant and durable than lead, and 30 per cent. cheaper.—Sold by Messrs. J. and J. SHARP, Slate Merchants, Tooley-street, and Mr. RICHARD COOPER, Slate Merchant, Belvedere-road, Lambeth, London.

STRONG GLASS TILES AND SLATES.

HETLEY and Co. are now prepared to supply the above useful article in any quantity. The slates are kept in stock of the different usual sizes, but can be made to any given pattern. They are well adapted for any roofing purpose where light is required. Horticultural sheet glass, 15 oz., from 20s. 10d. per 100 feet.

Wholesale sheet, crown, and patent plate glass warehouse, 95, Soho-square, London.

TO BRICK AND TILE MAKERS.

THE AINSLIE PATENT TILE MACHINE COMPANY (James Smith, Esq., of Deanstone, Chairman,) invite attention to their improved Tile Machine, and to their new improved Patent Kilns for drying and burning Bricks and Tiles, by which a saving of from two-thirds to three-fourths of the fuel is effected, and all the articles are burnt equally without loss or damage. The Machines at work, and a model of the Kilns, to be seen, and all particulars to be obtained from Mr. JOHN PATON, Secretary, 193A, Piccadilly, London.

Agents wanted.

CONTRACTS.

TO DREDGERMEN AND OTHERS.
REMOVAL OF THE ALDERMAN'S SHOAL.

Guildhall, Oct. 3, 1846.

THE Navigation Committee of the Corporation of London will be ready to receive TENDERS on Thursday, the 22nd inst., at 12 o'clock precisely, at Guildhall, from parties who may be willing to undertake the above work. A plan and specification may be seen at the Town Clerk's Office, Guildhall. MEREWETHER.

ENFIELD AND EDMONTON RAILWAY.—NOTICE TO CONTRACTORS.

THE DIRECTORS of this Company will meet at their offices in Silver-street, Enfield, on MONDAY, the 26th of October instant, at 12 o'clock at noon, precisely, to receive TENDERS for the execution of the works of the line, where plans and specifications are now lying for inspection.

Security will be required, and the Directors do not pledge themselves to accept the lowest tender.—By order,

WM. C. SAWYER, Secretary,
Silver-street, Enfield, Oct. 15th, 1846.

TO IRON FOUNDERS.

THE Directors of the Gravesend and Milton Water-works Company are ready to receive TENDERS for the Supply of Cast-iron Pipes, Sluices, Cocks, and other Works for their Reservoir now erecting at Milton, next Gravesend. Plans and Specifications may be seen at Mr. SIMPSON'S, No. 33, Great George-street, Westminster (the Engineer of the Company), and Tenders Sealed, marked "Tender for Pipes, &c.," are to be sent to our office at Milton, next Gravesend, on or before Thursday, the 29th October, instant. The Directors do not bind themselves to accept the lowest Tender.—By order of the Directors,

Milton, next Gravesend, SOUTHGATE and SON,
Oct. 10th, 1846. Secretaries.

NOTICE IS HEREBY GIVEN, that a General Half-Yearly Meeting of Members of the INSTITUTION OF BUILDERS' FOREMEN will take place at the Salisbury Arms Tavern, Durham-street, Strand, on WEDNESDAY Evening next, October 21st, to elect officers for the ensuing six months, and other general business. W. ALLARD, Secretary.

TO BUILDERS, PAINTERS, AND OTHERS.

MESSRS. WOOD and Co., GRAINERS and WRITERS to the Trade only, 62, Waterloo-Bridge-road.

N.B. Several good Grainers and Writers wanted. Applications to be made personally, with specimens, before Ten o'clock in the morning, or after Six o'clock in the evening. An Apprentice wanted.

HOWARD'S TRANSPARENT TRACING PAPER.—The many very high encomiums which have been passed on this article by those who have made trial of it, induces Mr. Howard to give it greater publicity. Sample books, containing seven different qualities, with prices, &c., can be sent by post to any part of the kingdom.—Orders directed to Mr. HOWARD, 23, Great Russell-street, Bloomsbury, will receive immediate attention.

ZINC WORKS, 15, New-road, Fitzroy square, London.—W. STAMPER, Manufacturer of Ornamental Conservatories, Greenhouses, Window Sashes Sky-lights, Fan-lights, Flower Cases, &c. &c.

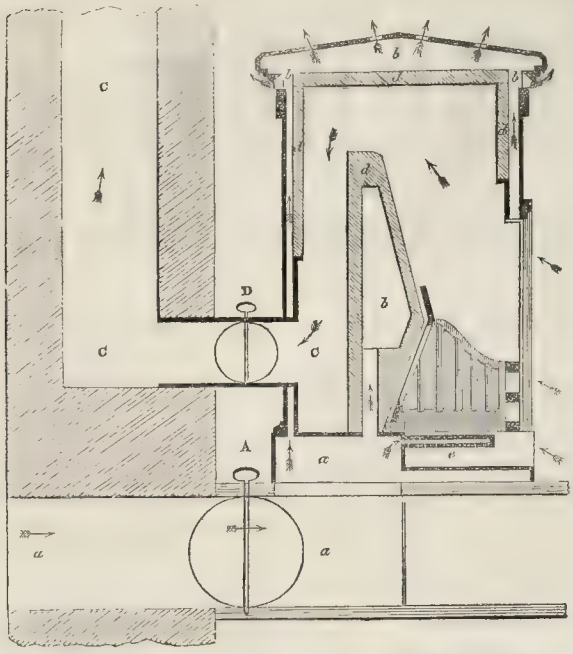
Zinc sash-bar mouldings, bell-wire rope, &c. &c. Perforated zinc for safes, ventilators, &c. &c. Roofs, flats, and verandahs, covered on the newest principle. Manufacturer of the improved Sliding Glass Pane Ventilator.—ZINC WORKS, 15, New-road, opposite Fitzroy-square.

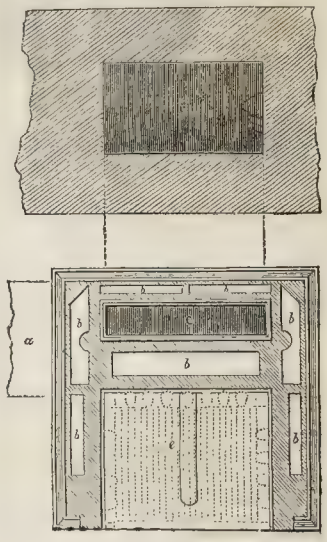
To Noblemen, Gentlemen, Nurserymen, Builders, Public Cemeteries, and other Public Companies engaged in Planting.

MESSRS. PROTHEROE and MORRIS have received instructions from Mr. Neal to submit to PUBLIC COMPETITION, by AUCTION, on the premises, Wandsworth Common, on MONDAY, October 26th, 1846, and following days at Eleven o'clock each day (in consequence of the ground being required for building purposes), the whole of the valuable NURSERY STOCK, consisting of the choicest Evergreens and American Plants, Ornamental and Deciduous Shrubs, &c. Also Two Stacks of Capital MEADOW HAY, about 100 loads.

The above offers great advantages from the variety of the Stock, and will be lotted to suit every description of purchasers.—May be viewed prior to the Sale; Catalogues one shilling each, returnable to purchasers, may be had on the Premises; of the principal Seedsmen; and of the Auctioneers, American Nursery, Leytonstone.

CUNDY'S PATENT IMPROVED OPEN FIRE PLACE, HOT AIR, VENTILATING STOVE.





PLAN.

Description of Diagram.

a a a a Fresh air channel, for admission of external air.
b b b b Hot air chambers (formed with artificial stone, *d d d d*) through which the air passes into the room, and is heated without being injured.
C C C The direction the smoke and vitiated air takes after it has passed through the fire and heated the artificial stone of the hot air chambers.
e Blow pipe to preserve perfect combustion placed immediately underneath the grating of fire place.
A and D are regulators.
The arrows shew the way the external fresh air is admitted, next passing through the hot-air chambers into the room, and lastly taken out of the room through the fire and up the chimney—thus completing ventilation.

This STOVE embraces the following most important principles connected with the economy of

WARMING AND VENTILATING CHURCHES,

and other Public and Private Buildings, viz.:—

HEAT by RADIATION from the Open Fire.

HEAT by CONDUCTION.—A copious and continuous stream of PURE WARM AIR is conducted into the room through the large Stove, at a regulated rate, by means of an air channel underneath the floor, communicating with the external air.

HEAT by REFLECTION.—The external casing of the Stove becoming warm, communicates its heat to the surrounding atmosphere.

VENTILATION produced by the OPEN FIRE—which will carry off the Vitiated Air through the chimney at the same rate the Pure Air is conducted into the room through the interior HEATING APPARATUS of the Stove, thereby keeping up a regular and agreeable system of Ventilation.

ECONOMY of FUEL.—This Stove, from the peculiar construction of the Fire Place, will produce a most BRILLIANT FIRE with the least possible quantity of fuel, and will continue to burn so long as any particle of coal remains.

Two of CUNDY'S PATENT STOVES, 27 inches square and 42 inches high, will be found sufficient to warm and ventilate a Church containing an area of Two Hundred Thousand Cubic Feet, and having One Thousand Feet superficial of Glass; vide St. Thomas's, Charter-House, Goswell-street, in which church two have been fixed, producing a genial and refreshing warmth throughout the church, in the place of three very large Arnott's Stoves, previously found to be totally inefficient.

If CUNDY'S PATENT STOVE be placed in a Hall or Staircase, it will not only warm and ventilate the Hall or Staircase, but will, by means of the pure warm air conducted through the interior of the Stove, supply all the rooms and passages communicating therewith with pure warm air.

This STOVE is admirably calculated for the room of an Invalid, inasmuch as it supplies the room with pure warm air, and, after circulating through the apartment, it is conducted through the stove to keep up combustion; consequently the room may be fitted with double doors and windows, to the otherwise exclusion of the external atmosphere, without the disagreeable accompaniment of a smoky room.

CUNDY'S PATENT STOVE possesses the ENGLISHMAN'S OPEN FIRE PLACE, therefore can be applied to warm and ventilate a room in the basement, and the pure warm air which passes through the stove can be conducted into a room above.

The INTERNAL construction of this Stove is so contrived, that the fire does not come in contact with iron as a heating medium, consequently the heated air is not deprived of its freshness, nor does it become vapid and enervating.

CUNDY'S PATENT STOVE can be recommended to the Public as offering (at less expense, and in principle less complicated) a more healthful medium of warmth than Dr. Arnott's, or any other stoves in general use, all of which burn the already vitiated air of the room, and thereby add to its injurious effects upon the lungs; and as this burning process is repeated as often as the air becomes saturated with moisture from respiration, and insensible perspiration from the body, there being no ventilating principle in any of these stoves, from the small quantity of air they cause to be drawn into the room to supply combustion, Persons of DELICATE CONSTITUTIONS, exposed to the DELETERIOUS ATMOSPHERE engendered by such stoves, even for a short time, become afflicted with Drowsiness, Headache, and loss of appetite.

The principle of this Stove embraces the luxury of radient heat from the open fire, which spreads through the air, and other gaseous bodies with an immense velocity, and it passes through them without materially increasing the temperature: but it effectually warms the solid bodies exposed to its action. It is radient heat we receive from the sun,—it is radient heat we feel when approaching an open fire; it warms the solid matters of an apartment, and these slowly communicate the heat to the surrounding air; hence, in a room warmed by an open fire, combined with the introduction of pure warm air, conducted into the room through the stove, a person may enjoy a comfortable degree of warmth, and yet breathe in a comparatively cool atmosphere from the circulation of air it induces, besides permitting each individual to adjust the distance from the fire which may be most suitable to his consitution.

CUNDY'S PATENT STOVE is a certain PREVENTIVE and CURE for the DRY ROT, from the circulation of air it induces underneath the floor upon which it is fixed.

This Stove will be found the most economical stove in use, because the moveable iron gratings which surround the fire is the only part of the stove that can be destroyed (and they will last for many years). These gratings are so contrived that any person can take them out and substitute a new set at a small expense.

CUNDY'S PATENT STOVE requires the same management as a common fire-place.

TESTIMONIALS.

St. John's, Fulham, 2nd May, 1846.

My Dear Sir,—I have very great pleasure in giving my testimony to the efficiency of your stove, as combining the double advantage of thoroughly warming and constantly ventilating any large church or building. Your invention appeared to me to be in theory all that could be desired; and I can honestly say, that I have not yet discovered the point in which the practice falls short of the theory.—The area of my church is computed to be nearly 200,000 cubical feet, and though a second stove will be required, the one already erected has fully answered my highest expectations, and realized all that you had given me to expect. If confirmation were needed for evidence of its efficiency, I might further state, that I had peculiar difficulties to contend with,—that various attempts had been made, and that every attempt had proved a signal failure,—that I was exposed to the charge of boldness in attempting what had baffled others; but that such is the power, the efficiency, and the comfort communicated by your Stove, that I know not of a dissentient voice, and have heard only of approval with unanimous consent.—I might add, that I was first led to the making inquiry respecting your stove, having gathered indirectly, that a disposition not unfavourable towards it was entertained in a certain high quarter, where, on account of ability of discernment, the smallest approach to approval must carry with it great weight.—I remain, Dear Sir, yours faithfully,

WILLIAM GARRATT, Minister of St. John's, Fulham.

St. Thomas's, Charter-house.

We, the undersigned, do hereby certify, that during the last three winters we suffered severely from the cold in the Church of St. Thomas's, Charter-house, although we had three large Arnott's Stoves, which consumed one sack and half of coals each day they were lit. The building was never warm; in consequence of which the congregation fell off, though we had a zealous preacher in the Rev. Dr. James. We have now two of Cundy's Patent Stoves, which consume but one cwt. of coal per day between them, and they impart to the church a comfortable heat and ventilation.

WILLIAM BUSHMAN, Verger.
THOMAS GEORGE, Beadle.

Letter from Professor BRADLEY.

King's College, London, July, 1846.

Sir,—I am happy to be able to bear testimony to the efficiency of your stove, which is fixed in my lecture-room at this Institution. It seems to have all the essential requisites of a good stove, a rapid draught, freedom from all smoke, and from that smell which arises from iron, heated in contact with the air of a dwelling-room, which is entirely avoided by your arrangement.—I am, Sir, your obedient Servant,

THOMAS BRADLEY.

To be had of the Manufacturers,

MESSRS. DOWSON, 69, WELBECK-STREET, CAVENDISH-SQUARE,

Where they may be SEEN IN OPERATION, and where also may be seen an ELEGANT assortment of REGISTER and other STOVES, FENDERS, CULINARY APPARATUS, &c. &c. ARCHITECTS and BUILDERS supplied with IRON and BRASS CASTINGS, at Messrs. DOWSON'S FOUNDRY, 5, SEYMOUR-PLACE, BRYANSTON-SQUARE. Smith's Work, Gas Fittings, and all other works appertaining to a Smith and Founder, undertaken at estimated prices.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.

Manufactured by J. B. WHITE and SONS, of Millbank-street, Westminster; and sold at their warehouses—Earl-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

ATKINSON'S CEMENT.

Rotherhithe Cement Works, Church-street, Rotherhithe.

WILLIAM WOOD, Jun., Manufacturer of Bath, Portland, and Roman Cements, Blue and White Lias Lime, &c. &c., begs to inform Architects, Builders, and others, that he is appointed AGENT for the sale of ATKINSON'S CEMENT, and has just received a shipment direct from the Works, which is now ready for sale, in any quantity, at the price of 2s. 3d. per bushel.—WILLIAM WOOD, Jun., also begs to call the attention of the public to his Bath Cement, which he thinks will merit approbation. It is of a very light colour, and will take up more sand than any cement now in use; requires no paint, and is well adapted for ornamental castings of every description, however elaborate; 2s. per bushel, delivered free within three miles of the works.

KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Milbank-street, Westminster,

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

WILSON'S PATENT VENTILATING SPIRAL CHIMNEY POT,



For the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success.

This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance.

The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory,

Southwark-bridge Iron Roofing Works.

CHAS. WM. WATERLOW,





Manufacturer of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square. Well-seasoned materials, superior workmanship, lowest prices. Upwards of 400 Doors and a large variety of Sashes and Frames always on Sale. Glazed goods securely packed for the country.

Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.

SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.



JOHNSON & PASK,
1, Amwell Street,
Clerkenwell,



Beg to inform the Trade, and the Building Public in general, that they continue to manufacture Sashes and Frames, Shop Fronts, Doors, and all other kinds of Joiner's work, on the lowest possible scale of prices. All kinds of Wainscot and Mahogany Work done in the very best manner; French Polished, and carefully Packed for the Country.— A full list of prices forwarded by return of post to any part of the country.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

TO THE PLATE GLASS TRADE.

THE BIRMINGHAM PLATE AND CROWN GLASS COMPANY, "Registered," beg to inform the Trade and Public, that the extension of their Works at Smethwick, near Birmingham, being now completed, their Warehouse, 141, Fleet-street, London, is now open for the Sale of their Crystal Plate Glass, which will be found to stand unrivalled by that of any other manufactory. They are also in a position to supply Rough Plate of any substance for Skylights or Floorings on the shortest notice.—Orders addressed to B. MOSS, Company's Warehouse, 141, Fleet-street, London, will be promptly attended to.

WINDOW GLASS, Crown Squares, in 100 feet Boxes, per foot:—

4 by 3	and under	5 by 3	.....	1d.
5 .. 3	,,	6 .. 4	.....	1½
6 .. 4	,,	7 .. 5	.....	1½
7 .. 5	,,	9 .. 7	.....	2
9 .. 7	,,	10 .. 8	.....	2½
10 .. 8	,,	14 .. 10	.....	2½
14 .. 10	and under	2 feet	.....	3

Crates averaging 50 inches:—

ccc	18 table	each 40s.
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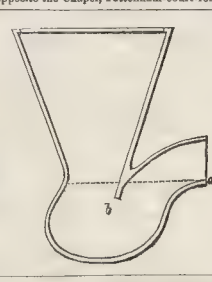
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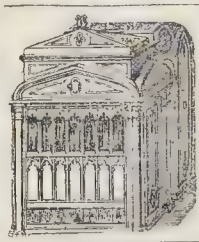
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A YOUTH of Sixteen wishes to learn the Trade, as a member of the Family.—Letters, stating premium, situation, and other particulars, to F. F., Mr. Dale's, baker, Lansdown-road, South Lambeth, Surrey.

DECORATIVE ART SOCIETY, 20, Great Marlborough-street. The GENERAL MEETING will be resumed on WEDNESDAY NEXT, when Mr. CHARB will read a paper "On the Application of Colours to Manufactures." Visitors' Tickets may be had on application to

Mr. E. C. LAUGHER, Hon. Sec.,
17, Sussex-place, Kensington.

MR. GRAYSON'S ARCHITECTURAL SCHOOL of DESIGN, established above Fifty Years.—CIVIL ENGINEERS, MILLWRIGHTS, and others taught the principles of MACHINERY and PRACTICAL PERSPECTIVE. The selection of models and casts accompanying the diagrams which are introduced at this Academy will be found of great utility to the Student in elucidating the several Mechanical and Practical Sciences. Morning classes from 9 till 2; evening from 6 till 9, five nights in the week.—For terms, apply at 1, Banner-street, Finsbury-square, or at the office of "The Builder," 2, York-street, Covent-garden, if by letter, post-paid.

WORTHY OF NOTICE.

WILKINS'S PATENT SILENT WATER CLOSET.—This valuable Improvement may now be seen, and orders taken at 25, Gower-place, University College, London, daily, from nine in the morning to nine in the evening, where also applications for Licenses for all the principal towns in the kingdom must be addressed, post paid.

CHEAP PAN FOR WATER CLOSETS,
With Trap, in one Piece.

DOULTON and WATTS, Lambeth Pottery, High-street, Lambeth, London, Manufacturers of the above in superior glazed STONE WARE, price 7*s.* 6*d.* each. They are of the most durable ware, and are recommended in preference to iron on account of their cleanliness and cheapness. If preferred, they can be had in two parts, the pan at 4*s.* 6*d.*, and the Trap at 3*s.* N.B. Manufacturers of RAIN-WATER PIPING for houses.

TO ARCHITECTS, BUILDERS, &c.

GAS LAMPS, GAS BRACKETS, GAS PILLARS, BURNERS, &c. &c. In calling the attention of architects, builders, &c., to their assortment of Gas Furniture in general, C. DEBAUFER and SON respectfully announce they continue to fit up premises of every description on the most approved and newest system of gas fitting. An experience of forty years justifies us in making the above assertion.—P.S. Country orders attended to with dispatch.—10 and 11, Creed-lane, St. Paul's.

GAS.—From 40 to 60 PER CENT. SAVED.

CONTRACTS taken for Lighting Towns, Villages, Mansions, Mills, Factories, Railway Stations, Signal Lights, Dockyards, Lighthouses, Churches, Colleges, Hospitals, Theatres, Public Institutions, Prisons, Barracks, Asylums, Schools, Unions Poor-houses, Public Gardens, &c., with pure and bri liant GAS by FRANCIS' PATENT GAS LIGHT APPARATUS, either by rental or purchase.—Applications at the office and factory, 112, High Holborn, and Eagle-street, Red Lion Square, London, where the gas can be seen manufactured on the principle of this invention, from Ten till Four daily. Prospectuses and every information may be obtained.

FRENCH PAPER-HANGINGS.—In consequence of the great demand for French Paperhangings, J. T. MERRICK and Co., New Oxford-street, have copied the French designs, and are now selling them in every respect equal, at the same price as they can be purchased in Paris, thereby effecting a saving of the duty and carriage to the purchaser.

To Engineers and Architects, and as an Elegant Present to a Lady, as well as a most Convenient Pocket Appendage.

TO all those who find a Difficulty in the Use of STEEL PENS, and who wish to avoid the loss of time occasioned by the frequent mending of Quills, STEPHENS'S PERPETUAL PEN, made of Gold, with points which never wear or alter, offers a most convenient substitute, as Ink which oxydises and lingers in the steel pen, flows from this with precisely the same facility as from a Quill, and the Pen never requires mending. Price 18*s.* It may be used with a common holder. With an ever-pointed Silver Pencil Case, with Leads, 27*s.*

Sold by the proprietor, HENRY STEPHENS, 54, Stamford-street, Blackfriars-road, London. On application, by letter, this Pen will be sent, per post, to any part of the kingdom.

METROPOLITAN BUILDINGS ACT.—NOTICE TO CANDIDATES FOR DISTRICT SURVEYORSHIPS.
Office of Metropolitan Buildings, 6, Adelphi-terrace,
October 2, 1846.

NOTICE IS HEREBY GIVEN, that the examiners appointed by and in pursuance of the Metropolitan Buildings Act, will hold their next examination of persons desirous to obtain a certificate of qualification for the office of district surveyor on FRIDAY, the 30th day of October instant.

Persons desirous to be examined must apply on or before the 24th instant, and their applications must be accompanied by a preliminary statement, according to the course of examination prescribed in the rules for that purpose, copies of which, and any information on the subject, may be had at this office, or at Mr. WEALE'S, architectural bookseller, 59, High Holborn.

Subsequent examinations will be held in the months of January, April, and July, or at such other periods as shall be appointed, of which due notice will be given.

ARTHUR SYMONDS,
Registrar of Metropolitan Buildings.

LLANDILO CHURCH.—Should any one of the Architects who sent in designs for this Church have received a perspective view and ground plan not belonging to him, it will be esteemed a favour if he will kindly return it, at his earliest convenience, to Mr. PITCHER, Church Building Society, St. Martin's-place, London.—The motto of the design is the fleur-de-lis.

Llandilo, October 12th, 1846.

CONTRACTS.

TO BUILDERS.

TENDERS are required for the Erection of a House in the neighbourhood of Reigate, Surrey. Parties desirous of submitting Tenders for the same may see the drawings and specifications, on application at Messrs. RAPHAEL and J. ARTHUR BRANDON'S Office, 11, Beaufort-buildings, Strand, on and after Monday, the 26th instant.

1, Canning-place, Kensington,
Oct. 21st, 1846.

KENSINGTON NEW WORKHOUSE—TO BUILDERS AND OTHERS.

THE Board of Guardians of the Poor for the Parish of Kensington HEREBY GIVE NOTICE to persons desirous of contracting for the erection of the above mentioned workhouse, that the drawings and specification may be inspected, and all other particulars obtained at the office of the architect, Mr. ALLOM, 14, Hart-street, Bloomsbury-square.

Sealed tenders to be delivered, under cover, to the clerk to the Guardians, at the office, 1, Canning-place, Kensington, on or before the 21st day of November, 1846. The Board of Guardians do not bind themselves to accept the lowest tender.

SAML. CORNELL, Clerk to the Guardians.

TO BUILDERS.

THE GUARDIANS of the BASINGSTOKE UNION, Hants, are desirous of receiving TENDERS for the Erection of an Infirmary and School-Rooms, and making various alterations to the Union Workhouse. Particulars may be obtained by application to Mr. FODEN, of No. 12, North-place, Gray's-inn-road, London, architect, after Monday, the 26th of October, instant, where the Plans, Specifications, &c. may be seen till the 31st inst., after which they will lie for inspection at the Board Room of the Union Workhouse. The Tenders are to be delivered at the Union Workhouse, near Basingstoke, on Friday, the 6th of November next, before Twelve o'clock at noon, after which hour no Tender will be received.—The Guardians do not pledge themselves to accept the lowest Tender.—By order of the Board,
GEO. LAMB, Clerk.

Basingstoke, 16th Oct. 1846.

SASHES primed, glazed, and sent to any part of London at 5*d.* per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.

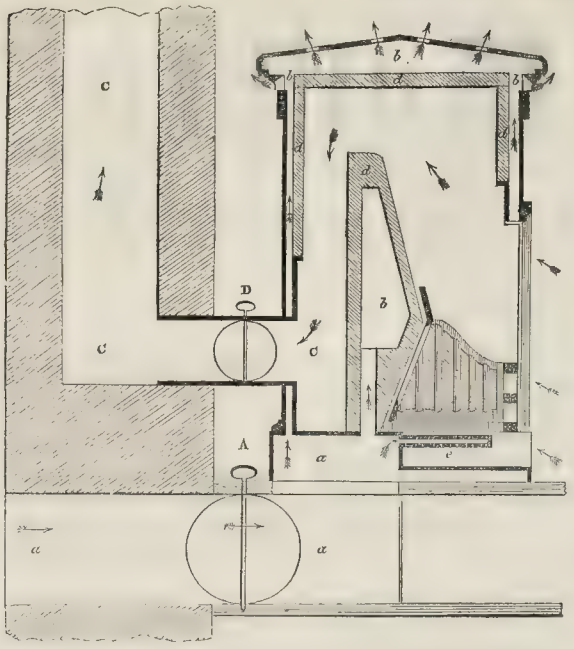
FOREIGN SHEET. BRITISH SHEET.
BRITISH CROWN. PROPAGATING GLASSES.
Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Shew-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.

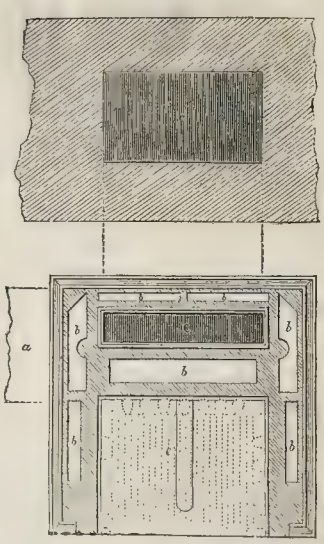
Dry and Good Colours of the best quality; Brushes Dryers, and every article used in the Trade Warranted.

VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22*s.* per cwt.; Lead Pipe 23*s.* per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.

For complete lists priced.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

CUNDY'S PATENT IMPROVED OPEN FIRE PLACE, HOT AIR, VENTILATING STOVE.





PLAN.

Description of Diagram.

a a a a Fresh air channel, for admission of external air.
b b b b Hot air chambers (formed with artificial stone, *d d d d*) through which the air passes into the room, and is heated without being injured.
C C C The direction the smoke and vitiated air takes after it has passed through the fire and heated the artificial stone of the hot air chambers.
c Blow pipe to preserve perfect combustion placed immediately underneath the grating of fire place.
A and *D* are regulators.
The arrows shew the way the external fresh air is admitted, next passing through the hot-air chambers into the room, and lastly taken out of the room through the fire and up the chimney—thus completing ventilation.

This STOVE embraces the following most important principles connected with the economy of

WARMING AND VENTILATING CHURCHES,

and other Public and Private Buildings, viz.:—

HEAT by RADIATION from the Open Fire.

HEAT by CONDUCTION.—A copious and continuous stream of PURE WARM AIR is conducted into the room through the large Stove, at a regulated rate, by means of an air channel underneath the floor, communicating with the external air.

HEAT by REFLECTION.—The external casing of the Stove becoming warm, communicates its heat to the surrounding atmosphere.

VENTILATION produced by the OPEN FIRE—which will carry off the Vitiated through the chimney at the same rate the Pure Air is conducted into the room through the interior HEATING APPARATUS of the Stove, thereby keeping up a regular and agreeable system of Ventilation.

ECONOMY of FUEL.—This Stove, from the peculiar construction of the Fire Place, will produce a most BRILLIANT FIRE with the least possible quantity of fuel, and will continue to burn so long as any particle of coal remains.

Two of CUNDY'S PATENT STOVES, 27 inches square and 42 inches high, will be found sufficient to warm and ventilate a Church containing an area of Two Hundred Thousand Cubic Feet, and having One Thousand Feet superficial of Glass; vide St. Thomas's, Charter-House, Goswell-street, in which church two have been fixed, producing a genial and refreshing warmth throughout the church, in the place of three very large Arnott's Stoves, previously found to be totally inefficient.

If CUNDY'S PATENT STOVE be placed in a Hall or Staircase, it will not only warm and ventilate the Hall or Staircase, but will, by means of the pure warm air conducted through the interior of the Stove, supply all the rooms and passages communicating therewith with pure warm air.

This STOVE is admirably calculated for the room of an Invalid, inasmuch as it supplies the room with pure warm air, and, after circulating through the apartment, it is conducted through the stove to keep up combustion; consequently the room may be fitted with double doors and windows, to the otherwise exclusion of the external atmosphere, without the disagreeable accompaniment of a smoky room.

CUNDY'S PATENT STOVE possesses the ENGLISHMAN'S OPEN FIRE PLACE, therefore can be applied to warm and ventilate a room in the basement, and the pure warm air which passes through the stove can be conducted into a room above.

The INTERNAL construction of this Stove is so contrived, that the fire does not come in contact with iron as a heating medium, consequently the heated air is not deprived of its freshness, nor does it become vapid and enervating.

CUNDY'S PATENT STOVE can be recommended to the Public as offering (at less expense, and in principle less complicated) a more healthful medium of warmth than Dr. Arnott's, or any other stoves in general use, all of which burn the already vitiated air of the room, and thereby add to its injurious effects upon the lungs; and as this burning process is repeated as often as the air becomes saturated with moisture from respiration, and insensible perspiration from the body, there being no ventilating principle in any of these stoves, from the small quantity of air they cause to be drawn into the room to supply combustion. Persons of DELICATE CONSTITUTIONS, exposed to the DELETERIOUS ATMOSPHERE engendered by such stoves, even for a short time, become afflicted with Drowsiness, Headache, and loss of appetite.

The principle of this Stove embraces the luxury of radient heat from the open fire, which spreads through the air, and other gaseous bodies with an immense velocity, and it passes through them without materially increasing the temperature: but it effectually warms the solid bodies exposed to its action. It is radient heat we receive from the sun,—it is radient heat we feel when approaching an open fire; it warms the solid matters of an apartment, and these slowly communicate the heat to the surrounding air; hence, in a room warmed by an open fire, combined with the introduction of pure warm air, conducted into the room through the stove, a person may enjoy a comfortable degree of warmth, and yet breathe in a comparatively cool atmosphere from the circulation of air it induces, besides permitting each individual to adjust the distance from the fire which may be most suitable to his constitution.

CUNDY'S PATENT STOVE is a certain PREVENTIVE and CURE for the DRY ROT, from the circulation of air it induces underneath the floor upon which it is fixed.

This Stove will be found the most economical stove in use, because the moveable iron gratings which surround the fire is the only part of the stove that can be destroyed (and they will last for many years). These gratings are so contrived that any person can take them out and substitute a new set at a small expense.

CUNDY'S PATENT STOVE requires the same management as a common fire-place.

TESTIMONIALS.

Letter from the Rev. MATTHEW O'BRIEN, (Professor of Natural Philosophy and Astronomy), M.A., F.R.S., &c., King's College.

Upper Norwood, 22nd June, 1846.

I beg to certify that one of Mr. Cundy's Patent Stoves was put up in my lecture room at King's College, last year, in place of a common stove (of Arnott's construction, I believe). I have no hesitation in saying from actual experience, that Mr. Cundy's Stove is far superior both in producing warmth over the whole room, and in promoting ventilation, without disagreeable currents of air, or close smell.

MATTHEW O'BRIEN.

P.S. Since this stove was put up, four others have also been fixed, one of which is placed in the Medical Library.

29, Charter-house-square, Monday, Feb. 17, 1846.

DEAR SIR,—The Stoves which you have recently erected in my church have been highly successful, and I have great pleasure in expressing to you the entire satisfaction which they have given to all parties. The church, which was notoriously noted for its coldness and bad ventilation, is now most agreeably warmed and well ventilated. I shall be most happy, on any occasion, to bear testimony to the excellency of your stoves; and I will endeavour, to the best of my power, to make them known, and I will certainly recommend them to my friends.

I remain, Dear Sir, yours faithfully,

JN. WM. ROGERS, St. Thomas's Charter-house.

To be had of the Manufacturers,

MESSRS. DOWSON, 69, WELBECK-STREET, CAVENDISH-SQUARE,

Where they may be SEEN IN OPERATION, and where also may be seen an ELEGANT assortment of REGISTER and other STOVES, FENDERS, CULINARY APPARATUS, &c. &c. ARCHITECTS and BUILDERS supplied with IRON and BRASS CASTINGS, at Messrs. DOWSON'S FOUNDRY, 5, SEYMOUR-PLACE, BRYANSTON-SQUARE. Smith's Work, Gas Fittings, and all other works appertaining to a Smith and Founder, undertaken at estimated prices.

PREPARED FLOORING BOARDS.

AT REDUCED PRICES.

ALWAYS ON SALE, a Large Assortment of DRY PREPARED FLOORING BOARDS, and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¼ inch to 1¼ inch thick.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Wilton-road, Pimlico (late C. Moore and Son), and Great Smith-street, Westminster.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, at Old-Barge-Wharf, Upper Ground-street, Blackfriars, and at Hy. Castle's, Ship-yard, Millbank-street, Westminster, a large, very general, and well-seasoned stock of all kinds of Prepared Floor and Match Boarding, planed to a parallel breadth and thickness, fit for immediate use; also a great variety of machine-prepared mouldings, very accurately finished.

A. R., in calling the attention of builders and consumers, confidently presumes on being able to supply them on such terms as will ensure and merit their favours, &c.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Pantiles.

T. ADAMS (from Byron and Co.), late S. Dare, Mahogany, Timber, and Deal Yard, New-road, Bermondsey, near Bricklayers' Arms, has always in stock mahogany, cedar, wainscot, elm, beech, oak, &c. Pantile oak and fir laths, scaffold poles, putlogs, &c. Wheelwright's goods, veneers, cut deals and scantling of every dimension. Also a large assortment of SEASONED FLOORING, MATCH BOARDING FIT FOR immediate use, and MOULDINGS prepared by machinery, all at reduced prices.

Advantageous to Timber Merchants, Builders, Coopers, and others, who may require Timber to be sawn.

THE PATENT SAWING COMPANY beg to call the attention of parties in the above trades to the advantages which their Mills offer as regards charges, and the saving of expense in carriage, being situate close to the Grand Surrey Canal Docks, in Rotherhithe. They solicit a trial, and hope to obtain a share of patronage by a strict attention to all orders intrusted to their care. Letters addressed to the office, No. 5, Church-court, Clement's-lane, City, will be promptly attended to.

MUIR'S PATENT  PLANING MACHINERY.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico,

N.B. Estimates given for Sawing and Planing.

VARNISH, COLOURS, WHITE LEAD.

Genuine White Lead .... per cwt.	27s.	0d.
Seconds ..... ,,	25	0
Thirds ..... ,,	23	0
Linseed Oil..... per gallon	2	3
Turpentine..... ,,	4	6
Putty ..... per cwt.	7	6
Patent Dryers ..... ,,	36	0
Oxford Oker ..... ,,	36	0

Varnishes equalled by none:

Fine Oak ..... per gallon	16s.	
,, Carriage ..... ,,	12	
,, Copal ..... ,,	18	
,, Body Copal ..... ,,	24	
,, Gold Size ..... ,,	10	
,, Black Japan ..... ,,	10	

Painters' Brushes, and every article in this branch, at the Manufactory, 87, Bishopsgate-street, Without, London.—THOMAS MILLINGTON, Proprietor.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 16s. per gallon.

TODD'S PATENT PROTOXIDE PAINT, manufactured by CHAS. FRANCIS and SONS, CEMENT WORKS, NINE ELMS, LONDON.

The properties of this Paint are peculiar for preventing iron from oxidation, wood from decay, and masonry from damp; it neither cracks nor blisters with the hottest sun, and is therefore most valuable for Railways, Boilers, Steam, Gas, and Water-pipes; Hothouses, Forcing-houses, and for Shipping. Its adhesion is so great to iron and wood, that the hardest friction will scarcely remove it. It prevents vegetation on stuccoed buildings, and is not affected by spray of sea-water.

PROTOXIDE PAINT is sold ground in oil, and, compared with white-lead, its property of concealing is as 75 to 50, so that one hundred weight is equal to one and a half of lead. It works well under the brush, and forms with oil an unctuous and cohesive mixture. If blended with other paints it has a softer tone than white-lead. For houses painted during occupation it is most preferable, being perfectly innoxious.

TO ARCHITECTS, BUILDERS, AND THE PUBLIC IN GENERAL.

GEORGE JENNINGS, of 29, GREAT CHARLOTTE STREET, BLACKFRIARS ROAD, begs to call the attention of Architects, Builders, &c., to his REGISTERED FASTENING for SHOP SHUTTERS, &c., which entirely supersedes the use of shutter-bars. Thereby effecting a great saving of labour, as by the old method, the bar has to pass through the hands of some one upwards of six hundred times in twelve months, which tends to deface the whole front more or less every time the bar is put up or removed. The fastening is secret, simple, and sure, in its action, and can be affixed to any shop-front in two hours, without any alteration to the shutters. New fronts fitted at a less expense than a shutter-bar would amount to. A liberal allowance to the trade, and any further information may be obtained by inclosing a postage stamp to the above address.—A Model may be seen at the office of "The Builder."

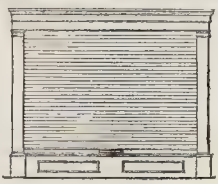
SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

Manufactory, 95, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters for both security and durability. The edges being sheathed with IRON, and the core little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.

PATENT SAFETY IRON SLIDING SHUTTERS.





The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 115, Old Street, London; or at the Licensees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using BENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licences Granted.

INJUNCTION.

BUNNETT and CORPE'S Patent REVOLVING IRON SHUTTERS.—Since the verdict found in favour of the Patentees, in the Court of Exchequer, in the action tried by order of the Court of Chancery, that Court has granted a perpetual Injunction for restraining all Infringements of this Patent, and therefore all parties are hereby cautioned against infringing the same.

THE PRICES ARE GREATLY REDUCED, and BUNNETT AND CORPE'S PATENT IRON SHUTTERS ARE THE CHEAPEST AS WELL AS THE BEST. They are made with convex laths, if required. The worm and wheel motion for raising and lowering revolving iron shutters (as secured by this Patent) is the only safe and durable mode of effecting that object. In large shutters it is indispensable.

Some thousands of Bunnett and Corpe's Shutters have now been put up, without a single complaint of their want of strength or security; and nine years' practical experience (during which they have adopted every real improvement) enables the Patentees to challenge comparison with any others. They will guarantee all Shutters put up by them to keep in order, and last twice as long as any with thin convex laths.

B. and C. also manufacture REVOLVING WOOD SHUTTERS (the Patent for which has expired), at the same prices as other makers, but greatly superior, being fitted with their patent raising gear, and proper metallic hinges, without which no shutter can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop-fronts fitted with Iron Shutters, Patent Brass or Zinc Sashes, Plain or ornamental, handsomely Engraved, Moulded, Stall-board Plates, best Plate Glass, and Internal Brass Fittings of all kinds, superior in quality and workmanship, and lower in price than any other house.

Contracts taken in Town or Country.

Metal Drawing and Stamping for the Trade.

Office at No. 26, Lombard-street, London; Works, at Deptford, Kent.

Steam-engines, Sawing, Planing, and Moulding, Cutting-machines on Improved Plans, especially adapted for Builders' purposes, may be seen in operation at the Works.

LIGHTNING CONDUCTORS FOR BUILDINGS.

A. SMITH'S PATENT COPPER WIRE ROPE is being daily employed for the protection of CHURCHES and other buildings from the effects of thunder storms; it possesses important advantages over other forms of conductors. References can be given where it has been applied for some time past to CHURCHES, PUBLIC and PRIVATE BUILDINGS, &c., &c. Its general adoption in the Naval and Mercantile Marine of this and other countries is the strongest possible EVIDENCE of its EFFICIENCY, &c.

A. SMITH begs the attention of those engaged in building to his IMPROVED PATENT PANELLED AND REVOLVING IRON SHUTTERS,—Also, the Patent Weather-tight Fastening and Cill Bar, for French Casements, which are so much admired for their security, simplicity, cheapness, and efficiency. Of the merits of his

Patent Double and Single Action Door Springs,
Improved Flooring Cramps,
Patent Wire Sash Lines, &c. &c.,

Little need be said, as they are pretty generally known and appreciated.

Manufactory for Iron Suspension, Sliding, and other Doors, Strong Rooms, Plain and Ornamental Palisading, Gates, and Columns.—Also, Metal Sashes, Shop-fronts, Stall-board Plates, Brass butt, and other Hinges. Buildings heated upon a new, safe, and superior plan.

Estimates given for every description of Metal-work.

A. Smith, 69, Princes-street, Leicester-square, London.

FIRE-PROOF SAFE MANUFACTORY, LEADBEATER,





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Steam-engines, Sawing, Planing, and Moulding, Cutting-machines on Improved Plans, especially adapted for Builders' purposes, may be seen in operation at the Works.

TO BUILDERS, STONE MASONS, &c.

IMPORTANT INVENTION.—The attention of Builders and Stonemasons is directed to a most interesting and important Invention, viz. the new Patent for Architectural Carving and Inlaying, either in wood or stone. To Builders it is a powerful and useful auxiliary in assisting them in their work, whether of a plain or ornamental nature, from a common moulding to the most elaborately carved gothic stalls of a cathedral, screens, pulpits, benches, &c. To Stonemasons it will prove of the greatest assistance, in making gothic windows, screens, fronts, ballustrades, both plain and ornamental. The work, when executed, has the appearance of having been done by hand, in a masterly style, at an immense saving in price. A large Room on the Premises is appropriated to the exhibition of numerous specimens of work executed by the Machine, and the public are invited to an inspection of their merits.—For particulars, apply to Mr. PINKERTON, at the Works, late Chantrey's Foundry, Eccleston-place, Pimlico, or at 61, Cornhill.—Parties tendering for Contracts would do well to make themselves acquainted with the capabilities of this machine.

CONTRACTS.

GUILDHALL, 24th of October, 1846.

THE Committee for Letting the City's Lands will meet at Guildhall on WEDNESDAY, the 11th day of November next, at One o'clock precisely, to receive TENDERS for LETTING on LEASE for 21 Years, from Michaelmas, 1846, a HOUSE, No. 19, on the north side of Broad-street-buildings. Further particulars may be obtained, and plans seen, by applying at the Office of Works, Guildhall. THOS. SAUNDERS, Comptroller.

TO BUILDERS AND OTHERS.

NOTICE IS HEREBY GIVEN, that the Commissioners of Sewers for Holborn and Finsbury Divisions, Middlesex, will meet at their office, in Hatton-garden, on Friday, the 13th day of November next, at One o'clock in the afternoon, precisely, to receive TENDERS in writing for building a sewer in King's-road, near Saint Pancras Workhouse, for a length of 380 feet, conformably to a plan and specification which may be inspected daily between the hours of Nine and Three. The parties offering must attend at the time of meeting, with their Tenders sealed up, which must contain the names and address of two sureties for the due execution of the works. The Commissioners will not consider themselves bound to accept the lowest tender.

By the Court, STABLE and LUSH, Clerks.

Office of Sewers, Hatton-garden, 23rd October, 1846.

TO BUILDERS AND OTHERS.

THE Court of Sewers for Westminster and part of Middlesex, will be ready at the Court House, No. 1, Greek-street, Soho-square, on Friday, the 6th of November, 1846, to receive TENDERS for the following Works, viz.:—200 feet of Sewer in Little George-street, Brewers-green, Westminster; 4,000 feet of Sewer in Brook-street, Duke-street, Brown-street, George-street, north side of Grosvenor-square, South Audley-street, west side of Grosvenor-square and North Audley-street, in the parish of St. George, Hanover-square. Plans, Sections, and Specification of the above Works may be inspected, and Form of Tender, and other particulars obtained at this Office, daily, between the hours of Nine and Four. Parties offering must be in attendance at Two o'clock precisely, on Friday, the 6th of November, with separate sealed Tenders, specifying on the outside for which of the above Works the Tender is made. Each Tender must be strictly in the printed Form prescribed. The Court does not bind itself to accept the lowest Tender. LEWIS C. HERTSLET, Clerk.

Sewers Office, No. 1, Greek-street, Soho-square.

29th October, 1846.

1, Canning-place, Kensington

Oct. 21st, 1846.

KENSINGTON NEW WORKHOUSE—TO BUILDERS AND OTHERS.

THE Board of Guardians of the Poor for the Parish of Kensington HEREBY GIVE NOTICE to persons desirous of contracting for the erection of the above mentioned workhouse, that the drawings and specification may be inspected, and all other particulars obtained at the office of the architect, Mr. ALLOM, 14, Hart-street, Bloomsbury-square.

Sealed tenders to be delivered, under cover, to the clerk to the Guardians, at the office, 1, Canning-place, Kensington, on or before the 21st day of November, 1846. The Board of Guardians do not bind themselves to accept the lowest tender.

SAML. CORNELL, Clerk to the Guardians.

LONDON, BRIGHTON, AND SOUTH COAST RAILWAY.

CONTRACT for WORKS.—Newhaven Branch.—The Directors of the London, Brighton, and South Coast Railway, are prepared to receive TENDERS for the construction of a Branch Line from the Hastings Railway, near Lewes, to Newhaven Harbour, being a distance of five and a half miles, or thereabouts.—Drawings and Specifications may be seen on and after Wednesday, the 4th November next, at the Resident Engineer's Office, Brighton. Sealed Tenders, according to the prescribed form, to be delivered at the Secretary's Office, London-bridge Station, not later than Ten o'clock on Monday, the 16th November next, when parties tendering, or their accredited agents, are requested to be in attendance.—The Directors do not pledge themselves to accept the lowest Tender. T. J. BUCKTON, Secretary.

London Terminus, 27th October, 1846.

FIRE BRICKS, Stourbridge, Welsh, and Newcastle; also Lumps, Tiles, and Clays, a large Stock of the best made Goods are selling at very reduced prices (a great reduction having taken place in freights) at WARD'S Honduras Wharf, Bankside. Windsor Nonsuch, and Town-made Oven Tiles, PF.N, and Circular Red Fire Bricks, Country Pan, Plain and Ridge Tiles, Paving Bricks, Corn Drying and Patent Malting Tiles.—Country Builders promptly supplied. Rough River Ballast for Concrete and Thames Sand, above and below bridge, by freights or loads. Prepared Sand for Plastering.

PREPARED FLOORING BOARDS.

At reduced prices.

ALWAYS ON SALE, a Large Assortment of DRY PREPARED FLOORING BOARDS, and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¾ inch to 1¼ inch thick.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Wilton-road, Pimlico (late C. Moore and Son), and Great Smith-street, Westminster.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, at Old-Barge-Wharf, Upper Ground-street, Blackfriars, and at Hy. Castle's, Ship-yard, Millbank-street, Westminster, a large, very general, and well-seasoned stock of all kinds of Prepared Floor and Match Boarding, planed to a parallel breadth and thickness, fit for immediate use; also a great variety of machine-prepared mouldings, very accurately finished.

A. R., in calling the attention of builders and consumers, confidently presumes on being able to supply them on such terms as will ensure and merit their favours, &c.

ISLINGTON.—A. J. SAMUELS, Timber and Deal Yard, Cross-street, near the Church.

ALWAYS ON SALE, and ready cut, all sizes, a large assortment of dry Oak, Ash, and Fir Scantling, Oak, Ash, Elm, Beech, Plank and Quarters.—Also, Planks, Deals, and Battens; slating, pantile, plastering, and double Laths; extra wide Pine Boards, Venetian Blind stuff, &c.—Also, at the same Yard, a large quantity, and all sizes, of Water Butts, always ready, and suitable for landlords, builders, and others.—All at low prices.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Pantiles.

T. ADAMS (from Byron and Co.), late S. Dare, Mahogany, Timber, and Deal Yard, New-road, Bermondsey, near Bricklayers' Arms, has always in stock mahogany, cedar, wainscot, elm, beech, oak, &c. Pantile oak and fir laths, scaffold poles, putlogs, &c. Wheelwright's goods, veneers, cut deals and scantling of every dimension. Also a large assortment of SEASONED FLOORING, MATCH BOARDING FIT FOR immediate use, and MOULDINGS prepared by machinery, all at reduced prices.

Advantageous to Timber Merchants, Builders, Coopers, and others, who may require Timber to be sawn.

THE PATENT SAWING COMPANY beg to call the attention of parties in the above trades to the advantages which their Mills offer as regards charges, and the saving of expense in carriage, being situate close to the Grand Surrey Canal Docks, in Rotherhithe. They solicit a trial, and hope to obtain a share of patronage by a strict attention to all orders intrusted to their care. Letters addressed to the office, No. 5, Church-court, Clement's-lane, City, will be promptly attended to.

MUIR'S PATENT  PLANING MACHINERY.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.



TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.

THE GENERAL WOOD CUTTING COMPANY continue to receive the most satisfactory assurances from all who have given their improved machinery a trial, that there is no method of preparing floor-boards, matched linings, skirtings, &c., by which accuracy, dispatch, and economy of material are so certainly obtained. In shooting, or groving and tonguеing a board (although curved), the machine follows the edge, removing no more than the skin of the wood, and by the use of a peculiar saw for deep cutting, the board comes off with a perfect surface, thus obviating the necessity of reducing its thickness in order to plane out the hollows. The Company being neither builders nor timber merchants, unconnected with any trade but that of sawing and planing, and depending solely on the public for a moderate interest on their capital, are determined, by an assiduous attention to the interests of their customers, both as regards workmanship and general business arrangements, to merit a continuance of their support.

FRENCH PAPER-HANGINGS.—In consequence of the great demand for French Paper-hangings, J. T. MERRICK and Co., New Oxford-street, have copied the French designs, and are now selling them in every respect equal, at the same price as they can be purchased in Paris, thereby effecting a saving of the duty and carriage to the purchaser.

R. GOODLAD and Co., Paper-hanging Manufacturers, 1, Southampton-street, two doors from the Strand, London. R. G. and Co. beg respectfully to express their thanks for past favours, and solicit their friends, and the Trade generally, to inspect their extensive assortment of the choicest Patterns, which they can vouch ranks second to none in the metropolis, either as regards extent of stock, variety, or moderate charges. A liberal allowance to Builders and the Trade. For cashonly.

WORCESTER ENCAUSTIC TILES Specimens of these beautiful Tiles in all their Varieties, may be seen and information obtained at the London Agents, Messrs. GRIEVE and GRELLIER, Marble-wharf, Belvidere-road, Waterloo-bridge, or at the Encaustic Tile Works, of Messrs. F. ST. JOHN G. BARR, and Co., Worcester.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—J. M. BLASHFIELD, Agent. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

TO BRICK AND TILE MAKERS.

THE AINSLIE PATENT TILE MACHINE COMPANY (James Smith, Esq., of Deanstone, Chairman,) invite attention to their improved Tile Machine, and to their new improved Patent Kilns for drying and burning Bricks and Tiles, by which a saving of from two-thirds to three-fourths of the fuel is effected, and all the articles are burnt equally without loss or damage. The Machines at work, and a model of the Kilns, to be seen, and all particulars to be obtained from Mr. JOHN PATON, Secretary, 193A, Piccadilly, London.—Agents wanted.

ZINC WORKS, 15, New-road, Fitzroy-square, London.—W. STAMPER, Manufacturer of Ornamental Conservatories, Greenhouses, Window Sashes, Sky-lights, Fan-lights, Flower Cases, &c. &c.

Zinc sash-bar mouldings, bell-wire rope, &c. &c. Perforated zinc for safes, ventilators, &c. &c. Roofs, flats, and verandahs, covered on the newest principle. Manufacturer of the improved Sliding Glass Pane Ventilator.—ZINC WORKS, 15, New-road, opposite Fitzroy-square.

TO ARCHITECTS, BUILDERS, &c.

GAS LAMPS, GAS BRACKETS, GAS PILLARS, BURNERS, &c. &c. In calling the attention of architects, builders, &c., to their assortment of Gas Furniture in general, C. DEBAUFER and SON respectfully announce they continue to fit up premises of every description on the most approved and newest system of gas fitting. An experience of forty years justifies us in making the above assertion.—P.S. Country orders attended to with dispatch.—10 and 11, Creed-lane, St. Paul's.

TO ARCHITECTS, BUILDERS, & BRICK MAKERS.

PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Roads, Gardens, and for Liquid Manure. BRICKMAKERS' PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to 12-inch bore, kept for Hire.

BENJ. FOWLER, 63, Dorset-street, Fleet-street.

STEPHENS'S PROCESS for DYEING or STAINING WOOD, as a substitute for Paint. The natural grain of wood is imitated by art, but the most successful imitation has a sameness of appearance when compared with the continual variety which different woods present in their natural grain. To give an ornamental colour to the wood without obscuring the grain, is the object of this process, which surpasses paint in appearance, while at the same time it is so economical that the whole interior of a house, which would take a month or six weeks to paint in the usual manner, may be finished in one week by the process above named, and be more pleasing when finished. The dyes or stains are prepared and sold by HENRY STEPHENS, 54, Stamford-street, Blackfriars-road; sold also at the Office of "THE BUILDER," 2, York-street, Covent Garden, London; Hodkinson, Widemarsh-street, Hereford; R. Sutton, "Review Office," Nottingham; H. Wills, 39, High-street, Lynn; and in Manchester, at Crake's Marble Works, Garratt-bridge. In bottles of 6d. and 1s. each, and at 10s. per gallon. The oak colour may be obtained in powder at 8s. per pound, which dissolves in water to form the liquid, and one pound will make one gallon of stain.—N.B. The Trade supplied.

HOWARD'S TRANSPARENT TRACING PAPER.—The many very high encomiums which have been passed on this article by those who have made trial of it, induces Mr. Howard to give it greater publicity. Sample books, containing seven different qualities, with prices, &c., can be sent by post to any part of the kingdom.—Orders directed to Mr. HOWARD, 23, Great Russell-street, Bloomsbury, will receive immediate attention.

TO BUILDERS, PAINTERS, AND OTHERS.

MESSRS. WOOD and Co., GRAINERS and WRITERS to the Trade only, 162, Waterloo-Bridge-road.

N.B. Several good Grainers and Writers wanted. Applications to be made personally, with specimens, before Ten o'clock in the morning, or after Six o'clock in the evening.

An Apprentice wanted.

TO ARCHITECTS AND BUILDERS.

DOOR SPRINGS AND HINGES.—GERISH'S PATENT DOOR SPRINGS, for CLOSING every description of DOOR, consists of Single and DOUBLE-ACTION BUTT HINGES in Brass and Iron for doors to open one or both ways, and Rising Hinges for the convenience of Doors opening on uneven Floors. Likewise Swing Centres, which consist of a combination of power unequalled by any made at present. Manufactured by F. W. Gerish, East-road, City-road; and sold by all respectable Ironmongers in the United Kingdom.

VARNISH, COLOURS, WHITE LEAD.

Genuine White Lead	per cwt.	27s.	0d.
Seconds	,,	25	0
Thirds	,,	23	0
Linseed Oil.....	per gallon	2	3
Turpentine.....	,,	4	6
Putty	per cwt.	7	6
Patent Dryers	,,	36	0
Oxford Oker.....	,,	36	0
Varnishes equalled by none:			
Fine Oak	per gallon	10s.	
,, Carriage	,,	12	
,, Copal	,,	18	
,, Body Copal	,,	24	
,, Gold Size	,,	10	
,, Black Japan	,,	10	

Painters' Brushes, and every article in this branch, at the Manufactory, 87, Bishopsgate-street, Without, London.—THOMAS MILLINGTON, Proprietor.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering 5 to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 16s. per gallon.

TODD'S PATENT PROTOXIDE PAINT, manufactured by CHAS. FRANCIS and SONS, CEMENT WORKS, NINE ELMS, LONDON.

The properties of this Paint are peculiar for preventing iron from oxidation, wood from decay, and masonry from damp; it neither cracks nor blisters with the hottest sun, and is therefore most valuable for Railways, Boilers, Steam, Gas, and Water-pipes; Hothouses, Forcing-houses, and for Shipping. Its adhesion is so great to iron and wood, that the hardest friction will scarcely remove it. It prevents vegetation on stuccoed buildings, and is not affected by spray of sea-water.

PROTOXIDE PAINT is sold ground in oil, and, compared with white-lead, its property of concealing is as 75 to 50, so that one hundred weight is equal to one and a half of lead. It works well under the brush, and forms with oil an unctuous and cohesive mixture. If blended with other paints it has a softer tone than white-lead. For houses painted during occupation it is most preferable, being perfectly innoxious.

FEATHER BEDS PURIFIED BY STEAM

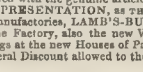
HEAL AND SON have just completed the erection of Machinery for the purifying of feathers on a new principle, by which the offensive properties of the quill are evaporated and carried off in steam: thereby not only are the impurities of the feather itself entirely removed, but they are rendered quite free from the un; pleasant smell of the stove, which all new feathers are subject to that are dressed in the ordinary way.

Old Beds re-dressed by this process are perfectly freed from all impurities, and by expanding the feathers the bulk is greatly increased, and consequently the Bed is rendered much softer. The following are the Prices of New Feathers:—

Mixed, per lb.....	1s. 0d.	Best Foreign Grey Goose....	2s. 0d.
Grey Goose	1s. 4d.	Best Irish White Goose	2s. 6d.
Foreign Grey Goose	1s. 8d.	Best Dantzic White Goose ..	3s. 0d.

HEAL and SON'S LIST OF BEDDING, containing full particulars of Weights, Sizes, and Prices, sent free by post, on application to their Establishment, 196, opposite the Chapel, Tottenham-court-road.

CHEAP AND DURABLE ROOFING.

By Her Majesty's  Royal Letters Patent.

F. McNEILL and Co. of Lamb's Buildings, Bunhill Row, London, Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronized by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE BOARD OF ORDNANCE,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing also used for under slates at the Royal Agricultural Society's House, in Hanover-square.

Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, AS THE ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW, LONDON.

Roofs covered with the felt to be seen at the Factory, also the new Vice-Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the new Houses of Parliament.

A Liberal Discount allowed to the Trade.

RIVER SAND AND GRAVEL SUPPLIED IN BARGE.

R. DOWNEY AND SON, Licensed Lightermen and Pile Drivers, of No. 11, Millbank-row, Westminster, beg respectfully to inform Builders, Contractors, Lime-merchants, and others, that they have added to their before considerable stock of Barges, other two large Sand-getting Craft. They have now every facility to execute large Sand orders, and solicit patronage, promising to give due attention to punctuality and quality of material.

It is intended this advertisement appear four times from Oct. 10th.

CHEAP ROMAN CEMENT is sold in Casks that will not contain five bushels, even by some manufacturers of a very respectable name. Consumers should see that the standard size cask is 29 inches long by 17½ across the head, outside measure. Any workman with a rule in his pocket can ascertain this.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.

Manufactured by J. B. WHITE and SONS, of Millbank-street, Westminster; and sold at their warehouses—Earl-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and undestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Seel-street, Liverpool.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.

2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.

3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without pecling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

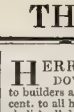
Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

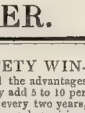
JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producenble by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

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October, 1846.

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4. DESIGNS for COTTAGE and VILLA ARCHITECTURE, Containing Plans, Elevations, Sections, Perspective Views and Details, for the Erection of Cottages and Villas. By S. H. BROOKS, Architect. Beautifully engraved on Steel, with Directions for Building, and the estimated cost of each Edifice. 12 Parts at 3s., or in boards, 39s.

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6. THE HOUSE DECORATOR AND PAINTER'S GUIDE; Containing a Series of Designs for Decorating Apartments with taste, and suited to the varying of manufacture of Pigments, Oils, Varnishes, &c. By W. M. HIGGINS, Esq. Accompanied by Actual Specimens of Hand-brush Graining, or Marbling. 10 Parts at 3s., or in boards, 32s.

7. THE HOUSE PAINTER, or DECORATOR'S COMPANION; Containing a complete Treatise on the Art of House Painting, Graining, and Marbling; including the origin of Colour, the laws of Harmonious Colouring, the manufacture of Pigments, Oils, Varnishes, &c. By W. M. HIGGINS, Esq. Accompanied by Actual Specimens of Hand-brush Graining, or Marbling. 10 Parts at 3s., or in boards, 32s.

LONDON: Printed by CHARLES WYMAN, of 49, Cumming-street, Pentonville, in the County of Middlesex, Printer, at the Printing-office of J. S. & A. Cox, *Brothers*, 74 & 75, Great Queen-street, Lincoln's-inn Fields, in the Parish of St. Giles in the Fields, in the same County, and published by the said CHARLES WYMAN, at the office of "THE BUILDER," 2, York-street, Covent Garden, in the Parish of Saint Paul, Covent Garden, aforesaid County.—Saturday, October 31, 1846.

The Builder,

A JOURNAL FOR

The Architect, Engineer, Operative & Artist.

VOL. IV.—No. 196. | NOVEMBER 7, 1846. | *Price* ..... 3*d.* *Stamped*.. ... ... 4*d*

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ADVERTISEMENTS.

WANTED by an Artist, a Ground-floor, from 12 to 20 feet square, suited for a Studio, where Animals may be painted from. A good north light is requisite.—Direct by letter, post-paid, to H. J. K., 9, Barnsbury-place, Islington.

TO BRICKMAKERS, BUILDERS, AND OTHERS.

WANTED, by a person well acquainted with every branch of the business of Brickmaking, a situation to superintend the management of a brick-field, either to dig, make, and burn, or to find materials for making at per thousand.—Address, p.p., to G. B., at Mr. W. E. Hayns's, Devon-lane brickfield, Bromley, Middlesex.

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TO BUILDERS AND MASONS.

WANTED by a Young Man, Twenty-nine Years of Age, a Permanent Situation as Clerk or under Foreman, or to Work at the Banker, having a practicable knowledge of Marble Work in all its branches, and capable of Superintending or Executing the General Mason's Work of Buildings, Measurement of Stone, &c.—Address, S. E. F., Office of "The Builder."

TO CLERKS OF BUILDING WORKS AND GENERAL FOREMEN.

WANTED IMMEDIATELY, an experienced and intelligent FOREMAN, who thoroughly and practically understands the building business, and who can set out works, make out working drawings, and superintend workmen of all branches, though an experienced carpenter would be preferred. None need apply but most experienced men, and of steady and industrious habits, who can produce unexceptionable testimonials as to character and ability. The situation is a permanent one, in an old-established concern, and wages liberal to a man of first-rate knowledge and ability, and the vacancy must be immediately filled up.—Apply to Mr. CHAS. WARD, Builder, Lincoln.
Lincoln, Nov. 4, 1846.

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

AN Intelligent Youth of the Highest Respectability, who has been Three Years in an Architect's Office, is anxious to obtain Practical Employment in any Good Office, where his services would be received as an equivalent to the practice given him.—Address post paid, to H. C., 23, Tichborne-street, Piccadilly.

TO BRICKMAKERS AND CONTRACTORS.

A YOUNG MAN wishes to engage himself to take charge of a Brickfield, or as Foreman on any public or private works: understands various branches of railway works: can be well recommended from his present employers.—Address, post-paid, to N. S., office of "The Builder," 2, York-street, Covent-garden, London.

TO PLUMBERS, PAINTERS, AND GLAZIERS.

A YOUNG MAN wishes to engage himself as Plumber, Painter, Glazier, and Paper-hanger.—Apply by letter, post paid, S. M., Post-office, Mitcham.

TO ARCHITECTS, &c.

THE Advertiser, who is fully competent to prepare finished Drawings, tinting Perspectives, &c., is desirous of obtaining an engagament as Assistant in an Office where, from his diligence and business habits, his services might be found advantageous. High salary not an object. The most satisfactory references given.—Address to B. T., office of "The Builder."

TO SURVEYORS, CONTRACTORS, AND OTHERS.

A GENTLEMAN, about thirty years of age, who holds high testimonials, and has had great experience in land and maritime surveying and protracting, railway detail, measuring artificers' works, estimating for contracts, making drawings and specifications, and all the detail of business in Surveyors' and Builders' Offices, is desirous of a re-engagement in London, in any capacity where theoretical knowledge, practical experience, and general information are required.—Address to Mr. MANFRED, 14, New North-street, Red Lion-square.

RAILWAY SURVEYING AND LEVELLING

TAUGHT in a superior manner on the new system in one week, by Messrs. SMITH and LEWIS, civil engineers and surveyors of extensive practice, who are now preparing gentlemen for engineers, surveyors, levellers, draughtsmen, &c. Select daily classes for young gentlemen from Ten to Four. Evening Instruction from Seven to Nine. Private lessons given to suit the convenience of pupils. Proficiency warranted. Terms very moderate.—Apply at the Institution, 4, Harper-street, Theobald's-road, Holborn, London; offices in Parliament-street, Westminster.
N.B. Steady and clever pupils may be introduced to immediate employment from 10*l.* to 12*l.* per week.

DECORATIVE ART SOCIETY,
20, Great Marlborough-street.—The next General Meeting will take place on Wednesday, the 11th inst., when the discussion upon "The application of Colours to Manufactures" will be resumed. Visitor's tickets may be had, on application to Mr. E. C. LAUGHER, Hon. Sec.
17, Sussex-place, Kensington.

FILTERED WATER.—As the rainy season produces its dirty water, JOHN DAY, proprietor of Defouville's system of filtration, the only one known by which large quantities of liquids are easily filtered, begs to announce that he continues to supply these apparatus, which are easily applied to cisterns and water-butts, and when fixed require no care or attention from servants, and never get out of order. The prices are from Two to Four Guineas, producing from 100 to 300 gallons daily; for brewers, distillers, paper makers, hospitals, and large establishments, to an unlimited quantity, the prices varying accordingly.
40, Love-lane Platform, Rotherhithe; Branch Office, 8, Jermyn-street, Haymarket.

THE ARBORÆTUM, QUEEN'S ELMS, FULHAM ROAD, OLD BROMPTON.

IMPORTANT NOTICE.—DAVID A. RAMSAY, Nurseryman and Landscape Gardener, begs to inform Architects, Builders, and others engaged in Planting, that a large portion of his selected ornamental Nursery Stock must be cleared during the present planting season, and is now selling at unusually low prices, offering a rare opportunity to purchasers. The Stock comprises a choice assortment of Evergreens, Roses, deciduous Shrubs and Trees, and of large and small sizes, Poplars, Birch, Ash, Laburnums, and Acesias, from 6d. each. Laurels, Box, Privete, Holly, &c. &c. from 4s. and 6s. per dozen. Stand Roses from 18s. per dozen.—All orders carefully packed, and sent to any part of the kingdom.
Plans and Estimates submitted for the carrying out all kinds of Ornamental Ground Work, and Planting in any part of the kingdom.

To Engineers and Architects, and as an Elegant Present to a Lady, as well as a most Convenient Pocket Appendage.

TO all those who find a Difficulty in the Use of STEEL PENS, and who wish to avoid the loss of time occasioned by the frequent mending of Quills, STEPHENS'S PERPETUAL PEN, made of Gold, with points which never wear or alter, offers a most convenient substitute, as Ink which oxydises and lingers in the steel pen, flows from this with precisely the same facility as from a Quill, and the Pen never requires mending. Price 15s. It may be used with a common holder. With an ever-pointed Silver Pencil Case, with Leads, 27s.
Sold by the proprietor, HENRY STEPHENS, 54, Stamford-street, Blackfriars-road, London. On application, by letter, this Pen will be sent, per post, to any part of the kingdom.

HOLBORN AND FINSBURY SEWERS, MIDDLESEX.

THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persons about to Purchase or Rent Houses or Property, or take Land for Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Persons to apply for at the above Office. By the Court,
STABLE and LUSH, Clerks.

TO OWNERS OF HOUSES IN COURTS, ALLEYS, AND OTHER CONFINED LOCALITIES.

HER MAJESTY'S JUSTICES and COMMISSIONERS of SEWERS for the City and Liberty of WESTMINSTER, and part of Middlesex, hereby GIVE NOTICE, that they have approved a plan, whereby an efficient drainage, at a very moderate cost, may be obtained for property in the above situations, abutting on streets where there are sewers. The plans and sections may be seen at the office of the Commissioners, No. 1, Greek-street, Soho. LEWIS C. HERSLET,
Clerk to the Commission.

CONTRACTS.

Guildhall, Oct. 24, 1846.

THE Committee for Letting the City's Lands will MEET at Guildhall, on FRIDAY, the 13th day of November next, at One o'clock precisely, to receive TENDERS for LETTING on LEASE for twenty-one years, from Michaelmas, 1846, a HOUSE, No. 19, on the north side of Broad-street-buildings.—Further particulars may be obtained and plans seen by applying at the Office of Works, Guildhall.
THOMAS SAUNDERS, Comptroller.

1, Canning-place, Kensington
Oct. 21st, 1846.

KENSINGTON NEW WORKHOUSE—TO BUILDERS AND OTHERS.

THE Board of Guardians of the Poor for the Parish of Kensington HEREBY GIVE NOTICE to persons desirous of contracting for the erection of the above mentioned workhouse, that the drawings and specification may be inspected, and all other particulars obtained at the office of the architect, Mr. ALLOM, 14, Hart-street, Bloomsbury-square.
Sealed tenders to be delivered, under cover, to the clerk to the Guardians, at the office, 1, Canning-place, Kensington, on or before the 21st day of November, 1846. The Board of Guardians do not bind themselves to accept the lowest tender.
SAML. CORNELL, Clerk to the Guardians.

TO PLASTERERS.

LIME FOR PLASTERING, that may be used immediately without risk of blistering, manufactured expressly for Plastering, and sold at the usual price, at FORREST'S WHARF, Earl-street, Blackfriars. Sheds for the slacking and mixing of lime. Accommodation for loading and landing bricks, sand, ballast, &c.

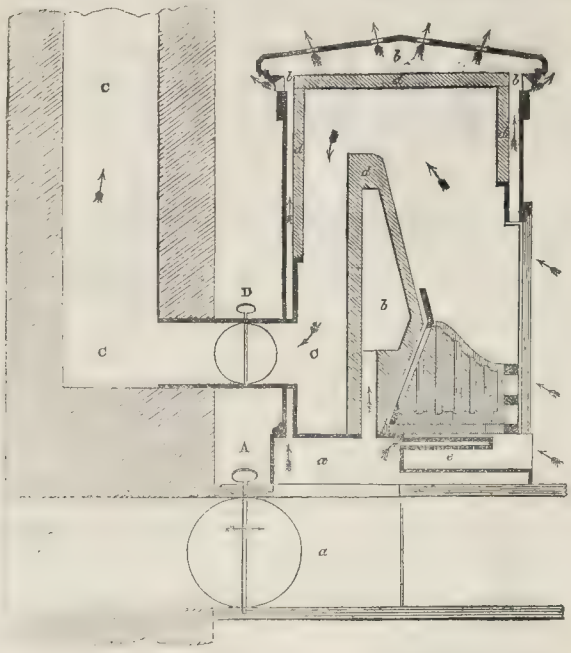
TO BUILDERS, PAINTERS, AND OTHERS.

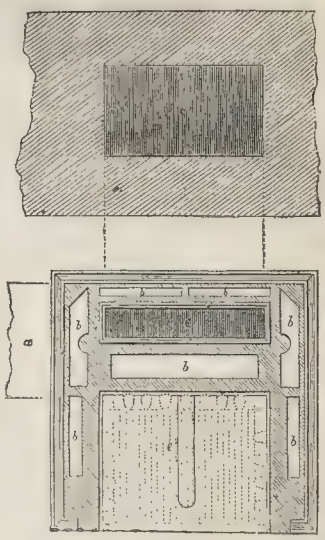
MESSRS. WOOD and Co., GRAINERS and WRITERS to the Trade only, 62, Waterloo-Bridge-road.
N.B. Several good Grainers and Writers wanted. Applications to be made personally, with specimens, before Ten o'clock in the morning, or after Six o'clock in the evening.
An Apprentice wanted.

ZINC WORKS, 15, New-road, Fitzroy-square, London.—W. STAMPER, Manufacturer of Ornamental Conservatories, Greenhouses, Window Sashes, Sky-lights, Fan-lights, Flower Cases, &c. &c.
Zinc sash-bar mouldings, bell-wire rope, &c. &c. Perforated zinc for safes, ventilators, &c. &c. Roofs, flats, and verandahs, covered on the newest principle. Manufacturer of the improved Sliding Glass Pane Ventilator.—ZINC WORKS, 15, New-road, opposite Fitzroy-square.

HOT WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories, and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises. BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

CUNDY'S PATENT IMPROVED OPEN FIRE PLACE, HOT AIR, VENTILATING STOVE.





PLAN.

Description of Diagram.

a a a a Fresh air channel, for admission of external air.
b b b b Hot air chambers (formed with artificial stone, *d d d d*) through which the air passes into the room, and is heated without being injured.
C C C The direction the smoke and vitiated air takes after it has passed through the fire and heated the artificial stone of the hot air chambers.
e Blow pipe to preserve perfect combustion placed immediately underneath the grating of fire place.
A and D are regulators.
The arrows shew the way the external fresh air is admitted, next passing through the hot-air chambers into the room, and lastly taken out of the room through the fire and up the chimney—thus completing ventilation.

This STOVE embraces the following most important principles connected with the economy of

WARMING AND VENTILATING CHURCHES,

and other Public and Private Buildings, viz.:—

HEAT by RADIATION from the Open Fire.

HEAT by CONDUCTION.—A copious and continuous stream of PURE WARM AIR is conducted into the room through the large Stove, at a regulated rate, by means of an air channel underneath the floor, communicating with the external air.

HEAT by REFLECTION.—The external casing of the Stove becoming warm, communicates its heat to the surrounding atmosphere.

VENTILATION produced by the OPEN FIRE—which will carry off the Vitiated through the chimney at the same rate the Pure Air is conducted into the room through the interior HEATING APPARATUS of the Stove, thereby keeping up a regular and agreeable system of Ventilation.

ECONOMY of FUEL.—This Stove, from the peculiar construction of the Fire Place, will produce a most BRILLIANT FIRE with the least possible quantity of fuel, and will continue to burn so long as any particle of coal remains.

TESTIMONIALS AFTER A WINTER'S TRIAL.

Gothic Villa, St. John's Wood, Oct. 22, 1846.

SIR,—Perhaps there are few private individuals who have had more experience in stoves than I have had. I have tried most of the newly invented ones, and rejected all but yours.

I tried two in my temporary church, and found them to succeed so well, that I have introduced them into All Saint's Church, St. John's Wood.

The following reasons induce me to approve of them: — Exemption of effluvia; the emission of pure warm air; the perfect system of ventilation; the sight of the fire; the consumption of vitiated air; the little attention requisite; the cleanliness connected with them; and though last, not least, the great economy of fuel.

All more I can say in favour of your stoves is, that whenever I require a stove, either for my house or church, I shall purchase your patent, and recommend my friends to do the same.

Yours truly,
(Signed), ED. THOMPSON, M.A.
Incumbent of All Saint's, St. John's Wood.

29, Charter-house-square, Monday, Feb. 17, 1846.

DEAR SIR,—The Stoves which you have recently erected in my church have been highly successful, and I have great pleasure in expressing to you the entire satisfaction which they have given to all parties. The church, which was notoriously noted for its coldness and bad ventilation, is now most agreeably warmed and well ventilated. I shall be most happy, on any occasion, to bear testimony to the excellency of your stoves; and I will endeavour, to the best of my power, to make them known, and I will certainly recommend them to my friends.

I remain, Dear Sir, yours faithfully,
JN. WM. ROGERS, St. Thomas's Charter-house.

St. Thomas's, Charter-house.

We, the undersigned, do hereby certify, that during the last three winters we suffered severely from the cold in the Church of St. Thomas's, Charter-house, although we had three large Arnott's Stoves, which consumed one sack and half of coals each day they were lit. The building was never warm; in consequence of which the congregation fell off, though we had a zealous preacher in the Rev. Dr. James. We have now two of Cundy's Patent Stoves, which consume but one cwt. of coal per day between them, and they impart to the church a comfortable heat and ventilation.

WILLIAM BUSHMAN, Verger.
THOMAS GEORGE, Beadle.

St. John's, Fulham, 2nd May, 1846.

My Dear Sir,—I have very great pleasure in giving my testimony to the efficiency of your Stove, as combining the double advantage of thoroughly warming and constantly ventilating any large church or building. Your invention appeared to me to be in theory all that could be desired; and I can honestly say, that I have not yet discovered the point in which the practice falls short of the theory.—The area of my church is computed to be nearly 200,000 cubical feet, and though a second stove will be required, the one already erected has fully answered my highest expectations, and realized all that you had given me to expect. If confirmation were needed for evidence of its efficiency, I might further state, that I had peculiar difficulties to contend with,—that various attempts had been made, and that every attempt had proved a signal failure,—that I was exposed to the charge of boldness in attempting what had baffled others; but that such is the power, the efficiency, and the comfort communicated by your Stove, that I know not of a dissentient voice, and have heard only of approval with unanimous consent.—I might add, that I was first led to the making inquiry respecting your stove, having gathered indirectly, that a disposition not unfavourable towards it was entertained in a certain high quarter, where, on account of ability of discernment, the smallest approach to approval must carry with it great weight.—I remain, Dear Sir, yours faithfully,
WILLIAM GARRATT, Minister of St. John's, Fulham.

Letter from the Rev. MATTHEW O'BRIEN, (Professor of Natural Philosophy and Astronomy), M.A., F.R.S., &c., King's College.

Upper Norwood, 22nd June, 1846.

I beg to certify that one of Mr. Cundy's Patent Stoves was put up in my lecture room at King's College, last year, in place of a common stove (of Arnott's construction, I believe). I have no hesitation in saying from actual experience, that Mr. Cundy's Stove is far superior both in producing warmth over the whole room, and in promoting ventilation, without disagreeable currents of air, or close smell.
MATTHEW O'BRIEN.

*** Since this stove was put up, four others have also been fixed, one of which is placed in the Medical Library.

Letter from Professor BRADLEY.

King's College, London, July, 1846.

Sir,—I am happy to be able to bear testimony to the efficiency of your stove, which is fixed in my lecture-room at this Institution. It seems to have all the essential requisites of a good stove, a rapid draught, freedom from all smoke, and from that smell which arises from iron, heated in contact with the air of a dwelling-room, which is entirely avoided by your arrangement.—I am, Sir, your obedient Servant,
THOMAS BRADLEY.

To be had of the Manufacturers,

MESSRS. DOWSON, 69, WELBECK-STREET, CAVENDISH-SQUARE,

Where they may be SEEN IN OPERATION, and where also may be seen an ELEGANT assortment of REGISTER and other STOVES, FENDERS, CULINARY APPARATUS, &c. &c. ARCHITECTS and BUILDERS supplied with IRON and BRASS CASTINGS, at Messrs. DOWSON'S FOUNDRY, 5, SEYMOUR-PLACE, BRYANSTON-SQUARE. Smith's Work, Gas Fittings, and all other works appertaining to a Smith and Founder, undertaken at estimated prices.

TO ARCHITECTS, BUILDERS, AND THE PUBLIC IN GENERAL.

GEORGE JENNINGS, of 29, GREAT CHARLOTTE STREET, BLACKFRIARS ROAD, begs to call the attention of Architects, Builders, &c., to his REGISTERED FASTENING for SHOP SHUTTERS, &c., which entirely supersedes the use of shutter-bars. Thereby effecting a great saving of labour, as by the old method, the bar has to pass through the hands of some one upwards of six hundred times in twelve months, which tends to deface the whole front more or less every time the bar is put up or removed. The fastening is secret, simple, and sure, in its action, and can be affixed to any shop-front in two hours, without any alteration to the shutters. New fronts fitted at a less expense than a shutter-bar would amount to. A liberal allowance to the trade, and any further information may be obtained by inclosing a postage stamp to the above address.—A Model may be seen at the office of "The Builder."

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

Manufactory, 95, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters for both security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

INJUNCTION

BUNNETT and CORPE'S Patent REVOLVING IRON SHUTTERS.—Since the verdict found in favour of the Patentees, in the Court of Exchequer, in the action tried by order of the Court of Chancery, that Court has granted a perpetual Injunction for restraining all Infringements of this Patent, and therefore all parties are hereby cautioned against infringing the same.

THE PRICES ARE GREATLY REDUCED, and BUNNETT AND CORPE'S PATENT IRON SHUTTERS ARE THE CHEAPEST AS WELL AS THE BEST. They are made with convex laths, if required. The worm and wheel motion for raising and lowering revolving iron shutters (as secured by this Patent) is the only safe and durable mode of effecting that object. In large shutters it is indispensable.

Some thousands of Bunnett and Corpe's Shutters have now been put up, without a single complaint of their want of strength or security; and nine years' practical experience (during which they have adopted every real improvement) enables the Patentees to challenge comparison with any others. They will guarantee all Shutters put up by them to keep in order, and last twice as long as any with thin convex laths.

B. and C. also manufacture REVOLVING WOOD SHUTTERS (the Patent for which has expired), at the same prices as other makers, but greatly superior, being fitted with their patent raising gear, and proper metallic hinges, without which no shutter can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop-fronts fitted with Iron Shutters, Patent Brass or Zinc Sashes, Plain or ornamental, handsomely Engraved, Moulded, Stall-board Plates, best Plate Glass, and Internal Brass Fittings of all kinds, superior in quality and workmanship, and lower in price than any other house.

Contracts taken in Town or Country.

Metal Drawing and Stamping for the Trade.

Office at No. 26, Lombard-street, London; Works, at Deptford, Kent.

Steam-engines, Sawing, Planing, and Moulding, Cutting-machines on Improved Plans, especially adapted for Builders' purposes, may be seen in operation at the Works.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.—Patent Panelled Iron Safety Shutters. PATENT OUTSIDE SHUTTER BLINDS.—PATENT CORRUGATED WINDOW BLINDS.



The attention of Architects, Builders, and Blind Makers is requested to the IMPORTANT PATENTED IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD & Co. 115, Old Street, London.

The great importance of strength and stiffness in the Laths of REVOLVING IRON SHUTTERS, when required for security, is so obvious, that it is only necessary to point out the fact, that the Patent Convex Laths are twelve times stronger than the ordinary flat Laths (as shewn by the engravings and description), to insure their general adoption.

The Patentees invite attention to their greatly improved Gearing for Raising and Lowering their patent Shutters, which, possessing all the advantages of the endless screw (worm and wheel), cannot, even by wear, be liable to run down, and entirely avoids the necessity of using the catch wheel; it is at once simple and THOROUGHLY EFFECTIVE, and is SAFER and MORE DURABLE than any plan yet adopted for that purpose, thus rendering their patent Revolving Shutters the SAFEST and MOST EFFICIENT in use. These Shutters are fixed horizontally (either above or below the window or door), or vertically, for which position the great additional strength of the Convex Laths renders them peculiarly suitable.

REVOLVING IRON SHUTTERS, MADE OF THE COMMON FLAT LATHS, at a considerable reduction of price.

CAUTION.—The Patentees beg to caution all persons against Making or Using BENT or CONVEX LATHS for REVOLVING IRON SAFETY SHUTTERS (whether winding horizontally or vertically), so as to obtain increased strength and stiffness, as they thereby render themselves liable to legal proceedings for infringing this patent.

Engravings and Prospectuses will be forwarded on application.

DRAWN METALLIC SASH BARS, ASTRIGALS, MOULDINGS, STALL BOARD PLATES, &c.

Patentees and Manufacturers, R. HOWARD and Co., London.

LIGHTNING CONDUCTORS FOR BUILDINGS.

A. SMITH'S PATENT COPPER WIRE ROPE is being daily employed for the protection of CHURCHES and other buildings from the effects of thunder storms; it possesses important advantages over other forms of conductors. References can be given where it has been applied for some time past to CHURCHES, PUBLIC and PRIVATE BUILDINGS, &c., &c. Its general adoption in the Naval and Mercantile Marine of this and other countries is the strongest possible EVIDENCE of its EFFICIENCY, &c.

A. SMITH begs the attention of those engaged in building to his IMPROVED PATENT PANELLED AND REVOLVING IRON SHUTTERS,—Also, the Patent Weather-tight Fastening and Cill Bar, for French Casements, which are so much admired for their security, simplicity, cheapness, and efficiency. Of the merits of his

Patent Double and Single Action Door Springs,
Improved Flooring Cramps,
Patent Wire Sash Lines, &c. &c.,

Little need be said, as they are pretty generally known and appreciated.

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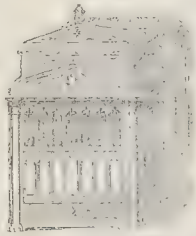
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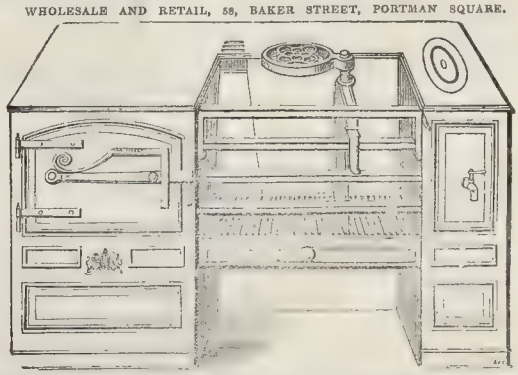
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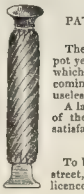
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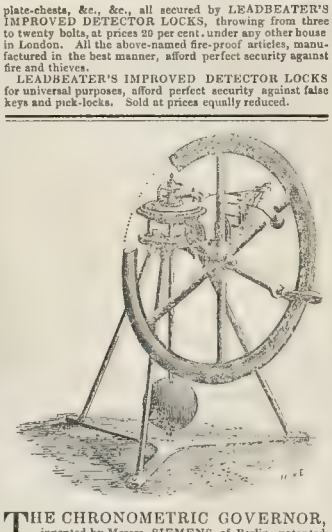
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CONTRACT.

TO BUILDERS AND OTHERS.

THE Court of Sewers for Westminster and part of Middlesex, will be ready at the Court House, No. 1, Greek-street, Soho-square, on FRIDAY, the 20th of November, 1846, to receive TENDERS for covering in the open water-course between the Uxbridge-road at Bayswater, and the Serpentine-river in Kensington-gardens. Plans of the above works may be inspected, and specifications, forms of tender, and other particulars obtained at this office, daily, between the hours of Nine and Four. Parties offering must be in attendance at half-past Two o'clock precisely, on the 20th day of November, with sealed Tenders, marked on the outside "Tender for Works." Each tender must be strictly in the printed form prescribed. The Court does not bind itself to accept the lowest tender.
LEWIS C. HERTSLET, Clerk.
Sewers' Office, No. 1, Greek-street, Soho-square, 13th November, 1846.

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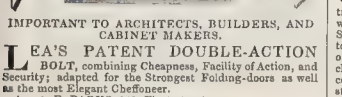
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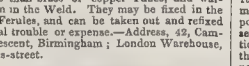
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CHEAP ROMAN CEMENT is sold in Casks that will not contain five bushels, even by some manufacturers of a very respectable name. Consumers should see that the standard size cask is 20 inches long by 17½ across the head, outside measure. Any workman with a rule in his pocket can ascertain this.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.

Manufactured by J. B. WHITE and SONS, of Millbank-street, Westminster; and sold at their warehouses—Earl-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and undestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Milbank-street, Westminster, and Seel-street, Liverpool.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expresely intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

TEMPLETON'S IRON GAUNTLET.

TO all who use the Hammer and Chisel, as Sculptors, Masons, Wood-carvers, Engravers, for clean and finished cutting in marble or stone, use TEMPLETON'S IRON GAUNTLET, now used by some of the best artists and tradesmen in London. Price Three Shillings.—Apply to R. TEMPLETON, 16, Wellesley-street, Seymour-street, Euston-square.

Carved-work, in Stone or Marble, contracted for.

ALBION PLATE GLASS COMPANY.—The entire remission of the Duty has created a demand for Plate Glass far beyond the present power of supply. The vicinity of London affords peculiar advantages to this manufacture; and several valuable improvements (some of which will be patented), are yet to be developed. To carry out which, by practical men, in a judicious and comprehensive manner, this Company is formed under most respectable and scientific auspices; and it will, by manufacturing a superior article, undoubtedly secure to itself a large and profitable portion of this important and vastly increasing branch of Trade. A considerable amount of the capital is already subscribed, and the remaining part of the investment will be apportioned amongst bona fide and reponsible parties only, who may apply to the Secretary pro tem., at the Offices of the Company, No. 4, Railway-place, Fenchurch-street, where any further information may be obtained.

HENRY HOWARD, Secretary pro. tem.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

TO THE PLATE GLASS TRADE.

THE BIRMINGHAM PLATE AND CROWN GLASS COMPANY, "Registered," beg to inform the Trade and Public, that the extension of their Works at Smethwick, near Birmingham, being now completed, their Warehouse, 141, Fleet-street, London, is now open for the Sale of their Crystal Plate Glass, which will be found to stand unrivalled by that of any other manufactory. They are also in a position to supply Rough Plate of any substance for Skylights or Floorings on the shortest notice.—Orders addressed to B. MOSS, Company's Warehouse, 141 Fleet-street, London, will be promptly attended to.

SASHES primed, glazed, and sent to any part of London at 5d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.

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BRITISH CROWN. PROPAGATING GLASSES.

Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Shew-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.

Dry and Good Colours of the best quality; Brushes Dryers, and every article used in the Trade Warranted.

VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.

For complete lists priced.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

WINDOW GLASS, Crown Squares, in 100 feet Boxes, per foot:—

4	by 3	and under	5	by 3	1d.
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9	.. 7	,,	10	.. 8	2½
10	.. 8	,,	14	.. 10	2½
14	.. 10	and under	2 feet	.....	3

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ccc	18 table	each 40s.
cc	18	47
Fourths	18 table	65
Thirds.....	18 table	78

Foreign Sheet Glass, 3rds, superior to English, in 200 feet boxes, about 16 oz. 3d. per foot; best quality, Sheet Glass, about 16 to 18 oz., in 100 feet cases, 6d. per foot: this is a most superior article, nearly approaching to plate glass.

Water-closets, Pumps, and all kinds of brass work. Sash glazing, 4½d. per foot.—Address THOMAS MILLINGTON, 87, Bishopsgate-street, Without, London.

HERRING'S PATENT SAFETY WINDOWS.—No invention ever offered the advantages to builders and the public; it will positively add 5 to 10 per cent. to all houses having it, repay the cost every two years, abolish all danger to life and limb, cleaning and repairing. It is in full operation (four different ways), forms a complete ventilator and sun-blind, all simple, cheap, and effective.—Apply for licenses and to inspect its real merits, to Herring's Patent Steam Bed-feather Factory, 14, Kingsgate-street, London.

CHAS. WM. WATERLOW,

Manufacturer of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square. Well-seasoned materials, superior workmanship, lowest prices. Upwards of 400 Doors and a large variety of Sashes and Frames always on Sale. Glazed goods securely packed for the country.

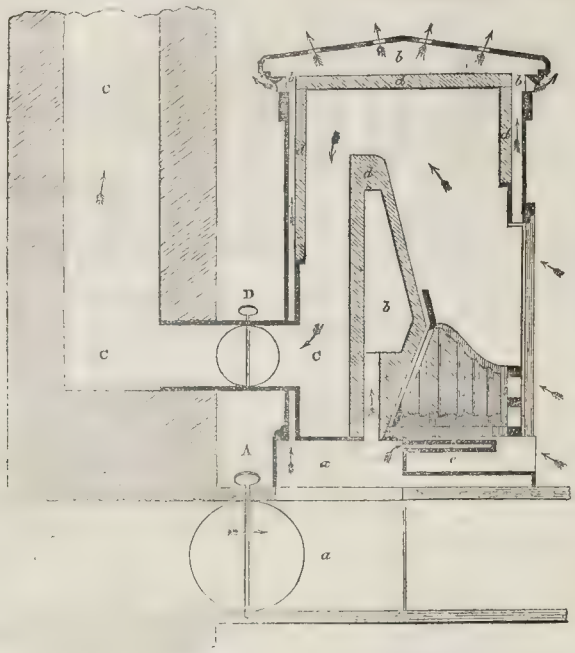
Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.

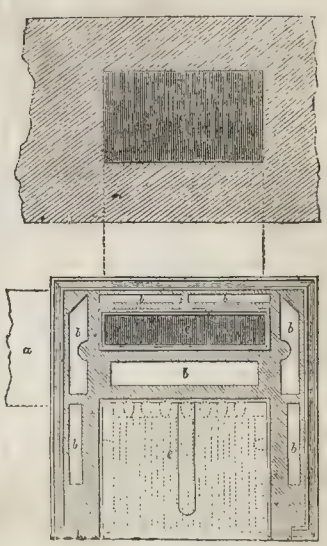
SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.

JOHNSON & PASK,
1, AMWELL STREET,
Clerkenwell,

Beg to inform the Trade, and the Building Public in general, that they continue to manufacture Sashes and Frames, Shop Fronts, Doors, and all other kinds of Joiner's work, on the lowest possible scale of prices. All kinds of Wainscot and Mahogany Work done in the very best manner; French Polished, and carefully Packed for the Country.— A full list of prices forwarded by return of post to any part of the country.

CUNDY'S PATENT IMPROVED OPEN FIRE PLACE, HOT AIR, VENTILATING STOVE.





PLAN.

Description of Diagram.

a a a a Fresh air channel, for admission of external air.
b b b b Hot air chambers (formed with artificial stone, *d d d d*) through which the air passes into the room, and is heated without being injured.
C C C The direction the smoke and vitiated air takes after it has passed through the fire and heated the artificial stone of the hot air chambers.
e Blow pipe to preserve perfect combustion placed immediately underneath the grating of fire place.
A and D are regulators.
The arrows shew the way the external fresh air is admitted, next passing through the hot-air chambers into the room, and lastly taken out of the room through the fire and up the chimney—thus completing ventilation.

This STOVE embraces the following most important principles connected with the economy of

WARMING AND VENTILATING CHURCHES,

And other Public and Private Buildings, viz.:—

HEAT by RADIATION from the Open Fire.

HEAT by CONDUCTION.—A copious and continuous stream of PURE WARM AIR is conducted into the room through the Large Stove, at a regulated rate, by means of an air channel underneath the floor, communicating with the external air.

HEAT by REFLECTION.—The external casing of the Stove becoming warm, communicates its heat to the surrounding atmosphere.

VENTILATION produced by the OPEN FIRE—which will carry off the Vitiated through the chimney at the same rate the Pure Air is conducted into the room through the interior HEATING APPARATUS of the Stove, thereby keeping up a regular and agreeable system of Ventilation.

ECONOMY of FUEL.—This Stove, from the peculiar construction of the Fire Place, will produce a most BRILLIANT FIRE with the least possible quantity of fuel, and will continue to burn so long as any particle of coal remains.

TESTIMONIALS AFTER A WINTER'S TRIAL.

Gothic Villa, St. John's Wood, Oct. 22, 1846.

SIR,—Perhaps there are few private individuals who have had more experience in stoves than I have had. I have tried most of the newly invented ones, and rejected all but yours.

I tried two in my temporary church, and found them to succeed so well, that I have introduced them into All Saint's Church St. John's Wood.

The following reasons induce me to approve of them: — Exemption of effluvia; the emission of pure warm air; the perfect system of ventilation; the sight of the fire; the consumption of vitiated air; the little attention requisite; the cleanliness connected with them; and though last, not least, the great economy of fuel.

All more I can say in favour of your stoves is, that whenever I require a stove, either for my house or church, I shall purchase your patent, and recommend my friends to do the same.—Yours truly,

(Signed, ED. THOMPSON, M.A.
Incumbent of All Saint's, St. John's Wood.

29, Charter-house-square, Monday, Feb. 17, 1846.

DEAR SIR,—The STOVES which you have recently erected in my church have been highly successful, and I have great pleasure in expressing to you the entire satisfaction which they have given to all parties. The church, which was notoriously noted for its coldness and bad ventilation, is now most agreeably warmed and well ventilated. I shall be most happy, on any occasion, to bear testimony to the excellency of your stoves; and I will endeavour, to the best of my power, to make them known, and I will certainly recommend them to my friends.

I remain, Dear Sir, yours faithfully,
JN. WM. ROGERS, St. Thomas's Charter-house.

St. Thomas's, Charter-house.

We, the undersigned, do hereby certify, that during the last three winters we suffered severely from the cold in the Church of St. Thomas's, Charter-house, although we had three large Arnott's Stoves, which consumed one sack and half of coals each day they were lit. The building was never warm; in consequence of which the congregation fell off, though we had a zealous preacher in the Rev. Dr. James. We have now two of Cundy's Patent Stoves, which consume but one cwt. of coal per day between them, and they impart to the church a comfortable heat and ventilation.
WILLIAM BUSHMAN, Verger.
THOMAS GEORGE, Beadle.

St. John's, Fulham, 2nd May, 1846.

My Dear Sir,—I have very great pleasure in giving my testimony to the efficiency of your Stove, as combining the double advantage of thoroughly warming and constantly ventilating any large church or building. Your invention appeared to me to be in theory all that could be desired; and I can honestly say, that I have not yet discovered the point in which the practice falls short of the theory.—The area of my church is computed to be nearly 200,000 cubical feet, and though a second stove will be required, the one already erected has fully answered my highest expectations, and realized all that you had given me to expect. If confirmation were needed for evidence of its efficiency, I might further state, that I had peculiar difficulties to contend with,—that various attempts had been made, and that every attempt had proved a signal failure,—that I was exposed to the charge of boldness in attempting what had baffled others; but that such is the power, the efficiency, and the comfort communicated by your Stove, that I know not of a dissentient voice, and have heard only of approval with unanimous consent.—I might add, that I was first led to the making inquiry respecting your stove, having gathered indirectly, that a disposition not unfavourable towards it was entertained in a certain high quarter, where, on account of ability of discernment, the smallest approach to approval must carry with it great weight.—I remain, Dear Sir, yours faithfully,
WILLIAM GARRATT, Minister of St. John's, Fulham.

Letter from the Rev. MATTHEW O'BRIEN, (Professor of Natural Philosophy and Astronomy), M.A., F.R.S., &c., King's College.

Upper Norwood, 22nd June, 1846.

I beg to certify that one of Mr. Cundy's Patent Stoves was put up in my lecture room at King's College, last year, in place of a common stove (of Arnott's construction, I believe). I have no hesitation in saying from actual experience, that Mr. Cundy's Stove is far superior both in producing warmth over the whole room, and in promoting ventilation, without disagreeable currents of air, or close smell.
MATTHEW O'BRIEN.

*** Since this stove was put up, four others have also been fixed, one of which is placed in the Medical Library.

Letter from Professor BRADLEY.

King's College, London, July, 1846.

Sir,—I am happy to be able to bear testimony to the efficiency of your stove, which is fixed in my lecture-room at this Institution. It seems to have all the essential requisites of a good stove, a rapid draught, freedom from all smoke, and from that smell which arises from iron, heated in contact with the air of a dwelling-room, which is entirely avoided by your arrangement.—I am, Sir, your obedient Servant,
THOMAS BRADLEY.

To be had of the Manufacturers,

MESSRS. DOWSON, 69, WELBECK-STREET, CAVENDISH-SQUARE,

Where they may be SEEN IN OPERATION, and where also may be seen an ELEGANT assortment of REGISTER and other STOVES, FENDERS, CULINARY APPARATUS, &c. &c. ARCHITECTS and BUILDERS supplied with IRON and BRASS CASTINGS, at Messrs. DOWSON'S FOUNDRY, 5, SEYMOUR-PLACE, BRYANSTON-SQUARE. Smith's Work. Gas Fittings, and all other works appertaining to a Smith and Founder, undertaken at estimated prices.

LONDON: Printed by CHARLES WYMAN, of 49, Cumming-street, Pentonville, in the County of Middlesex, Printer, at the Printing-office of J. & H. Cox, *Brothers*, 74 & 75, Great Queen-street, Lincoln's-Inn Fields, in the Parish of St. Giles-in-the-Fields, in the same County; and published by the said CHARLES WYMAN, at the office of "THE BUILDER," 2, York-street, Covent Garden, in the Parish of Saint Paul, Covent Garden, in the said County.—Saturday, November 14, 1846.

The Builder,

A JOURNAL FOR

The Architect, Engineer, Operative & Artist.

VOL. IV.—No. 198. | NOVEMBER 21, 1846. | *Price* ..... 3*d.* *Stamped*.. ... ... 4*d.*

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ADVERTISEMENTS.

WANTED, a competent Person to superintend the Works in the restoration of a Gothic Building, in the West of England. He must be able to prepare Drawings under the direction of the Architect.—Apply by letter, post-paid, stating qualifications, terms, and previous employment (with references), to A. A. A., Office of "The Builder," 2, York-street, Covent-garden.

WANTED to APPRENTICE to the CARPENTERING BUSINESS, a Youth, nineteen years of age, whose father is dead, and who has been at the trade five years.—For further particulars apply, post-paid, to W. P., Post-office, Oxford.

TO BUILDERS AND OTHERS.

WANTED, by a steady, respectable, experienced Staircase Hand, work to take by piece, either stairs or handrails; also understands general work. The most satisfactory reference will be given for ability, and no objection to town or country. — Address A. Z., office of "The Builder."

TO BUILDERS, &c.

WANTS a Situation as Joiner's Shop Foreman, a person who has been in a similar situation, at Mr. T. Cubitt's, Thames Bank, for the last Seven Years; no objection to Superintend Saw Mills, &c.—Direct to S. LAST, 21, Bexboro-place, Belgrave-road, Pimlico.

BUILDERS' CLERKS.

WANTED, a Person acquainted with the routine of a Builder's Office, and used to early hours: one writing an expeditious hand, and practically acquainted with the business will be preferred. All applications to state the writer's age, where last employed, and amount of salary required.—Address to A. Z., Messrs. Brownings and Co., Waterloo-bridge Wharf.

TRAVELLER WANTED.

WANTED, as a TOWN TRAVELLER, in a business connected with Building, an active Young Man of good address and sober habits, having some connection among respectable builders. Remuneration, 100*l.* per annum, and a commission arrangement. Security to the extent of 200*l.* required, as also unquestionable references.—Address, C. N. and Co., Post-office, Norton Folgate.

WANTED, by a House extensively engaged in the Timber Trade, a Young Man as a Traveller. He must be possessed of active habits, a good address, and a competent knowledge of the business, and will also be required to produce first-rate testimonials as to character, and to find security for a certain amount. He will be required to enter on his engagement in December or January.—Address to A. B., 2, Great St. Helen's, Bishopsgate-street.

TO SURVEYORS, BUILDERS, AND CONTRACTORS.

EMPLOYMENT WANTED by a highly respectable person, fully competent to keep accounts, conduct correspondence, &c., either for a permanency, for part of the day only, to make up the books, or otherwise.—Address K. Z., office of "The Builder," 2, York-street, Covent-garden, London.

TO ARCHITECTS AND BUILDING SURVEYORS.

A YOUNG MAN, accustomed to the routine of an Architect's Office, wishes for an engagement. He can copy accurately and expeditiously, can be well recommended, and requires but a small salary.—Apply, C. D., office of "The Builder."—18th November, 1846.

TO ARCHITECTS.

AN Architect has a vacancy for an experienced gentleman about thirty years of age.—Apply by letter, stating terms and abilities, to ALPHA, 1, Belmont, Bath.

THE Advertiser, who is acquainted with the routine of an Architect and Surveyor's office, offers his services as an equivalent for his receiving further experience.—Address, post-paid, to H., 85, Goswell-street-road.

TO PLUMBERS, PAINTERS, AND GLAZIERS, BUILDERS AND OTHERS.

A STEADY, active Young Man is desirous of an Engagement as Plumber, Painter, and Glazier. Any party in want of a Practical Man will find a communication prove satisfactory. No objection to the Country, and references can be given to parties in town.—Address, T. S., 46, Newman-street, Oxford-street, London.

TO ARCHITECTS, SURVEYORS, AND CIVIL ENGINEERS.

ANY Gentleman of good Practice and Respectability in the united professions, may hear of a Young Gentleman as an articled pupil for a term of Four Years. He has received a good education, understands Duodecimals, and possesses some knowledge of Architectural Drawing.—Address free, stating particulars and terms, to W. C., 63, Westbourne-grove, Bayswater.

N.B. Respectable References given and required.

SALES BY AUCTION.

BUILDING MATERIALS, a large quantity of Floor Boards, capital double-purchase Iron Crab, and a large assortment of Materials of all descriptions.

MR. KING will SELL by AUCTION, on MONDAY next, Nov. 23rd, at One, on the Premises, Dunstan-road, adjoining the Canal Bridge, Kingsland-road, the following materials: a large quantity of timber, in joists, rafters, and plates; prime yellow floor boards, doors, partitions, wainscot; 20 pairs sashes and frames; tiles and firewood.—May be viewed any time previous, and Catalogues had.

3,500 PIECES OF PAPER-HANGINGS.

MR. H. BIERS has received directions to SELL BY AUCTION, on WEDNESDAY, the 25th of November, at Webster's Rooms, Market-street, Paddington, at Eleven for Twelve precisely, a very valuable Stock, comprising Rich Flocks, Satins, Library, and Bedrooms; also Staircase in Gothic, Marbles, and Granite.—Catalogues are preparing, and when ready will be sent, post-free, to any part of the kingdom, on application to Mr. BIERS, Poland House, 13, Broad-street, Golden-square.

The above will be lotted to suit the Trade, Builders, and private purchasers.—Approved bills at three months.

BOGNOR, SUSSEX.

TWO PLOTS of valuable Freehold Meadow Land, well calculated for the manufacture of bricks, several plots of Building Ground, and Ten Freehold Cottages and Gardens, all most eligibly situate in this most flourishing and improving watering place, will be offered for SALE by AUCTION, at the Claremont Hotel, Bognor, on FRIDAY, November 27th, 1846, at Three o'clock, by direction of the Mortgagees, in lots. Printed particulars and conditions of sale may be had of HULL TERRELL, Esq., Solicitor, 30, Basinghall-street, London; at the Claremont Hotel, Bognor, and of Mr. HENRY SALTER, Auctioneer and Surveyor, Arundel, and 29, Gracechurch-street, London, at whose office may also be inspected plans of the property.

BROMLEY, MIDDLESEX.—To Carpenters, Members of Building Societies, and Others.

MESSRS. ROBERTS and ROBY are directed to SELL by AUCTION, at their offices, 24, Moorgate-street, Bank, on MONDAY, 23rd November, at Twelve, in six lots, eleven substantial built, newly-erected fourth-rate carcases, most eligibly situate in Mary-street, Bromley, overlooking Bromley Common, being within a short distance of Blackwall, the East and West India Docks, and in the immediate vicinity of several large mercantile establishments and distilleries, &c., which always renders property of this description in great demand. The above is held for a term of eighty years, direct from the freeholder, at a low ground rent. — For particulars apply to JOSEPH HALL, Esq., 53, Aldermanbury; and at the Auctioneers' Offices, as above.

TO PLASTERERS.

LIME FOR PLASTERING, that may be used immediately without risk of blistering, manufactured expressly for Plastering, and sold at the usual price, at FORREST'S WHARF, Earl-street, Blackfriars. Sheds for the slacking and mixing of lime. Accommodation for loading and landing bricks, sand, ballast, &c.

CONTRACTS.

LONDON, BRIGHTON, AND SOUTH COAST RAILWAY.—CONTRACTS FOR WORKS.

THE Directors of the above Company will meet at the London Bridge Office at Noon on WEDNESDAY, the 25th instant, for the purpose of receiving TENDERS for the Erection of the Stations on the Epsom Branch of the Line. Plans, Specifications, &c., may be seen on application at the office of Mr. JOSEPH CUBITT, Civil Engineer, 2, Great George-street, Westminster.—The Directors will not engage to accept the lowest Tender.—By order,

T. J. BUCKTON, Secretary.

London-bridge, 17th November, 1846.

TO CONTRACTORS, BUILDERS, AND OTHERS.

THE WEST-END LAND and HOUSE PROPERTY ASSOCIATION are ready to receive TENDERS for certain works to be done at Palmer's Folly, Ratcliffe-highway. The drawings and specifications are ready for inspection, and may be seen as above, where every information may be had. Tenders must be sent sealed, on or before Eight o'clock in the evening of Friday, the 27th inst., to the "Fox and Hounds," Little Ceram-street, Russell-square.

N.B. The Association do not pledge themselves to receive the lowest tender.—By order of the Committee,

J. SPENCER, Chairman.

DECORATIVE ART SOCIETY, —At the next General Meeting, on Wednesday, 25th inst., Mr. Davyer will read a paper "On the Decorations of Theatres."

Mr. E. C. LAUGHER, Hon. Sec.

17, Sussex-place, Kensington.

G. ELL'S ADJUSTABLE SCAFFOLD, OBSERVATORY, or FIRE ESCAPE, Models of which are at the repositories of the Royal Society of Arts, Royal Polytechnic Institution, and at the manufactory, Nos. 3 and 6, Tottenham-court New-road, and St. George's-circus, Waterloo-bridge-road.

This Machine consists of a series of hollow rectangular frames, sliding one within another, after the manner of the tubes of a telescope, is applicable to a variety of purposes, but is especially adapted to that of Land Surveying, ornamenting the walls and ceilings of lofty buildings, hanging chandeliers, fire escape, or for elevating persons for any purpose whatever, as it may be adjusted to any height within its range, and supports itself with safety, independently of any attachment to the walls, and will be found the easiest and best method yet used for cleaning and decorating the interiors of lofty buildings, well staircases, &c. — Machines to be seen at G. ELL'S, Adjustable Scaffold, Ladder, and Barrow Manufactory, New-road, St. Pancras.

WALLIS'S PATENT LIQUID WOOD KNOTTING. — This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 16s. per gallon.

RICHMOND, SURREY.—TO CAPITALISTS, BUILDERS, AND OTHERS.

ABOUT Thirty Acres of Freehold Ground at Richmond, near the Hill, and adjoining the Park, most eligibly situate for building purposes, land-tax redeemed, will be LET by PUBLIC AUCTION, in Lots, on Building Leases, for 90 Years, at the Vestry Office, Richmond, on Monday, the 7th of December, 1846, at 11 o'clock A.M., punctually.—Particulars, with plans and conditions, may be had of Messrs. SMITH and SON, Solicitors, Richmond, and of W. SMYTHE, Esq., 22, John-street, Bedford-row, London.

WHARF AND WATERSIDE PREMISES TO LET.

A DRY ARCHED WAREHOUSE, 70 feet long by 15 feet wide, with Yard, Office, and use of Wharf, adjoining Southwark-bridge, Surrey side. The above will be Let on Lease, or by the Year, or to Contractors, at a rate per ton for Landing Building Materials, for which it is very suitable, as three waggons can stand and load without obstructing the public road. The Arch has been used for Stabling.—Apply to Mr. JOHN PORTER, Southwark-bridge Iron Works.

CHEAP ROMAN CEMENT is sold in Casks that will not contain five bushels, even by some manufacturers of a very respectable name. Consumers should see that the standard size cask is 20 inches long by 17½ across the head, outside measure. Any workman with a rule in his pocket can ascertain this.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.

Manufactured by J. B. WHITE and SONS, of Millbank-street, Westminster; and sold at their warehouses—Earl-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and undestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Seel-street, Liverpool.

GREAVE'S LIAS CEMENT, stone-colour, free from vegetation, does not crack, and is well adapted for every description of modelling and casting.

GROUND LIAS LIME, for concrete, or as mortar for sewers, dock-walls, and hydraulic works generally; is superior to any other lime or cement.—Office, 2, South Wharf, Paddington, and Stratford-on-Avon.

Agent for Liverpool—Mr. Wylie, 56, Gloster-street.
Ditto, Manchester—Mr. J. Thompson, Back King-street.
Ditto, Chester—Mr. J. Harrison, Linen Hall-street.
N.B. Marble Floors. A large quantity of Vein and Black Marble on sale at reduced prices.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, produceable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

DECORATIONS in WOOD.—The unrivalled perfection at length attained by the patent process of Carving, enables its proprietors to offer to the public, at an extremely reduced price, every possible variety of Carved Wood for external and internal enrichment—thus substituting the genuine material for those numerous imitations which have invariably been found fragile or unsatisfactory.

Mouldings and Carvings of all kinds are thus supplied, adapted for Church or Library Fittings, Altar Chairs, Picture Frames, Chimney-pieces, and every description of Gothic or Elizabethan Furniture.

Specimens may be seen and Drawings obtained at the Patent Wood Carving Offices, 444, West Strand, or at the Works, Ranelagh-road, Thames-bank.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS.

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee having fixed a great number of his shutters in London, and given universal satisfaction, can confidently recommend them both for security and durability, the edges being sheathed with Iron. Their construction is so simple that the largest establishment can be opened or closed with the greatest possible ease without the use of machinery. Their superiority over other revolving shutters consists in their great strength and stiffness, being without metal hinges, consequently cannot rust, buckle, be strained, or get out of order, and are safer. Persons dissatisfied with the patent rising gear now used for iron shutters can have it removed, and the shutters made to draw up in any part of the premises with the slightest exertion, without machinery, thereby avoiding the unpleasant use of oil.

INJUNCTION.

BUNNETT and CORPE'S Patent REVOLVING IRON SHUTTERS.—Since the verdict found in favour of the Patentees, in the Court of Exchequer, in the action tried by order of the Court of Chancery, that Court has granted a perpetual Injunction for restraining all infringements of this Patent, and therefore all parties are hereby cautioned against infringing the same.

THE PRICES ARE GREATLY REDUCED, and BUNNETT AND CORPE'S PATENT IRON SHUTTERS ARE THE CHEAPEST AS WELL AS THE BEST. They are made with convex laths, if required. The worm and wheel motion for raising and lowering revolving iron shutters (as secured by this Patent) is the only safe and durable mode of effecting that object. In large shutters it is indispensable.

Some thousands of Bunnett and Corpe's Shutters have now been put up, without a single complaint of their want of strength or security; and nine years' practical experience (during which they have adopted every real improvement) enables the Patentees to challenge comparison with any others. They will guarantee all Shutters put up by them to keep in order, and last twice as long as any with thin convex laths.

B. and C. also manufacture REVOLVING WOOD SHUTTERS (the Patent for which has expired), at the same prices as other makers, but greatly superior, being fitted with their patent raising gear, and proper metallic hinges, without which no shutter can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop-fronts fitted with Iron Shutters, Patent Brass or Zinc Sashes, Plain or ornamental, handsomely Engraved, Moulded, Stall-board Plates, best Plate Glass, and Internal Brass Fittings of all kinds, superior in quality and workmanship, and lower in price than any other house.

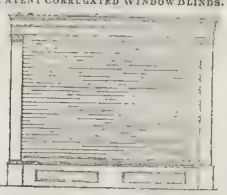
Contracts taken in Town or Country.

Metal Drawing and Stamping for the Trade.

Office at No. 26, Lombard-street, London; Works, at Deptford, Kent.

Steam-engines, Sawing, Planing, and Moulding, Cutting-machines on Improved Plans, especially adapted for Builders' purposes, may be seen in operation at the Works.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.—Patent Panelled Iron Safety Shutters. PATENT OUTSIDE SHUTTER BLINDS.—PATENT CORRUGATED WINDOW BLINDS.



The attention of Architects, Builders, and Blind Makers is requested to the IMPORTANT PATENTED IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD & Co. 115, Old Street, London.

The great importance of strength and stiffness in the Laths of REVOLVING IRON SHUTTERS, when required for security, is so obvious, that it is only necessary to point out the fact, that the Patent Convex Laths are twelve times stronger than the ordinary flat Laths (as shewn by the engravings and description), to insure their general adoption.

The Patentees invite attention to their greatly improved Gearing for Raising and Lowering their patent Shutters, which, possessing all the advantages of the endless screw (worm and wheel), cannot, even by wear, be liable to run down, and entirely avoids the necessity of using the ratchet wheel; it is at once simple and THOROUGHLY EFFECTIVE, and is SAFER and MORE DURABLE than any plan yet adopted for that purpose, thus rendering their patent Revolving Shutters the SAFEST and MOST EFFICIENT in use. These Shutters are fixed horizontally (either above or below the window or door), or vertically, for which position the great additional strength of the Convex Laths renders them peculiarly suitable.

REVOLVING IRON SHUTTERS, MADE OF THE COMMON FLAT LATHS, at a considerable reduction of price.

CAUTION.—The Patentees beg to caution all persons against Making or Using BENT or CONVEX LATHS for REVOLVING IRON SAFETY SHUTTERS (whether winding horizontally or vertically), so as to obtain increased strength and stiffness, as they thereby render themselves liable to legal proceedings for infringing this patent.

Engravings and Prospectuses will be forwarded on application.

DRAWN METALLIC SASH BARS, ASTRIGALS, MOULDINGS, STALL BOARD PLATES, &c.

Patentees and Manufacturers, R. HOWARD and Co., London.

LIGHTNING CONDUCTORS FOR BUILDINGS.

A. SMITH'S PATENT COPPER WIRE ROPE is being daily employed for the protection of CHURCHES and other buildings from the effects of thunder storms; it possesses important advantages over other forms of conductors. References can be given where it has been applied for some time past to CHURCHES, PUBLIC and PRIVATE BUILDINGS, &c., &c. Its general adoption in the Naval and Mercantile Marine of this and other countries is the strongest possible EVIDENCE of its EFFICIENCY, &c.

A. SMITH begs the attention of those engaged in building to his IMPROVED PATENT PANELLED AND REVOLVING IRON SHUTTERS,—Also, the Patent Weather-tight Fastening and Cill Bar, for French Casements, which are so much admired for their security, simplicity, cheapness, and efficiency. Of the merits of his

Patent Double and Single Action Door Springs,
Improved Flooring Cramps,
Patent Wire Sash Lines, &c. &c.,

Little need be said, as they are pretty generally known and appreciated.

Manufactory for Iron Suspension, Sliding, and other Doors, Strong Rooms, Plain and Ornamental Palisading, Gates, and Columns.—Also, Metal Sashes, Shop-fronts, Stall-board Plates, Brass butt, and other Hinges. Buildings heated upon a new, safe, and superior plan.

Estimates given for every description of Metal-work.

A. SMITH, 69, Princes-street, Leicester-square, London.

TO ARCHITECTS, BUILDERS, AND THE PUBLIC IN GENERAL.

GEORGE JENNINGS, of 29, GREAT CHARLOTTE STREET, BLACKFRIARS ROAD, begs to call the attention of Architects, Builders, &c., to his REGISTERED FASTENING for SHOP SHUTTERS, &c., which entirely supersedes the use of shutter-bars. Thereby effecting a great saving of labour, as by the old method, the bar has to pass through the hands of some one upwards of six hundred times in twelve months, which tends to deface the whole front more or less every time the bar is put up or removed. The fastening is secret, simple, and sure, in its action, and can be affixed to any shop-front in two hours, without any alteration to the shutters. New fronts fitted at a less expense than a shutter-bar would amount to. A liberal allowance to the trade, and any further information may be obtained by inclosing a postage stamp to the above address.—A Model may be seen at the office of "The Builder."

CAEN STONE.

TUCKWELL'S Norway Sufferance Wharf, Greenwich.—Architects and Stone Merchants are informed, that this stone may be procured at the above Wharf in any quantity, in blocks up to 12 tons. The stone, which is exclusively the product of the Allemagne Quarries, and of the very finest quality, is consigned solely to W. TUCKWELL, who is prepared to execute orders to any extent, having a Large Stock always on the Wharf.—Orders received by, and further information with samples may be obtained of Mr. R. A. WITHALL, Surveyor, 89, Cheapside, and of Mr. W. TUCKWELL, at the Wharf.

N.B. Cargoes shipped direct to any Port.

ARCHITECTS and SURVEYORS will find by making their selection of MARBLE CHIMNEY-PIECES at the Westminster Marble Company's Show Rooms, containing a great variety of elegant drawing and dining-room chimney-pieces, executed in a superior manner, and sold at such reduced prices to enable the public to realize a great saving, by their patent machinery. An unabated zeal will be maintained to continue the patronage so liberally shown to this establishment.

Address, Earl-street, Milbank.

N.B. Country Orders promptly attended to.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

SAMUEL CUNDY begs to inform Architects and others that GOTHIC WINDOWS, and every other branch of Stone-work, &c., is executed at the cheapest possible rate, and packed for the country ready for fixing or fixed, enabling ARCHITECTS to have the most difficult TRACERY for CHURCHES, or other buildings in the PROVINCES, executed under their immediate inspection in TOWN.

BUILDERS and MASONS can have every description of Stone in the London Market, either in the rough block, or cut to sizes from the saw, or prepared ready for fixing or fixed, avoiding either waste in the goods or carriage.

Box Chimney-pieces from 12s. upwards.

THE WORCESTER ENCAUSTIC TILES, in all their beautiful variety, may be inspected, in addition to the usual extensive stock of Chimney-pieces and FONTS.

Estimates given for building generally.

BARRETT, STONE MERCHANT, 24, Wharf, Harrow Road, Paddington, respectfully informs Builders, Stone Masons, and others, that he has opened a Depôt at the Great Western Terminus for the sale of Wall's Quarry Stone. Having been established at the above place for the last twelve months, and the sale of the stone increasing so much, the Great Western Company has had the kindness to favour me with a Depôt at their Terminus. The Wall's Quarry Stone is equal to Portland for Staircases, Hall Floors, Porticoes, Balconies, Chimney-pieces, Coping, Window Sills, &c. The same stone being used in Gloucestershire for all the above purposes. The stone is sawn to all sizes while in the Quarry to save expense of waste and sawing in London, on which account can be rendered much cheaper, and is free from all flints, shells, and holes.—List of prices and samples sent to any part of London, carriage free, by directing all letters to No. 24, Wharf, Paddington.

P.S. Nailsworth and Paniswick Stone in Block.

To Engineers and Architects, and as an Elegant Present to a Lady, as well as a most Convenient Pocket Appendage.

TO all those who find a Difficulty in the Use of STEEL PENS, and who wish to avoid the loss of time occasioned by the frequent mending of Quills, STEPHENS'S PERPETUAL PEN, made of Gold, with points which never wear or alter, offers a most convenient substitute, as Ink which oxydises and lingers in the steel pen, flows from this with precisely the same facility as from a Quill, and the Pen never requires mending. Price 15s. It may be used with a common holder. With an ever-pointed Silver Pencil Case, with Leads, 27s.

Sold by the proprietor, HENRY STEPHENS, 54, Stamford-street, Blackfriars-road, London. On application, by letter, this Pen will be sent, per post, to any part of the kingdom.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery.

Best Patent Cut Clasp.

3d.	4d.	6d.	8d.	10d.	20d.
6d.	7d.	9d.	1s.	1s. 6d.	2s. per 1000.

Best Sheet Floor Brads 15s. 6d. per cwt.
Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6½d., 7d., 8d. per inch.
Self-acting Kitchen Ranges with Oven and Back Boiler.
Wrought Bars and Bright Fittings.

3 ft., 3l. 3s.	3 ft. 6 in., 3l. 12s. 6d.	4 ft., 4l.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in	3 ft. 9 in.	4 ft.
3l. 5s.	3l. 18s.	3l. 16s.	4l.	4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5l.	5l. 15s.	6l. 5s.	6l. 10s.	7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 8½d., and 4d. do.
Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.
Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

HOT WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories, and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises. BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

ELEGANT FENDERS AND FIRE-IRONS.

JEREMIAH EVANS and CO. beg leave to call the attention of the nobility and gentry to their novel and elegant Stock of Fenders and Fire Irons, manufactured of every description of pattern, including the Gothic, French, Elizabethan, Grecian, &c. They have also just introduced several splendid Stoves en suite.—Manufacture and Show Rooms, 33, King William-street, London-bridge.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 168, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.



TO ENGINEERS AND BOILER MAKERS.
LAP-WELDED IRON TUBES FOR STEAM BOILERS.

THE BIRMINGHAM PATENT IRON TUBE COMPANY, 42, Cambridge-street, Birmingham, and Smethwick, Staffordshire, manufacture Tubes under an exclusive License from Mr. Richard Prosser, the Patentee. These Tubes are now very extensively used in the Boilers of Marine and Locomotive Steam Engines in England and on the continent, are stronger, lighter, cheaper, and more durable than brass or copper Tubes, and warranted not to open in the Weld. They may be fixed in the Boilers without Ferules, and can be taken out and refixed without additional trouble or expense.—Address, 42, Cambridge-street, Crescent, Birmingham; London Warehouse, 68, Upper Thames-street.

ROBERT STEDALL'S
PATENT SCOLECOTHIC VENTILATOR,
AND CURE FOR SMOKY CHIMNEYS.



The most effectual and most ornamental Chimney-pot yet invented, entirely obviating the objection to which all others are open, namely, that of soon becoming clogged with soot, and, consequently, useless.

A large quantity has been made in various parts of the kingdom, which have given the greatest satisfaction.

Price, Strong Painted Iron..... 32s.
,, Strong Galvanized Iron .. 40s.

To be had of ROBERT STEDALL, 13, Nelson-street, Greenwich.—The Trade supplied, and also licences granted to Manufacturers.

TODD'S PATENT PROTOXIDE PAINT, manufactured by CHAS. FRANCIS and SONS, CEMENT WORKS, NINE ELMS, LONDON.

The properties of this Paint are peculiar for preventing iron from oxidation, wood from decay, and masonry from damp; it neither cracks nor blisters with the hottest sun, and is therefore most valuable for Railways, Boilers, Steam, Gas, and Water-pipes; Hothouses, Forcing-houses, and for Shipping. Its adhesion is so great to iron and wood, that the hardest friction will scarcely remove it. It prevents vegetation on stuccoed buildings, and is not affected by spray of sea-water.

PROTOXIDE PAINT is sold ground in oil, and, compared with white-lead, its property of concealing is as 75 to 50, so that one hundred weight is equal to one and a half of lead. It works well under the brush, and forms with oil an unctuous and cohesive mixture. If blended with other paints it has a softer tone than white-lead. For houses painted during occupation it is most preferable, being perfectly innoxious.

THE ARBORÆTUM, QUEEN'S ELMS, FULHAM ROAD, BROMPTON.

D. A. RAMSAY, Nurseryman and Landscape Gardener, begs to inform Architects, Builders, and others engaged in Planting, that a portion of his extensive stock consists of a quantity of Large Evergreens, Large Poplars, Accasias, Willows, Laburnums, &c. &c., of a sufficient height and size to make an immediate screen, and which are now selling at unusually low prices.

Plans and Estimates submitted for the carrying out all kinds of Ornamental Ground Work and Planting, in any part of the kingdom.

VARNISH, COLOURS, WHITE LEAD.

Genuine White Lead	per cwt.	27s.	0d.
Seconds	,,	25	0
Thirds	,,	23	0
Linseed Oil.....	per gallon	2	3
Turpentine.....	,,	4	6
Putty.....	per cwt.	7	6
Patent Dryers	,,	36	0
Oxford Oker	,,	36	0

Varnishes equalled by none:

Fine Oak	per gallon	10s.	
,, Carriage	,,	12	
,, Copal	,,	18	
,, Body Copal	,,	24	
,, Gold Size	,,	16	
,, Black Japan	,,	10	

Painters' Brushes, and every article in this branch, at the Manufactory, 87, Bishopsgate-street, Without, London.—THOMAS MILLINGTON, Proprietor.

FIRE BRICKS, Stourbridge, Welsh, and Newcastle; also Lumps, Tiles, and Clays, a large Stock of the best made Goods are selling at very reduced prices (a great reduction having taken place in freights) at WARD'S Honduras Wharf, Bankside. Windsor Nonsuch, and Town-made Oven Tiles, PP.N. and Circular Red Fire Bricks, Country Pan, Plain and Ridge Tiles, Paving Bricks, Corn Drying and Patent Malting Tiles.—Country Builders promptly supplied. Rough River Ballast for Concrete and Thames Sand, above and below bridge, by freights or loads. Prepared Sand for Plastering.

PATENT HANDRAILS.—These Handrails, without heading joints, and the grain of the wood being continued round the wreathed, or otherwise circular parts, are now patronised by the most eminent architects in town and country, surpassing all others in elegance, cheapness, and durability. Specimens and prices forwarded to any part of the kingdom (on a reference being given), and architects or builders waited on in London.

JOHN MELVILLE, 64, John-street, Fitzroy-square, London.

N.B. American Birch Handrails (same principle), superior to Honduras Mahogany, from 1s. 6d. per foot, straight.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Pantiles.

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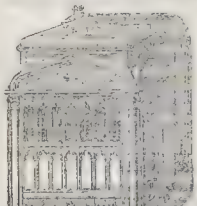
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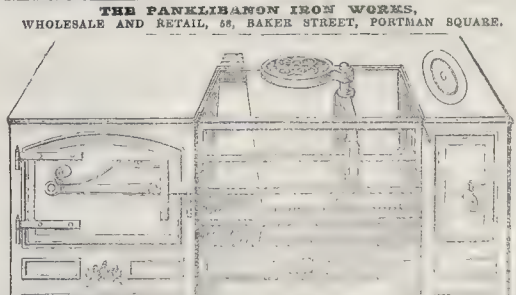
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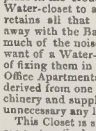
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ccc	18 table	each 40s.
cc	18	47
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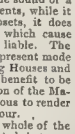
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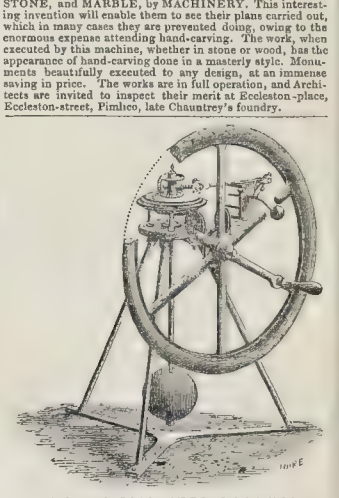
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24th Nov. 1846.

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ALEXANDER ROBERTSON, Resident Sec.

SMITHFIELD CLUB PRIZE CATTLE SHOW, 1846.

THE ANNUAL EXHIBITION of PRIZE CATTLE, SEEDS, ROOTS, IMPLEMENTS, &c., will take place on the 9th, 10th, 11th, and 12th of December, at the HORSE BAZAAR, King-street, Portman-square. A handsome permanent building, in place of the usual tent, was last year erected, and the Implement Galleries are, this year, made to extend over double the space formerly so occupied. Ladies are enabled to view this National Exhibition with perfect comfort.—Open from Daylight till Nine in the Evening; Lighted up after Three in the Afternoon.—Admittance, One Shilling.

KINGSLAND, DALSTON, AND DE BEAUVOIR TOWN LITERARY AND SCIENTIFIC INSTITUTION.

THE Committee beg to inform those Gentlemen who forwarded their Designs for the above Institution, that the Premiums have been awarded as under. 1st Premium to J. C. Catling, Esq., of Forest Row, Dalston; 2nd Premium to W. F. Poulton, Esq., of Reading, Berks; 3rd Premium to F. M. White, Esq., of Mortimer-street, Cavendish-square.—By order,

ROBERT SIMONS, Hon. Sec.

Dalston,
26th Nov. 1846.

CONTRACTS.

TO BUILDERS AND OTHERS.

THE Court of Sewers for Westminster and part of Middlesex will be ready at the Court House, No. 1, Greek-street, Soho-square, on Friday, the 4th of December, 1846, to receive TENDERS for the following Works, viz., 447 feet of Sewer along Hemus-terrace, Chelsea. Plans of the above Works may be inspected, and Specifications, Forms of Tender, and other particulars, obtained at this Office, daily, between the hours of Nine and Four. Parties offering must be in attendance at One o'clock precisely, on the 4th of December, with separate sealed Tenders, marked on the outside "Tender for Works." The Tender must be strictly in the printed form prescribed.

The Court does not bind itself to accept the lowest tender.

LEWIS C. HERTSLET, Clerk.

Sewers Office, No. 1, Greek-street, Soho-square.
26th Nov. 1846.

TO BUILDERS AND OTHERS.

NOTICE IS HEREBY GIVEN, that the Commissioners of Sewers for Holborn and Finsbury Divisions, Middlesex, will meet at their Office in Hatton Garden, on Friday, the 11th day of December next, at Two o'clock in the afternoon precisely, to receive TENDERS for building a Sewer in Caledonian-street, Maiden-lane, for a length of about 460 feet, conformably to a plan and specification, which may be seen daily at the Office, between the hours of Nine and Four. The Parties offering must attend at the above time of meeting, with their Tenders sealed up, which must contain the names of two Sureties for the due execution of the works.

The Commissioners will not consider themselves bound to accept the lowest tender.—By the Court,

STABLE and LUSH, Clerks.

Office of Sewers, Hatton-garden, 24th Nov. 1846.

CONTRACTS FOR SEWERS.—SIR JOHN CASS' CHARITY ESTATE, HACKNEY.

PARTIES desirous of TENDERING for a SEWER about to be formed on this Estate, on the intended new road, next Well-street Common, are requested to apply to Mr. WALES, at the Estate Offices, where plans, particulars, and forms of tender may be seen. Tenders to be delivered on or before the 7th of December.

The Trustees do not bind themselves to accept the lowest tender.

Sir John Cass' Estate Offices, Hackney-terrace,
19th of November, 1846.

TO BUILDERS.

THE Guardians of the Whitchurch Union are willing to receive TENDERS for the erection of a workhouse at Whitchurch, Hants. The drawings, specifications, and conditions may be seen on application to Mr. FODEN, the architect, No. 12, North-place, Gray's-inn-road, London. The quantities will be taken out and ready for delivery by the 8th of December to parties who may apply on or before the 1st of December, and pay one guinea for a copy of them. The tenders to be delivered at the townhall at Whitchurch, before 11 o'clock in the forenoon of the 15th of December, after which hour no tender will be received.

The Guardians do not pledge themselves to accept the lowest tender.—Signed, by order of the Board,

THOMAS PAIN, Clerk.

Whitchurch, November 24th, 1846.

LONDON, BRIGHTON, AND SOUTH COAST RAILWAY.

NOTICE IS HEREBY GIVEN, that the time for receiving TENDERS for the erection of Stations on the Epsom Branch of this line is POSTPONED.

By order, T. J. BUCKTON, Secretary.

London Terminus, 20th Nov. 1846.

LONDON, BRIGHTON, AND SOUTH COAST RAILWAY.

CONTRACT for MAINTENANCE of WAY and WORKS.—The Directors of this Company propose to receive TENDERS for the maintenance of the Permanent Way and Works of the whole of their Main Line between Brighton and the Junction with the Greenwich Line near London, being a distance of about Forty-four Miles, for a period of Seven Years, commencing 1st January next.

Specifications and Forms of Contract may be seen on and after Wednesday, the 2nd December next, at the Resident Engineer's Office, Brighton. Sealed Tenders according to the prescribed form, to be delivered at the Secretary's Office, London Bridge Station, not later than the hour of Eleven on Wednesday Forenoon, the 16th December next, when parties tendering or their accredited Agents, are requested to be in attendance.

The Directors do not pledge themselves to accept the lowest Tender.—By order T. J. BUCKTON, Sec.

London Terminus, 23rd Nov. 1846.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery.

Best Patent Cut Clasp.

3d.	4d.	6d.	8d.	10d.	20d.
6d.	7d.	8d.	1s.	1s. 6d.	2s. per 1000.

Best Sheet Floor Brads 15s. 6d. per cwt.

Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6

4s. 3d. 5s. 6s. 6d. 7s. 6d. 10s. 12s. per gross.

Elliptic Stores, 3d. per inch. Registers, 6½d., 7d., 8d. per inch.

Self-acting Kitchen Ranges with Oven and Back Boiler, Wrought Bars and Bright Fittings.

3 ft., 3l. 3s.	3 ft. 6 in., 3l. 12s. 6d.	4 ft., 4l.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3l. 6s.	3l. 13s.	3l. 16s.	4l.	4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5l.	5l. 15s.	6l. 5s.	6l. 10s.	7l.

Best Register Stoves, 27d., 8d., and 9d. per inch.

Do. Elliptic do., at 3½d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

ELEGANT FENDERS AND FIRE-IRONS.

JEREMIAH EVANS and CO. beg leave to call the attention of the nobility and gentry to their novel and elegant Stock of Fenders and Fire Irons, manufactured of every description of pattern, including the Gothic, French, Elizabethan, Grecian, &c. They have also just introduced several splendid Stoves en suite.—Manufacture and Show Rooms, 33, King William-street, London-bridge.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 166, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

TO ENGINEERS AND BOILER MAKERS.

LAP-WELDED IRON TUBES FOR STEAM BOILERS.

THE BIRMINGHAM PATENT IRON TUBE COMPANY, 42, Cambridge-street, Birmingham, and Smethwick, Staffordshire, manufacture Tubes under an exclusive License from Mr. Richard Prosser, the Patentee. These Tubes are now very extensively used in the Boilers of Marine and Locomotive Steam Engines in England and on the continent, are stronger, lighter, cheaper, and more durable than brass or copper Tubes, and warranted not to burn in the Weld. They may be fixed in the Boilers without Ferules, and can be taken out and refixed without additional trouble or expense.—Address, 42, Cambridge-street, Crescent, Birmingham; London Warehouse, 68, Upper Thames-street.

TO PLASTERERS.

LIME FOR PLASTERING, that may be used immediately without risk of blistering, manufactured expressly for Plastering, and sold at the usual price, at FORREST'S WHARF, Earl-street, Blackfriars. Sheds for the slacking and mixing of lime. Accommodation for loading and landing bricks, sand, ballast, &c.

CHEAP PAN FOR WATER CLOSETS,
With Trap, in one Piece.

DOULTON and WATTS, Lambeth Pottery, High-street, Lambeth, London, Manufacturers of the above in superior glazed STONE WARE, price 7s. 6d. each. They are of the most durable ware, and are recommended in preference to iron on account of their cleanliness and cheapness. If preferred, they can be had in two parts, the pan at 4s. 6d., and the Trap at 3s. N.B. Manufacturers of RAIN-WATER PIPING for houses.

By Her Majesty's Royal Letters Patent

WILKINS'S "SILENT" WATER-CLOSET.—To Architects, Surveyors, and Builders.

Gentlemen,—Your attention is respectfully invited to the above "Closet," the peculiar qualities of which are, that it is perfectly silent in the action of the Machinery and the supply of Water, and may be fixed in any convenient place in the House, without communicating the sound of a Water-closet to any of the adjoining Apartments, while it retains all that is useful in the ordinary Closets, it does away with the Ball Levers, Wire, Cranks, &c., which cause much of the noise to which the old closets are liable. The want of a Water-closet more suitable for the present mode of fixing them in the internal parts of Dwelling Houses and Office Apartments, has long been felt, and the benefit to be derived from one that is "Silent" in the action of the Machinery and supply of water, is sufficiently obvious to render unnecessary any lengthened comment in its favour.

This Closet is simple in its construction, the whole of the apparatus (including the trap), being completed between the floor of the room and the seat of the Closet, thereby rendering it quite easy to remove any noisy Closet and fix the "Silent" one in its place, without interfering with the old trap, which is generally embedded between the floor and ceiling below the Closet. The "Silent" Closet is also clean and so free from any effluvia, as to allow of its being fixed in any bed-room (where there is a convenience of fixing a pipe down the outer wall of the house) without occasioning the least unpleasantness whatever.

May be viewed Daily, and Orders taken at No. 26, Gower-place, University College, London, from 9 in the Morning to 9 in the Evening.

FIRE BRICKS, Stourbridge, Welsh, and Newcastle; also Lumps, Tiles, and Clays, a large Stock of the best made Goods are selling at very reduced prices (a great reduction having taken place in freights) at WARD'S Honduras Wharf, Bankside. Windsor Nonsuch, and Town-made Oven Tiles, PP.N. and Circular Red Fire Bricks, Country Pan, Plain and Ridge Tiles, Paving Bricks, Corn Drying and Patent Malting Tiles.—Country Builders promptly supplied. Rough River Ballast for Concrete and Thames Sand, above and below bridge, by freights or loads. Prepared Sand for Plastering.

CAEN SUFFERANCE WHARF, ROTHERHITHE.

LUARD and BEEDHAM beg to inform architects, surveyors, builders, and others, that they have removed from Norway Wharf, Greenwich, the whole of their Caen stone business, to the above extensive premises, where a large stock will be kept up by continual fresh arrivals from their quarries at Allemange. Orders received at the wharf, and further particulars may be obtained of Mr. GEORGE GATES, 18, Southwark-square, Borough, London.—Orders shipped direct from Caen to any port.

The Waterman steam-boats call at Lavender-wharf, adjoining Caen Wharf.

CAEN STONE.

TUCKWELL'S Norway Sufferance Wharf, Greenwich.—Architects and Stone Merchants are informed, that this stone may be procured at the above Wharf in any quantity, in blocks up to 12 tons. The stone, which is exclusively the product of the Allemagne Quarries, and of the very finest quality, is consigned solely to W. TUCKWELL, who is prepared to execute orders to any extent, having a Large Stock always on the Wharf.—Orders received by, and further information with samples may be obtained of Mr. R. A. WITHALL, Surveyor, 80, Cheapside, and of Mr. W. TUCKWELL, at the Wharf.

N.B. Cargoes shipped direct to any Port.

ARCHITECTS and SURVEYORS will find by making their selection of MARBLE CHIMNEY-PIECES at the Westminster Marble Company's Show Rooms, containing a great variety of elegant drawing and dining-room chimney-pieces, executed in a superior manner, and sold at such reduced prices to enable the public to realize a great saving, by their patent machinery. An unabated zeal will be maintained to continue the patronage so liberally shown to this establishment.

Address, Earl-street, Milbank.

N.B. Country Orders promptly attended to.

PIMLICO MARBLE AND STONE WORKS,
BELGRAVE WHARF, PIMLICO-ROAD.

SAMUEL CUNDY begs to inform Architects and others that GOTHIC WINDOWS, and every other branch of Stone-work, &c., is executed at the cheapest possible rate, and packed for the country ready for fixing or fixed, emulating ARCHITECT'S to have the most difficult TRACERY for CHURCHES, or other buildings in the PROVINCES, executed under their immediate inspection in TOWN.

BUILDERS and MASONS can have every description of Stone in the London Market, either in the rough block, or cut to sizes from the saw, or prepared ready for fixing or fixed, avoiding either waste in the goods or carriage.

Box Chimney-pieces from 12s. upwards.

THE WORCESTER ENCAUSTIC TILES, in all their beautiful variety, may be inspected, in addition to the usual extensive stock of Chimney-pieces and FONTS.

Estimates given for building generally.

BARRETT, STONE MERCHANT, 24, Wharf, Harrow Road, Paddington, respectfully informs Builders, Stone Masons, and others, that he has opened a Depôt at the Great Western Terminus for the sale of Wall's Quarry Stone. Having been established at the above place for the last twelve months, and the sale of the stone increasing so much, the Great Western Company has had the kindness to favour me with a Depôt at their Terminus. The Wall's Quarry Stone is equal to Portland for Staircases, Hall Floors, Porticos, Balconies, Chimney-pieces, Coping, Window Sills, &c. The same stone being used in Gloucestershire for all the above purposes. The stone is sawn to all sizes while in the Quarry to save expense of waste and sawing in London, on which account can be rendered much cheaper, and is free from all dints, shells, and holes.—List of prices and samples sent to any part of London, carriage free, by directing all letters to No. 24, Wharf, Paddington.

P.S. Nailsworth and Painswick Stone in Block.

ARCHITECTURAL SUBJECTS (Outlines) coloured for competition or exhibition, and embellished with landscape, &c. Buildings, Portraits, and Views of every description, lithographed in a superior manner, by GEORGE CHILDS, 12, Amwell-street, Pentonville.

SILCOCK and Co.'s PATENT PLANES may be had at the following places:—

Archer, 48, Goodge-street, Tottenham-court-road; Blyth, Whitechapel; Cock, 424, Oxford-street; Dean, 46, King William-street; Fenn, 105, Newgate-street; Holtzapffel and Co., 64, Charing-cross; and of all ironmongers and tool dealers in the United Kingdom.

TO ARCHITECTS.

THE attention of Architects is directed towards the new Patent for CARVING IN WOOD, STONE, and MARBLE, by MACHINERY. This interesting invention will enable them to see their plans carried out, which in many cases they are prevented doing, owing to the enormous expense attending hand-carving. The work, when executed by this machine, whether in stone or wood, has the appearance of hand-carving done in a masterly style. Monuments beautifully executed to any design, at an immense saving in price. The works are in full operation, and Architects are invited to inspect their merit at Eccleston-place, Eccleston-street, Pimlico, late Chauntrey's foundry.

DECORATIONS in WOOD.—The unrivalled perfection at length attained by the patent process of Carving, enables its proprietors to offer to the public, at an extremely reduced price, every possible variety of Carved Wood for external and internal enrichment—thus substituting the genuine material for those numerous imitations which have invariably been found fragile or unsatisfactory.

Mouldings and Carvings of all kinds are thus supplied, adapted for Church or Library Fittings, Altar Chairs, Picture Frames, Chimney-pieces, and every description of Gothic or Elizabethan Furniture.

Specimens may be seen and Drawings obtained at the Patent Wood Carving Offices, 444, West Strand, or at the Works, Ranelagh-road, Thames-bank.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 16s. per gallon.

STEPHENS'S PROCESS for DYEING or STAINING WOOD, as a substitute for Paint. The natural grain of wood is imitated by art, but the most successful imitation has a sameness of appearance when compared with the continual variety which different woods present in their natural grain. To give an ornamental colour to the wood without obscuring the grain, is the object of this process, which surpasses paint in appearance, while at the same time it is so economical that the whole interior of a house, which would take a month or six weeks to paint in the usual manner, may be finished in one week by the process above named, and be more pleasing when finished. The dyes or stains are prepared and sold by HENRY STEPHENS, 54, Stamford-street, Blackfriars-road; sold also at the Office of "THE BUILDER," 2, York-street, Covent Garden, London; Hodkinson, Widemarsh-street, Hereford; R. Sutton, "Review Office," Nottingham; H. Wills, 39, High-street, Lynn; and in Manchester, at Crake's Marble Works, Garratt-bridge. In bottles of 6d. and 1s. each, and at 10s. per gallon. The oak colour may be obtained in powder at 8s. per pound, which dissolves in water to form the liquid, and one pound will make one gallon of stain.—N.B. The Trade supplied.

FEATHERS ALL DRESSED BY STEAM

HEAL AND SON have just completed the erection of Machinery for the purifying of feathers on a new principle, by which the offensive properties of the quill are evaporated and carried off in steam: thereby not only are the impurities of the feather itself entirely removed, but they are rendered quite free from the un; pleasant smell of the stove, which all new feathers are subject to that are dressed in the ordinary way.

Old Beds re-dressed by this process are perfectly freed from all impurities, and by expanding the feathers the bulk is greatly increased, and consequently the Bed is rendered much softer. The following are the Prices of New Feathers:—

Mixed, per lb.	1s. 0d.	Best Foreign Grey Goose	2s. 0d.
Grey Goose	1s. 4d.	Best Irish White Goose	2s. 6d.
Foreign Grey Goose	1s. 8d.	Best Dantzic White Goose	3s. 0d.

HEAL and SON'S LIST OF BEDDING, containing full particulars of Weights, Sizes, and Prices, sent free by post, on application to their Establishment, 196, opposite the Chapel, Tottenham-court-road.

CHEAP AND DURABLE ROOFING.

By Her Majesty's Royal Letters Patent.

F. McNEILL and Co. of Lamb's Buildings, Bunhill Row, London, Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronized by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE BOARD OF ORDNANCE,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose grea national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing also used for under slates at the Royal Agricultural Society's House, in Hanover-square.

Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, as THE ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW, LONDON.

Roofs covered with the felt to be seen at the Factory, also the new Vice-Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the new Houses of Parliament.

A Liberal Discount allowed to the Trade.

FILTERED WATER.—As the rainy season produces its dirty water, JOHN DAY, proprietor of Defouville's system of filtration, the only one known by which large quantities of liquids are easily filtered, begs to announce that he continues to supply these apparatus, which are easily applied to cisterns and water-butts, and when fixed require no care or attention from servants, and never get out of order. The prices are from Two to Four Guineas, producing from 100 to 300 gallons daily; for brewers, distillers, paper makers, hospitals, and large establishments, to an unlimited quantity, the prices varying accordingly.

40, Love-lane Platform, Rotherhithe; Office, 33, Conduit-street, Bond-street.

CHEAP ROMAN CEMENT is sold in Casks that will not contain five bushels, even by some manufacturers of a very respectable name. Consumers should see that the standard size cask is 29 inches long by 17½ across the head, outside measure. Any workman with a rule in his pocket can ascertain this.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.

Manufactured by J. B. WHITE and SONS, of Millbank-street, Westminster; and sold at their warehouses—Earl-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and undestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Seel-street, Liverpool.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.

2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.

3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. Many satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Worn, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the auction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producesable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

FIRE GOODS.

W. ALLDER, FALCON CEMENT WHARF, 80, Bankside, has always on hand for Sale a Large Assortment of Fire Goods, Welch, Stourbridge, and Newcastle, at Lowest Prices. Also Roman Cement; Pots, both Red and Cement; Bricks, Tiles, Hair, and Laths.

TO BUILDERS AND OTHERS.

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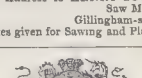
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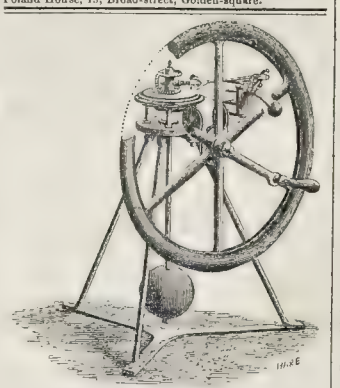
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WANTED, by a Person, a Situation as Foreman to a Carpenter and Joiner, or General Builder, having filled a similar situation for the last twenty-four years.—Apply by letter, post-paid, to J. S., 34, Broad-street, Bloomsbury.

TO CLERKS OF WORKS.

WANTED a Person to Superintend the Rebuilding of a House and Premises in the City, where the old materials are allowed to be used, provided they are sound, &c. As the duties required on this occasion will be light, the remuneration will be small, but it may lead to more profitable employment.—Address, post-paid, to B. R., care of Mr. Boxer, 61, Moorgate-street, stating full particulars of late employment and remuneration required.

TO ENGINEERS, BUILDERS, AND OTHERS.

A YOUNG MAN, aged Twenty-eight years, wishes for a situation as time or prime-cost clerk in either the above situations, or in any other capacity where he can be of use to his employers.—Address A. B., 8, Coleman-street, Well-street, Camberwell.

TO BUILDERS.

THE Friends of a respectable Youth about Fifteen years of age, wish to apprentice him to the above business. An indoor situation preferred.—Letters, pre-paid, stating terms and particulars, to be addressed, A. P., office of "The Builder," 2, York-street, Covent-garden.

TO SURVEYORS AND BUILDERS.

THE Advertiser is now open to an engagement as Clerk of Works, or Shop Foreman, both of which capacities he has filled for some years, having had much practice in meting working drawings, and is well acquainted with the construction of buildings, also of measuring and estimating, and can be well recommended.—Address, post-paid, to A. B., at Mr. Druggam's, No. 60, Goswell-street-road, near the Angel.

TO NOBLEMEN, ARCHITECTS, AND BUILDERS.

A MIDDLE-AGED PERSON of respectability, is desirous of engaging himself as agent, surveyor, or Clerk of Works; understands architecture, working drawings, and general repairs, having had the management of public and private works to a great extent, and also various posts in railway works. He will be able to give satisfactory reference as to capability and good conduct.—Apply, post-paid, to P. B. C., office of "The Builder."

DECORATIVE ART SOCIETY, 20, Great Marlborough-street. General Meeting on Wednesday next. The discussion will be continued upon the remarks offered by Mr. Dwyer, on a paper read at the last meeting, "On the Decorations of Theatres." Visitors admitted on application, by post, to

E. C. LAUGHER, hon. sec.,
17, Sussex-place, Kensington.

Guildhall, 19th November, 1846.

THE Committee for LETTING the CITY'S LANDS will meet at Guildhall, on Wednesday, the 9th day of December next, at One o'clock precisely to receive TENDERS for Letting on Lease, for 21 years from Christmas next, a House, No. 19, on the north side of Broad-street-buildings, and also a House, No. 5, on the east side of Mitre-street, Aldgate.—Further particulars may be obtained, and plans seen by applying at the Office of Works, Guildhall. THOS. SAUNDERS, Comptroller.

TO BRICKMAKERS AND OTHERS.

FOR SALE, at Bedford-lane Brickfield, Clapham-rise, Surrey, a very excellent WASH-MILL, with wheel for crushing chalk on a very superior plan; also pug-mills, off-bearing barrows, and other tools; the land being appropriated to building. N.B. The Ground to be Let or Sold.—Freehold.

FIRE BRICKS, Stourbridge, Welsh, and Newcastle; also Lumps, Tiles, and Clays, a large Stock of the best made Goods are selling at very reduced prices (a great reduction having taken place in freights) at WARD'S Honduras Wharf, Bankside. Windsor Nonsuch, and Town-made Oven Tiles, PP.N. and Circular Red Fire Bricks, Country Pan, Plain and Ridge Tiles, Paving Bricks, Corn Drying and Patent Malting Tiles.—Country Builders promptly supplied. Rough River Ballast for Concrete and Thames Sand, above and below bridge, by freights or loads. Prepared Sand for Plastering.

SILCOCK and Co.'s PATENT PLANES may be had at the following places:—
Archer, 45, Goodge-street, Tottenham-court-road; Blyth, Whitechapel; Cock, 424, Oxford-street; Dean, 46, King William-street; Fenn, 105, Newgate-street; Holtzapffel and Co., 64, Charing-cross: and of all ironmongers and tool dealers in the United Kingdom.

RAWLINGS'S LIME WHARF.—TO BUILDERS, &c.

BANGOR WHARF, KING'S ROAD BRIDGE, CAMDEN NEW TOWN. Builders, &c. are respectfully informed, that they can have Blue Lias, Grey Stone, and Chalk Lime, Roman Cement, Thames Ballast, Sand, Tiles, Cement Pots, and all kinds of Welch goods, of the best quality at lowest terms, being the nearest Lime Wharf to the North of London.

BEARD'S COLOURED PHOTOGRAPHIC PORTRAITS "now exhibit a degree of boldness, and stand out with a relief greatly desiderated in all the earlier specimens of the art, while the method of colouring renders them agreeable and life-like."—*The Times*. 85, King William-street, City; 34, Parliament-street, Westminster; and the Royal Polytechnic Institution, Regent-street.

MORTGAGE AND ANNUITY OFFICE, No. 123, CHANCERY-LANE.

PERSONS requiring LOANS by way of MORTGAGE, or otherwise, upon any available security, may at all times procure an advance to the extent of from 100*l.* to 150,000*l.*, or so much as the property will bear, by applying to Mr. BRAY, surveyor, at the offices as above.

N.B. To expedite the procuration, personal application at the office would in all cases be better, the party bringing with them the abstract of title, plans, &c.

ENGINEERING, Surveying, Levelling, &c.—Persons desirous of obtaining a thorough practical knowledge of RAILWAY SURVEYING, levelling, use of the theodolite, parish and estate surveying, land measuring, mapping, drawing, engineering, architecture, mechanics, mathematics, &c, may do so on the most approved principles in a few PRACTICAL LESSONS, by applying to Messrs. SMITH and LEWIS, civil engineers and surveyors of extensive practice, who are now preparing gentlemen for engineers, surveyors, levellers, draughtsmen, &c., Daily classes for young gentlemen from 10 to 4. Evening instruction from 7 to 9. Lessons given to suit the convenience of pupils. Field practice Tuesdays and Thursdays. Proficiency guaranteed. Terms for the course till perfect very moderate, including the use of instruments, &c. Apply at the Institution, 4, Harper-street, Theobald's-road, Holborn, London; Offices in Parliament-street, Westminster. N.B. Steady and clever pupils may be introduced to immediate employment, from 10*l.* to 12*l.* per week.

HOLBORN AND FINSBURY SEWERS, MIDDLESEX.

THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persons about to Purchase or Rent Houses or Property, or take Land for Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Persons to apply for at the above Office. By the Court,

STABLE and LUSH, Clerks.

TO OWNERS OF HOUSES IN COURTS, ALLEYS, AND OTHER CONFINED LOCALITIES.

HER MAJESTY'S JUSTICES and COMMISSIONERS of SEWERS for the City and Liberty of WESTMINSTER, and part of Middlesex, hereby GIVE NOTICE, that they have approved a plan, whereby an efficient drainage, at a very moderate cost, may be obtained for property in the above situations, abutting on streets where there are sewers. The plans and sections may be seen at the office of the Commissioners, No. 1, Greek-street, Soho. LEWIS C. HERSLET,

Clerk to the Commission.

CONTRACTS FOR SEWERS.—SIR JOHN CASS' CHARITY ESTATE, HACKNEY.

PARTIES desirous of TENDERING for a SEWER about to be formed on this Estate, on the intended new road, next Well-street Common, are requested to apply to Mr. WALES, at the Estate Offices, where plans, particulars, and forms of tender may be seen. Tenders to be delivered on or before the 7th of December.

The Trustees do not bind themselves to accept the lowest tender.

Sir John Cass' Estate Offices, Hackney-terrace,
19th of November, 1846.

LONDON, BRIGHTON, AND SOUTH COAST RAILWAY.

THE Directors are ready to receive TENDERS for the supply of thirty-four first-class carriages, ten coupé ditto, ten composite ditto, forty-seven second-class carriages, twenty third-class ditto, ten Parliamentary carriages, twenty horse boxes, twenty carriage trucks, eight luggage vans, fifty goods' waggons, fifty ditto covered. The company to provide wheels, axles, and axle boxes. Parties wishing to tender may obtain a copy of the specification by applying to the manager, Mr. P. CLARKE, Brighton. Tenders to be sent in, sealed, on or before the 17th December instant, addressed to the Secretary, endorsed on the cover "Tender for Carriages, &c." The Directors do not bind themelves to accept the lowest tender.

T. J. BUCKTON, Secretary.

London-bridge Terminus, 3rd December, 1846.

LONDON, BRIGHTON, AND SOUTH COAST RAILWAY.

CONTRACT for MAINTENANCE of WAY and WORKS.—The Directors of this Company propose to receive TENDERS for the maintenance of the Permanent Way and Works of the whole of their Main Line between Brighton and the Junction with the Greenwich Line near London, being a distance of about Forty-four Miles, for a period of Seven Years, commencing 1st January next.

Specifications and Forms of Contract may be seen on and after Wednesday, the 2nd December next, at the Resident Engineer's Office, Brighton. Sealed Tenders according to the prescribed form, to be delivered at the Secretary's Office, London Bridge Station, not later than the hour of Eleven on Wednesday Forenoon, the 16th December next, when parties tendering or their accredited Agents, are requested to be in attendance.

The Directors do not pledge themselves to accept the lowest Tender.—By order T. J. BUCKTON, Sec.

London Terminus, 23rd Nov. 1846.

HACKNEY UNION.—To Bricklayers, Terro Metallic Pipe Manufacturers, and others.

CONTRACT for a NEW SEWER at the Hackney Union Workhouse.—The Guardians of the Poor of the Hackney Union are ready to receive Tenders, and to contract for the building of a new Sewer at their Workhouse, the Plan and Specification of which may be seen at the Offices of the Architect, Mr. ARTHUR ASHPITEL, No. 5, Crown-court, Old Broad-street, between the hours of Ten and Three o'clock, Sundays excepted. The Board will meet at the Union House, on Wednesday, the 9th day of December, 1846, at Eleven o'clock in the forenoon, to open the Tenders and to contract, when the Parties tendering must attend personally, to answer when called for.

N.B. The Board will not bind themselves to accept the lowest Tender, unless fully approved of.—By order of the Board of Guardians,

CHARLES HORTON PULLEY, Clerk.

Upper Homerton, Nov. 26th, 1846.

PREPARED FLOORING BOARDS.

AN REDUCED PRICES.

ALWAYS ON SALE, a Large Assortment of DRY PREPARED FLOORING BOARDS, and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¾ inch to 1½ inch thick.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Wilton-road, Pimlico (late C. Moore and Son), and Great Smith-street, Westminster.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, at Old-Barge-Wharf, Upper Ground-street, Blackfriars, and at Hy. Castle's, Ship-yard, Millbank-street, Westminster, a large, very general, and well-seasoned stock of all kinds of Prepared Floor and Match Boarding, planed to a parallel breadth and thickness, fit for immediate use; also a great variety of machine-prepared mouldings, very accurately finished.

A. R., in calling the attention of builders and consumers, confidently presumes on being able to supply them on such terms as will ensure and merit their favours, &c.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Panules.

T. ADAMS (from Byron and Co.), late S. Dare, Mahogany, Timber, and Deal Yard, New-road, Bermondsey, near Bricklayers' Arms, has always in stock mahogany, cedar, wainscot, elm, beech, oak, &c. Pantile oak and fir laths, scaffold poles, putlogs, &c. Wheelwright's goods, veneers, cut deals and scantling of every dimension. Also a large assortment of SEASONED FLOORING, MATCH BOARDING FIT FOR immediate use, and MOULDINGS prepared by machinery, all at reduced prices.

MUIR'S PATENT PLANING MACHINERY.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

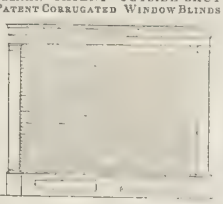
N.B. Estimates given for Sawing and Planing.

G. ELL'S ADJUSTABLE SCAFFOLD, OBSERVATORY, or FIRE ESCAPE, Models of which are at the repositories of the Royal Society of Arts, Royal Polytechnic Institution, and at the manufactory, Nos. 3 and 6, Tottenham-court New-road, and St. George's-circus, Waterloo-bridge-road.

This Machine consists of a series of hollow rectangular frames, sliding one within another, after the manner of the tubes of a telescope, is applicable to a variety of purposes, but is especially adapted to that of Land Surveying, ornamenting the walls and ceilings of lofty buildings, hanging chandeliers, fire escape, or for elevating per-ons for any purpose whatever, as it may be adjusted to any height within its range, and supports itself with safety, independently of any attachment to the walls, and will be found the easiest and best method yet used for cleaning and decorating the interiors of lofty buildings, well staircases, &c.—Machines to be seen at G. ELL'S, Adjustable Scaffold, Ladder, and Barrow Manufactory, New-road, St. Pancras.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.—Patent Panelled Iron Safety Shutters. PATENT OUTSIDE SHUTTER BLINDS.—PATENT CORRUGATED WINDOW BLINDS

The attention of Architects, Builders, and Blind Makers is requested to the IMPORTANT PATENTED IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD & Co. 115, Old Street, London.



The great importance of strength and stiffness in the Laths of REVOLVING IRON SHUTTERS, when required for security, is so obvious, that it is only necessary to point out the fact, that the Patent Convex Laths are twelve times stronger than the ordinary flat Laths (as shewn by the engravings and description), to insure their general adoption.

The Patentees invite attention to their greatly improved Gearing for Raising and Lowering their patent Shutters, which, possessing all the advantages of the endless screw (worm and wheel), cannot, even by wear, be liable to run down, and entirely avoids the necessity of using the ratchet wheel; it is at once simple and THOROUGHLY EFFECTIVE, and is SAFER and MORE DURABLE than any plan yet adopted for that purpose, thus rendering their patent Revolving Shutters the SAFEST and MOST EFFICIENT in use. These Shutters are fixed horizontally (either above or below the window or door), or vertically, for which position the great additional strength of the Convex Laths renders them peculiarly suitable.

REVOLVING IRON SHUTTERS, MADE OF THE COMMON FLAT LATHS, at a considerable reduction of price.

CAUTION.—The Patentees beg to caution all persons against Making or Using RENT or CONVEX LATHS for REVOLVING IRON SAFETY SHUTTERS (whether winding horizontally or vertically), so as to obtain increased strength and stiffness, as they thereby render themselves liable to legal proceedings for infringing this patent.

Engravings and Prospectuses will be forwarded on application.

DRAWN METALLIC SASH BARS, ASTRIGALS, MOULDINGS, STALL BOARD PLATES, &c.

Patentees and Manufacturers, R. HOWARD and Co., London.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS.

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee having fixed a great number of his shutters in London, and given universal satisfaction, can confidently recommend them both for security and durability, the edges being sheathed with Iron. Their construction is so simple that the largest establishment can be opened or closed with the greatest possible ease without the use of machinery. Their superiority over other revolving shutters consists in their great strength and stiffness, being without metal hinges, consequently cannot rust, buckle, be strained, or get out of order, and are safer. Persons dissatisfied with the patent rising gear now used for iron shutters can have it removed, and the shutters made to draw up in any part of the premises with the slightest exertion, without machinery, thereby avoiding the unpleasant use of oil.

INJUNCTION.

BUNNETT and CORPE'S Patent REVOLVING IRON SHUTTERS.—Since the verdict found in favour of the Patentees, in the Court of Exchequer, in the action tried by order of the Court of Chancery, that Court has granted a perpetual Injunction for restraining all infringements of this Patent, and therefore all parties are hereby cautioned against infringing the same.

THE PRICES ARE GREATLY REDUCED, and BUNNETT AND CORPE'S PATENT IRON SHUTTERS ARE THE CHEAPEST AS WELL AS THE BEST. They are made with convex laths, if required. The worn and wheel motion for raising and lowering revolving iron shutters (as secured by this Patent) is the only safe and durable mode of effecting that object. In large shutters it is indispensable.

Some thousands of Bunnett and Corpe's Shutters have now been put up, without a single complaint of their want of strength or security; and nine years' practical experience (during which they have adopted every real improvement) enables the Patentees to challenge comparison with any others. They will guarantee all Shutters put up by them to keep in order, and last twice as long as any with thin convex laths.

B. and C. also manufacture REVOLVING WOOD SHUTTERS (the Patent for which has expired), at the same prices as other makers, but greatly superior, being fitted with their patent raising gear, and proper metallic hinges, without which no shutter can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop-fronts fitted with Iron Shutters, Patent Brass or Zinc Sashes, Plate or ornamental, handsomely Engraved, Moulded, Stall-board Plates, best Plate Glass, and Internal Brass Fittings of all kinds, superior in quality and workmanship, and lower in price than any other house.

Contracts taken in Town or Country.

Metal Drawing and Stamping for the Trade.

Office at No. 29, London-street, London; Works, at Deptford, Kent.

Steam-engines, Sawing, Planing, and Moulding, Cutting-machines on Improved Plans, especially adapted for Builders' purposes, may be seen in operation at the Works.

PLATE GLASS.—TO BUILDERS, &c.

A LARGE QUANTITY of PLATE GLASS of various sizes, from four inches wide to thirty inches, to be sold in job lots, at very reduced prices, in consequence of the agency being resigned.—Apply at 26, Soho-square.

PAINTED GLASS.

THE Subscribers, who have been appointed to furnish the PAINTED GLASS for the WINDOWS of the HOUSE OF LORDS, are ready to prepare Designs adapted to every style of Ecclesiastical or Domestic Architecture, and to execute Work, to any extent, within the shortest possible period.

BALLANTINE and ALLAN, 42, George-street, Edinburgh.

TO THE PLATE GLASS TRADE.

THE BIRMINGHAM PLATE AND CROWN GLASS COMPANY, "Registered," beg to inform the Trade and Public, that the extension of their Works at Smethwick, near Birmingham, being now completed, their Warehouse, 141, Fleet-street, London, is now open for the Sale of their Crystal Plate Glass, which will be found to stand unrivalled by that of any other manufactory. They are also in a position to supply Rough Plate of any substance for Skylights or Floorings on the shortest notice.—Orders addressed to B. MOSS, Company's Warehouse, 141, Fleet-street, London, will be promptly attended to.

SASHES primed, glazed, and sent to any part of London at 5d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.

FOREIGN SHEET. BRITISH SHEET.
BRITISH CROWN. PROPAGATING GLASSES.

Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Shew-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.

Dry and Good Colours of the best quality; Brushes Dryers, and every article used in the Trade Warranted.

VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.

For complete lists priced, Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

WINDOW GLASS, Crown Squares, in 100 feet Boxes, per foot:—

4 by 3	and under	5 by 3	.....	1d.
5 .. 3	,,	6 .. 4	.....	1¼
6 .. 4	,,	7 .. 5	.....	1½
7 .. 5	,,	9 .. 7	.....	2
9 .. 7	,,	10 .. 8	.....	2½
10 .. 8	,,	14 .. 10	.....	2¾
14 .. 10	and under	2 feet	.....	3

Crates averaging 50 inches:—

ccc	14 table	.....	each 40s.
cc	18	.....	47
Fourths	18 table	.....	65
Thirds	18 table	.....	78

Foreign Sheet Glass, 3rds, superior to English, in 200 feet boxes, about 16 oz. 3d. per foot; best quality, Sheet Glass, about 16 to 18 oz., in 100 feet cases, 8d. per foot: this is a most superior article, nearly approaching to plate glass.

Water-closets, Pumps, and all kinds of brass work. Sash glazing, 4½d. per foot.—Address THOMAS MILLINGTON, 87, Bishopsgate-street, Without, London.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

HERRING'S PATENT SAFETY WINDOWS.—No invention ever offered the advantages to builders and the public; it will positively add 5 to 10 per cent. to all houses having it, repay the cost every two years, abolish all danger to life and limb, cleaning and repairing. It is in full operation (four different ways), forms a complete ventilator and sun-blind, all simple, cheap, and effective.—Apply for licenses and to inspect its real merits, to Herring's Patent Steam Bed-feather Factory, 14, Kingsgate-street, London.

CHAS. WM. WATERLOW,



Manufacturer of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square. Well-seasoned materials, superior workmanship, lowest prices. Upwards of 400 Doors and a large variety of Sashes and Frames always on Sale. Glazed goods securely packed for the country.



Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.

WORCESTER ENCAUSTIC TILES.

Specimens of these beautiful Tiles in all their Varieties, may be seen and information obtained at the London Agents, Messrs. GRIEVE and GRELLIER, Marble-wharf, Belvidere-road, Waterloo-bridge, or at the Encaustic Tile Works, of Messrs. F. ST. JOHN G. BARR, and Co., Worcester.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—J. M. BLASHFIELD, Agent. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

TO BRICK AND TILE MAKERS.

THE AINSLIE PATENT TILE MACHINE COMPANY (James Smith, Esq., of Deanstone, Chairman), invite attention to their improved Brick and Tile Machines, and to their new improved Patent Kilns for drying and burning Bricks and Tiles, by which a saving of from two-thirds to three-fourths of the fuel is effected, and all the articles are burnt equally without loss or damage. The Machines at work, and a model of the Kilns, to be seen, and all particulars to be obtained from Mr. JOHN PATON, Secretary, 193a, Piccadilly, London.—Agents wanted.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c., of 100 sorts and sizes.—The Public is respectfully informed, that Mr. PEAKE has removed his Depot from Whitefriars to No. 4 WHARF, MACCLESFIELD-STREET, South, City Basin, London, where a large Stock is on Sale of genuine Terro-Metallic Goods. No Agent. Roofing in Grecian and Italian styles, other devices also, or plain; ridges and hips, with plain or capped joints, roll tops, or vertical ornaments; paving, in 6 in., 7½ in., and 9 in. blue and red squares, in 6 in. blue and red hexagons, and in 8 in. blue octagons, with 3 in. drab squares. Drains, many sizes, with butt or socket joints; conduits, which will not injure pure water; tubular and other flues, of proper material; channels, large clinker bricks, and outdoor paving; sundry wall-coping, fire bricks and tiles, garden-edging, chimney-tops, &c. The Tileries, Tunstall, Staffordshire, are near the centre of England, whence boats are sent to any inland place, or to the Mersey, for the coasts, the colonies, and elsewhere. A Wharf at Whitefriars to be Let for a term.

PAVING, 2s. 9d. PER SQUARE YARD.

Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN FILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen for covering bridges and arches.

COMMISSIONERS OF FINE ARTS' REPORT ON THE MEANS OF PREVENTING DAMP IN WALLS.

THE DIRECTORS of the SEYSSEL ASPHALTE COMPANY have much pleasure in recommending to the notice of Architects, Builders, and others, the application of the ASPHALTE of SEYSSEL as the only effectual means of preventing DAMP rising in WALLS.

J. FARRELL, Secretary.

Seyssel Asphalte Company's Works,
"Claridge's Patent."
Stangate Depôt, London.

The following account of its application is extracted from "The Appendix to the Commissioners of Fine Arts' Report," page 18:—

"In 1839 I superintended the construction of a house of three stories on the Lac d'Enghien. The foundation of the house is constantly in water, about 10½ inches below the level of the ground floor. The entire horizontal surface of the external and internal walls was covered, at the level of the internal ground-floor, with a layer of SEYSSEL ASPHALTE, less than half an inch thick, over which coarse sand was spread.

"Since the above date no trace of damp has shewn itself round the walls of the lower story, which are for the most part painted in oil of a gray stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so painted, yet the pavement of the floor, resting on the soil itself, is only about 2½ inches above the external surface of the soil, and only 19½, at the utmost, above that of the sheet of water.

"The layer of Asphalte having been broken and removed, for the purpose of inserting the sills of two doors, spots indicating the presence of damp have been since remarked at the base of the door-posts."

THE BUILDER.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery.

Best Patent Cut Clasp.

3d. 4d. 6d. 8d. 10d. 20d.

6d. 7d. 8d. 1s. 1s. 6d. 2s. per 1000.

Best Sheet Floor Brads 15s. 6d. per cwt.

Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

Best Patent Sash Line.

1 2 3 4 5 6

4s. 3d. 5s. 6s. 6d. 7s. 6d. 10s. 12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6d., 7d., 9d. per inch.

Self-acting Kitchen Ranges with Oven and Back Boiler. Wrought Bars and Bright Fittings.

3 ft., 3l. 3s. 3 ft. 6 in., 3l. 12s. 6d. 4 ft., 4l.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft. 3 ft. 3 in. 3 ft. 6 in. 3 ft. 9 in. 4 ft.

3l. 6s. 3l. 13s. 3l. 16s. 4l. 4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft. 3 ft. 3 in. 3 ft. 6 in. 3 ft. 9 in. 4 ft.

5l. 5l. 15s. 6l. 5s. 6l. 10s. 7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.

Do. Elliptic do., at 8d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 168, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.



TO ENGINEERS AND BOILER MAKERS.

LAP-WELDED IRON TUBES FOR STEAM BOILERS.

THE BIRMINGHAM PATENT IRON TUBE COMPANY, 42, Cambridge-street, Birmingham, and Smethwick, Staffordshire, manufacture Tubes under an exclusive License from Mr. Richard Prosser, the Patentee. These Tubes are now very extensively used in the Boilers of Marine and Locomotive Steam Engines in England and on the continent, are stronger, lighter, cheaper, and more durable than brass or copper Tubes, and warranted not to open in the Weld. They may be fixed in the Boilers without Ferules, and can be taken out and refixed without additional trouble or expense.—Address, 42, Cambridge-street, Crescent, Birmingham; London Warehouse, 68, Upper Thames-street.

LIGHTNING CONDUCTORS FOR BUILDINGS.

A. SMITH'S PATENT COPPER WIRE ROPE is being daily employed for the protection of CHURCHES and other buildings from the effects of thunder storms; it possesses important advantages over other forms of conductors. References can be given where it has been applied for some time past to CHURCHES, PUBLIC and PRIVATE BUILDINGS, &c., &c. Its general adoption in the Naval and Mercantile Marine of this and other countries is the strongest possible EVIDENCE of its EFFICIENCY, &c.

A. SMITH begs the attention of those engaged in building to his IMPROVED PATENT PANELLED AND REVOLVING IRON SHUTTERS,—Also, the Patent Weather-tight Fastening and Gill Bar, for French Casements, which are so much admired for their security, simplicity, cheapness, and efficiency. Of the merits of his Patent Double and Single Action Door Springs, Improved Flooring Cramps, Patent Wire Sash Lines, &c. &c., Little need be said, as they are pretty generally known and appreciated.

Manufactory for Iron Suspension, Sliding, and other Doors, Strong Rooms, Plain and Ornamental Palisading, Gates, and Columns.—Also, Metal Sashes, Shop-fronts, Stall-board Plates, Brass butt, and other Hinges. Buildings heated upon a new, safe, and superior plan.

Estimates given for every description of Metal-work.

A. SMITH, 69, Princes-street, Leicester-square, London.

CHARLES SMITH and SON, 52, GREAT CHARLES-STREET, BIRMINGHAM (late STANDLY and SMITH, formerly STANDLY and GALE, Bull-street), Locksmiths, Bell-hangers, Brass-founders, Whitesmiths, &c., beg most respectfully to solicit the attention of MAGISTRATES, ARCHITECTS, and ENGINEERS to their inventions for prisons, lunatic asylums, &c.

C. S. and Son will be happy to attend any committee of magistrates without charge, and submit a VARIETY of patterns of peculiar locks, signals, inspection apparatus, chapel door-fastenings, iron frames, hinges, &c., as supplied by them at the MODEL PRISON, LONDON, and TWENTY-THREE SIMILAR GAOLS, where they have given entire satisfaction.

Among other testimonials, can be shewn that of Major Jebb, attesting the efficiency of the labels, &c., invented by them.

The contracts will be executed to the approval of the inspector-general of prisons, and the architects.

C. Smith and Son also are prepared to contract for the supply of the whole of the ironmongery requisites for the residences of the nobility and gentry, churches, banks, barracks, gaols, asylums, and workhouses, including locks, bells, hinges, grates, kitchen-ranges, staircases, grates, park-fencing, fire-proof safes, bookcases, doors, metal sashes of all kinds, and every description of ornamental brass and iron work, light castings, &c.

C. S. and Son beg to refer to the extensive works performed by them at Windsor Castle, Northumberland and Sion House, Blenheim Palace, Chatsworth, &c., as a guarantee for the superiority and durability of their work, in confirmation of which numerous letters from nobleman and be shewn.

ELEGANT FENDERS AND FIRE-IRONS.

JEREMIAH EVANS and CO. beg leave to call the attention of the nobility and gentry to their novel and elegant Stock of Fenders and Fire Irons, manufactured of every description of pattern, including the Gothic, French, Elizabethan, Grecian, &c. They have also just introduced several splendid Stoves en suite.—Manufacture and Show Rooms, 33, King William-street, London-bridge.

HOT WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories, and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises. BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

ROBERT STEDALL'S
PATENT SCOLECOTHIC VENTILATOR,
AND CURE FOR SMOKY CHIMNEYS.



The most effectual and most ornamental Chimney-pot yet invented, entirely obviating the objection to which all others are open, namely, that of soon becoming clogged with soot, and, consequently, useless.

A large quantity has been made in various parts of the kingdom, which have given the greatest satisfaction.

Price, Strong Painted Iron..... 32s.
" Strong Galvanized Iron .. 40s.

To be had of ROBERT STEDALL, 13, Nelson-street, Greenwich.—The Trade supplied, and also licences granted to Manufacturers.

By Her Majesty's Royal Letters Patent

WILKINS'S "SILENT" WATER-CLOSET.—To Architects, Surveyors, and Builders.

Gentlemen,—Your attention is respectfully invited to the above "Closet," the peculiar qualities of which are, that it is perfectly silent in the action of the Machinery and the supply of Water, and may be fixed in any convenient place in the House, without communicating the sound of a Water-closet to any of the adjoining Apartments, while it retains all that is useful in the ordinary Closets, it does away with the Ball Levers, Wire, Cranks, &c., which cause much of the noise to which the old closets are liable. The want of a Water-closet more suitable for the present mode of fixing them in the internal parts of Dwelling Houses and Office Apartments, has long been felt, and the benefit to be derived from one that is "Silent" in the action of the Machinery and supply of water, is sufficiently obvious to render unnecessary any lengthened comment in its favour.

This Closet is simple in its construction, the whole of the apparatus (including the trap), being completed between the floor of the room and the seat of the Closet, thereby rendering it quite easy to remove any noisy Closet and fix the "Silent" one in its place, without interfering with the old trap, which is generally embedded between the floor and ceiling below the Closet. The "Silent" Closet is also clean and so free from any effluvia, as to allow of its being fixed in any bed-room (where there is a convenience of fixing a pipe down the outer wall of the house) without occasioning the least unpleasantness whatever.

May be viewed Daily, and Orders taken at No. 26, Gower-place, University College, London, from 8 in the Morning to 9 in the Evening.

TODD'S PATENT PROTOXIDE PAINT, manufactured by CHAS. FRANCIS and SONS, CEMENT WORKS, NINE ELMS, LONDON.

The properties of this Paint are peculiar for preventing iron from oxidation, wood from decay, and masonry from damp; it neither cracks nor blisters with the hottest sun, and is therefore most valuable for Railways, Boilers, Steam, Gas, and Water-pipes; Hothouses, Forcing-houses, and for Shipping. Its adhesion is so great to iron and wood, that the hardest friction will scarcely remove it. It prevents vegetation on stuccoed buildings, and is not affected by spray of sea-water.

PROTOXIDE PAINT is sold ground in oil, and, compared with white-lead, its property of concealing is as 75 to 50, so that one hundred weight is equal to one and a half of lead. It works well under the brush, and forms with oil an unctuous and cohesive mixture. If blended with other paints it has a softer tone than white-lead. For houses painted during occupation it is most preferable, being perfectly innoxious.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 10s. per gallon.

VARNISH, COLOURS, WHITE LEAD.

Genuine White Lead	per cwt.	27s. 0d.
Seconds	,,	25 0
Thirds	,,	23 0
Linseed Oil.....	per gallon	2 3
Turpentine.....	,,	4 6
Putty	per cwt.	7 6
Patent Dryers	,,	36 0
Oxford Oker	,,	36 0

Varnishes equalled by none:

Fine Oak	per gallon	10s.
,, Carriage	,,	12
,, Copal	,,	18
,, Body Copal	,,	24
,, Gold Size	,,	10
,, Black Japan	,,	10

Painters' Brushes, and every article in this branch, at the Manufactory, 67, Bishopsgate-street, Without, London.—THOMAS MILLINGTON, Proprietor.

TO BUILDERS, PAINTERS, AND OTHERS.

MESSRS. WOOD and Co., GRAINERS and WRITERS to the Trade only.

62, WATERLOO-BRIDGE ROAD.

An Apprentice wanted, to board and lodge with his friends. Premium, 30l.

TO ARCHITECTS, BUILDERS, &c.

GAS LAMPS, GAS BRACKETS, GAS PILLARS, BURNERS, &c. &c. In calling the attention of architects, builders, &c., to their assortment of Gas Furniture in general, C. DEBAUFER and SON respectfully announce they continue to fit up premises of every description on the most approved and newest system of gas fitting. An experience of forty years justifies us in making the above assertion.—P.S. Country orders attended to with dispatch.—10 and 11, Creed-lane, St. Paul's.

FILTERED WATER.—As the rainy season produces its dirty water, JOHN DAY, proprietor of Defouville's system of filtration, the only one known by which large quantities of liquids are easily filtered, begs to announce that he continues to supply these apparatus, which are easily applied to cisterns and water-butts, and when fixed require no care or attention from servants, and never get out of order. The prices are from Two to Four Guineas, producing from 100 to 300 gallons daily; for brewers, distillers, paper makers, hospitals, and large establishments, to an unlimited quantity, the prices varying accordingly.

40, Love-lane Platform, Rotherhithe; Office, 33, Conduit-street, Bond-street.

FIRE GOODS.

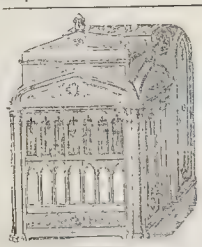
W. ALLDER, FALCON CEMENT WHARF, 80, Bankside, has always on hand for Sale a Large Assortment of Fire Goods, Welch, Stourbridge, and Newcastle, at Lowest Prices. Also Roman Cement; Pots, both Red and Cement; Bricks, Tiles, Hair, and Laths.

TO PLASTERERS.

LIME FOR PLASTERING, that may be used immediately without risk of blistering, manufactured expressly for Plastering, and sold at the usual price, at FORREST'S WHARF, Earl-street, Blackfriars. Sheds for the slacking and mixing of lime. Accommodation for loading and landing bricks, sand, ballast, &c.

TO BUILDERS AND OTHERS.

MESSRS. H. G. and E. ROSHER, having closed their Lime Wharf at Montague Close, Southwark, have removed their business to Albion Wharf, Holland-street, Bankside, where they intend keeping a constant supply of Grey-stone, Flame-burnt, and Plasterers' Lime, Sand, Cement, Bricks, Tiles, Chimney Pots, Fire Bricks, Lumps, Fire Clay, and other building materials. Messrs. ROSHER have also Lime Wharfs at Limehouse, Millbank-street, Westminster, and Kingsland Basin, Kingsland-road.



NOTT'S PATENT STOVE,
FOR
CHURCHES, HALLS, WAREHOUSES, &c.

THE PATENT having expired, the present Proprietors are enabled to offer these excellent Stoves at
THREE-FOURTHS OF THE PRICES HITHERTO CHARGED.

Engravings of the Patterns, with
THE REDUCED PRICES,
will be forwarded on application to the Warehouse,
80, GREAT QUEEN STREET, LINCOLN'S INN FIELDS.

N.B. Hot-water Pipes can be attached to the Stoves for warming distant apartments, Conservatories, &c.

FEATHER BEDS PURIFIED BY STEAM

HEAL and SON have just completed the erection of Machinery for the purifying of feathers on a new principle, by which the offensive properties of the quill are evaporated and carried off in steam: thereby not only are the impurities of the feather itself entirely removed, but they are rendered quite free from the unpleasant smell of the stove, which all new feathers are subject to that are dressed in the ordinary way.

Old Beds re-dressed by this process are perfectly freed from all impurities, and by expanding the feathers the bulk is greatly increased, and consequently the Bed is rendered much softer. The following are the Prices of New Feathers:—

Mixed, per lb.....	1s. 0d.	Best Foreign Grey Goose....	2s. 0d.
Grey Goose	1s. 4d.	Best Irish White Goose	2s. 6d.
Foreign Grey Goose	1s. 8d.	Best Dantzic White Goose ..	3s. 0d.

HEAL and SON'S LIST OF BEDDING, containing full particulars of Weights, Sizes, and Prices, sent free by post, on application to their Establishment, 196, opposite the Chapel, Tottenham-court-road.

TO BUILDERS AND OTHERS.—KENSINGTON-PARK, NOTTING-HILL.

SEVERAL PLOTS of GROUND in this most eligible situation TO LET on Building Leases.—Apply to Mr. B. BROADBRIDGE, Architect and Surveyor, 35, Ladbroke-square, Notting-hill.

REGENT STREET.—TO LITERARY SOCIETIES, PUBLIC COMPANIES, AND OTHERS.

TO BE LET on Lease, five doors from Regent-street, a capital Spacious Freehold Residence in New Burlington-street, with Stabling and Garden, and liberty to build on the latter if required.—Apply to Messrs. RUSHWORTH and JARVIS, Auctioneers, Saville row, Regent-street, and 19, Change-alley, Cornhill.

TO BUILDERS.—MATERIALS AND MONEY ADVANCED.

TO BE LET, on BUILDING LEASES, for ninety-six years, several very eligible plots of Freehold Building Ground, land-tax redeemed, for fourth-rate houses, situated in streets leading from the Queen's-road, Dalston, to Lansdown-place. This is one of the most rapidly improving neighbourhoods near London, and will be the principal thoroughfare from all parts westward to the new Victoria Park, from which it is only a quarter of a mile distant.—Apply to Mr. PALMER, on the premises.

ST. JOHN'S WOOD PARK!!! IMMEDIATE CONNECTION WITH REGENT'S PARK.

BUILDING PLOTS TO BE LET in this most desirable and salubrious situation !! commanding picturesque views of the SURROUNDING BEAUTIFUL NEIGHBOURHOOD, and elevated within a few feet of the summit of the monument, with the best approaches of any suburban district near the metropolis, and greatest facilities of access to all the fashionable resorts and promenades of the West End and the City !—For particulars and plans, apply to W. H. TWENTYMAN, Esq., 14, Regent's-villas, Avenue-road, Regent's-park.

RICHMOND, SURREY.—TO CAPITALISTS, BUILDERS, AND OTHERS.

ABOUT Thirty Acres of Freehold Ground at Richmond, near the Hill, and adjoining the Park, most eligibly situate for building purposes, land-tax redeemed, will be LET by PUBLIC AUCTION, in Lots, on Building Leases, for 99 Years, at the Vestry Office, Richmond, on Monday, the 7th of December, 1846, at 11 o'clock A.M., punctually.—Particulars, with plans and conditions, may be had of Messrs. SMITH and SON, Solicitors, Richmond, and of W. SMYTHE, Esq., 22, John-street, Bedford-row, London.

FREEHOLD LAND.—TO BUILDING SOCIETIES, BUILDERS, AND OTHERS.

TO BE LET, OR SOLD, about Six Acres of FREEHOLD LAND, well adapted for the erection of small respectable dwellings, and situate within 100 yards of the Bedford Arms, Clapham-road, and a 6d. ride of the city. It will be sold in Plots, varying from 65 to 110 feet in depth; or be Let for Ninety-nine Years at 3s. per foot rental. Bricks will be advanced on security of the property, or sunk at a ground rent if required.—Apply to Mr. WILLIAM THOMAS WOODS, Bedford New-road, Clapham-rise.

TO ARCHITECTS, MASONS, AND BUILDERS.

FOR SALE, on account of a Dissolution of Partnership, and to clear the Premises, a valuable and well-selected STONE MERCHANT'S STOCK, consisting of large blocks and scantling of Portland Stone, Yorkshire paving, landings, steps, links, curbs, coping, and window sills; rubbed slabs, and a large quantity of box stone chimney-pots, and a few marble ditto; strong stone-trucks and carts. Powerful shew leys, and geer, chain slings, crab blocks and falls, various, and about 50,000 feet, superficial, Rockhill paving. Country Builders are invited to purchase this prepared Stock, at No. 30, Commercial-road, Lambeth.

TO BUILDERS AND OTHERS.—GREENWICH, KENT.

TO BE SOLD by TENDER, the beneficial interest in an agreement for lease of a desireable Plot of Building Ground free from Land Tax, having two commanding frontages in London-street and Royal Hill, and within five minutes' walk of the Railway Terminus. Thereon are partly erected three carcases, one of which is intended for a corner public-house. The principal frontage is valuable for the erection of second or third-rate houses, which are in great demand in this locality. Tenders under seal to be sent to the offices of Mr. NOBLE, Surveyor, &c., London-street, Greenwich, on or before Thursday next, the 3rd of December, and where further particulars may be obtained.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, BUILDERS, AND OTHERS.

MESSRS. PROTHEROE and MORRIS have received instructions to submit to PUBLIC COMPETITION by AUCTION, on the premises, Paradise Nursery, Hornsey-road, on MONDAY, Dec. 14th, 1846, and following day, at Eleven o'clock (by order of Mr. Pamphir, in consequence of the ground being required for other purposes), the whole of the valuable Nursery Stock, consisting of a considerable quantity of very fine evergreens, fruit-trees, &c. Also about 500 camelias, from two to five feet, well furnished with bloom buds; Azalia Indica, Erica, Epacris, and other greenhouse plants, in fine varieties.—May be viewed prior to the sale; catalogues (sixpence each, returnable to purchasers) may be had on the premises, of the principal seedsmen, and of the Auctioneers, American Nursery, Leytonstone.

PORT OF PORTSMOUTH.

PUBLIC SALE of Canadian Timber, Deals, Staves, and Lathwood, consisting of about 85 loads of Red Pine; 400 loads of Yellow Pine; 1,400 Pine Deals; 8 fathoms of Lathwood; 600 pc. Staves; ex "Countess of Durham," from Quebec; which will be SOLD by AUCTION, by Mr. GEORGE WM. LAW, on Thursday, the 10th December, 1846, at Twelve for One o'clock, precisely, at the BUILDING SLIP FLAT HOUSE, where the whole now lies, and can be inspected. This cargo will be found of superior quality and size. The great deficiency in the importation of Canadian Timber this year must cause prices ere long to advance considerably, and renders the above cargo peculiarly desirable to persons wishing to purchase. Refreshments will be provided at the place of Sale.—Catalogues may be had of the Auctioneer, at his Offices, Portsea and Landport; of ANDREW NANCE, jun., Portsmouth; and of JOHN MARSHALL and Co., 79, High-street, Southampton.

SALES BY AUCTION.

BUILDER'S STOCK.—HARROW-ROAD, NEAR WESTBOURN-PARK.

MR. H. BIERS will SELL by AUCTION, at Mr. Pink's premises, Harrow-road, near Westbourn-park, on MONDAY, Dec. 14th, 1846, at Twelve, the remaining stock, comprising oak and fir timber, cut deals, battens and plank, prepared doors, sashes and frames. Ironmongery, Portland and York stone. A large quantity of very superior scaffolding, standard and other ladders, brick and rubbish carts, joiner's spring cart, a powerful cart horse, harness, bricks, cement, slates, tiles, carpenter's and other work benches, wheelbarrows, wheeling planks, &c.—May be viewed on Saturday previous and morning of sale, when catalogues may be had on the premises, or at Poland House, 13, Broad-street, Golden-square.

TO BUILDERS, CARPENTERS, MASONS, WHEELWRIGHTS, AND OTHERS.

MESSRS. DAVIS and VIGERS are instructed by the Assignees of Wood and Son, bankrupts, to SELL by AUCTION, on the Premises, Willow-walk, Bermondsey, on THURSDAY, the 17th of December, 1846, at Eleven for Twelve o'clock, the entire Stock in Trade, utensils, and effects, comprising fir, oak, and elm timber; 500 dry spruce, pine, and other deals; 100 pine planks, well seasoned cut stock, fir laths, ash felloes, &c. Scaffold poles, boards, putlocks, and cords. Portland, York, and Bath stone. Marble chimney-pieces, ironmongery, turning-lathe; six benches; four carts; chaise, ditto; a timber carriage; four-wheeled chaise; three powerful cart-horses, &c. &c. &c. To be viewed one day prior to the sale. Catalogues to be had of J. GRAHAM, Esq., official assignee, Coleman-street, on the premises, and at the Auctioneer's Offices, 3, Frederick's-place, Old Jewry.

EXTENSIVE SALE OF BUILDING MATERIALS, BRITISH MUSEUM.

MESSRS. EVERSFIELD and HORNE have received instructions from the Commissioners of Her Majesty's Woods, Forests, Land Revenues, Works and Buildings, to SELL by AUCTION on the premises, Great Russell-street, Bloomsbury, on TUESDAY, December 15th, at Twelve o'clock, the very valuable materials of the recently erected building known as the Townley Gallery, consisting of a large quantity of lead in flats, gutters, cisterns, and pipes. Sound oak and fir timber in roof joists and girders, wainscot and other floor boards, excellent large and small sashes and frames, moulded doors and frames, mahogany show cases, four fluted stone columns and caps 14 feet 6 inches high; a fire-proof room with wrought-iron folding and other doors; Portland stone and other staircases, several thousand feet super of stone paving, stout stringing, ashlar and coping the hot-air apparatus to the whole building, stoves, piping, &c., also the very excellent sound brickwork and numerous other effects. The whole of these materials are of the very best description, and will be put into Lots to be taken down and cleared away by the purchasers.—May be viewed one day previous and catalogues had on the premises, also at the Office of Woods and Forests, Whitehall, and of the Auctioneers, Coal Exchange, or No. 1, Little Smith-street, Westminster.

VALUABLE STOCK of MOULDS and CASTS in Cement and Plaster, especially worthy the attention of Architects, Builders, and Gentlemen engaged in ornamenting Public and other Buildings, Terraces, Gardens, &c.

MESSRS. RUSHWORTH and JARVIS will SELL by AUCTION, on the Premises, 33, Duncan-terrace, City-road, near the New River, on WEDNESDAY, December 9th, and following day, the valuable Stock of an Architectural Modeller, comprising a beautiful variety of valuable models, suitable for internal and external decorations, in centre flowers, trusses, capitals, balusters, Tudor and other chimney shafts, vases, fountains, &c. Casts in cement and plaster from celebrated ancient and modern sculptures, and from originals in the collection, including figures and groups of various sizes, busts, trusses, consoles, corbel-heads, key-stones, centre-flowers, friezes, capitals, terminals, fir gate piers, high enriched vases, fonts, fountains, animals, birds, &c.

May be viewed two days previous, and catalogues had on the premises, and at the Office of Messrs. RUSHWORTH and JARVIS, Saville-row, Regent-street, and 19, Change-alley, Cornhill.

TO ARCHITECTS.

TO BE SOLD CHEAP, VITRUVIUS ARCHITECTURE, translated by W. WILKIN, Esq., F.R.S., and illustrated with upwards of Fifty Illustrations on Steel, price 25s. in cloth boards, to be obtained of R. KIMPTON, Bookseller, 31, Wardour-street, Soho.

PUBLICATIONS.

Just puplished, for 1847, price 4s., the Thirty-seventh Edition of

SKYRING'S BUILDERS' PRICES.

The present Edition of this work is submitted with confidence to the Profession, and the Trade in general. It contains a variety of new and useful information, a Diary, or daily Journal, and a copious Abstract of the New Buildings Act, with all the modifications of the same.

SIMPKIN and Co., Stationer's-court, London; and may be had of all Booksellers.

Just published, the Third Edition, 8vo., with Plans and Diagrams, 15s.

THE PRINCIPLES and PRACTICE of ENGINEERING and other SURVEYING. By CHARLES BOURNS, M.I.C.E.

"This is a truly useful book; in the second part of it we have good and sound practical instruction on engineering and other surveying. * * We have no hesitation in saying that this work will be a complete guide in the hands of the student."—*The Builder.*

"On engineering surveying there is much valuable information, which subject has hitherto been strangely neglected."—*Dublin Evening Packet.*

"From the very explicit, yet concise manner in which the author has carried out the various subjects, it is evident they are founded on good theoretical data, and sound practical knowledge. His practice on field-work and engineering surveying generally, is of itself a volume of instruction to the young practitioner, and, without so entering into abstruse formulæ and mathematical calculations, as to make the work puzzling, it contains all that is required to render it, not only a source of instruction, but also a most excellent work of reference."—*Mining Journal.*

London: JOHN OLLIVIER, 59, Pall Mall.

HOLBORN HILL, SNOW HILL, and FARRINGDON STREET VIADUCT COMPANY. (Registered Provisionally.)

Capital, 200,000*l.*, in 20,000 shares of 10*l.* each; deposit 11s. per share.

The allotment of shares will take place as early as practicable by the Committee of Management; and in the mean time, all further applications for Shares are to be made to the Solicitors, Messrs. CARRITT and OSGOOD, 5, Guildhall Chambers, Basinghall-street; and applicants are requested to confine their references as much as possible to Bankers, Brokers, and other parties within the City of London.

The estimate of JOHN STEAD, Esq., the Civil Engineer, and GEORGE SMITH, Esq., the Architect, is highly satisfactory.

30th November, 1846.

THE MUTUAL INSURANCE BENEFIT INSTITUTION,

51, Threadneedle-street, London,

Established 1839,—Patrons, the Duke of Cambridge, Lord Denman, &c.

WEEKLY SUMS of MONEY during SICKNESS or ACCIDENT, with MEDICAL ATTENDANCE and MEDICINES whenever afflicted, may be secured by easy Monthly or Quarterly payments, according to age, at the Office as above.

EXAMPLES.—A Young Man, under 33 years old, may, by the monthly payment of 2s. 8½d. secure 12s. per week, and Medical Attendance and Medicines, whenever afflicted, without any further payments or fines being required. Other sums and other ages, up to fifty-five years, in like proportion.

SUMS OF MONEY, from 10*l.* to 50*l.* payable at DEATH, to Widows, Orphans, or next of Kin; ENDOWMENTS for CHILDREN and YOUTH, from 10*l.* to 200*l.*; and ANNUITIES of 10*l.* to 40*l.* per annum in Old Age, may be also secured by easy Monthly or Quarterly payments.

Prospectus, with Tables of payment, may be had at the London Office, 51, Threadneedle-street; or of any of the Agents.

UNION JOINT STOCK BUILDING COMPANY, completely registered pursuant to the 7th and 8th Vic. cap. 110. Capital, 5,000*l.*, in 1,000 Shares of 5*l.* each; empowered to increase to 50,000*l.*, payable by monthly instalments of 10s. per Share—Entrance fee 5s. per Share. Office, 5, Moreton-street, Vauxhall-bridge-road.

TRUSTEES—Mr. Alsaking, 8, Castle-street, Long-acre; Mr. Robert Clark, 7, Kemp's-row, Pimlico; Mr. Quick, 21, King's-row, Pimlico.

TREASURER—Mr. Rogerson, Victoria-wharf, Pimlico.

DIRECTORS—Mr. H. Clarke, 6, Ranelagh-grove, Pimlico (Chairman); Messrs. J. Clark, W. Dobinson, H. Hewitt, W. Lewis, H. Marson, C. Rendall, W. Ridge, H. S. Ridley, J. Rudge, A. Salmon, W. Telling.

BANKERS—London and Westminster Bank, St. James's-square.

SOLICITOR—Mr. Joseph Raw, 5, Furnival's Inn.

SURVEYOR—Mr. H. S. Ridley, 75, Lillington-street.

SECRETARY—Mr. George Ratt, 3, South-place, Bridge-row, Pimlico.

A MEETING will be held at the Office of the Company, on WEDNESDAY, the 9th day of December, 1846, at Seven o'clock in the Evening precisely, for the purpose of explaining the objects of the Company, and of issuing to the public such Shares as have not already been disposed of.

And also for the Shareholders to take into consideration the propriety of empowering the Company to purchase, or take on lease, lands for the purpose of making Bricks, and to dispose of the same by absolute Sale, or to use them in Buildings to be erected by the Company.

The Company by their Deed of Settlement are empowered to take Leases of or to purchase Land or Ground, and to build thereupon, and also to purchase property, consisting either of Houses or Lands, of freehold, copyhold, customary, or leasehold tenure, and to let or sell such Lands, or Grounds, and property. They are also empowered to lend out money upon mortgage security.

The Company are now ready to treat with parties for the purchase of property, &c. All applications to be made by letter (post free), addressed to the Secretary, at the Office of the Company.—By order of the Board,

GEORGE RATT, Secretary.



H. MORRELL'S FINE PREPARED DRAWING PENCILS.—Under the patronage of Her Majesty's Stationery Office, the Honourable Board of Ordnance, and the Honourable East-India Company.

The attention of Artists and the Public generally, is respectfully solicited to these BLACK LEAD PENCILS, which are prepared perfectly free from grit, of great variety of shade, and possess all the requisites for the most highly finished drawings.

Sold wholesale at the Manufactory, No. 149, Fleet-street, London, and may be had retail of all the principal Booksellers and Stationers in Town and Country.

SMITHFIELD CLUB PRIZE CATTLE SHOW, 1846.

THE ANNUAL EXHIBITION of PRIZE CATTLE, SEEDS, ROOTS, IMPLEMENTS, &c., will take place on the 9th, 10th, 11th, and 12th of December, at the HORSE BAZAAR, King-street, Portman-square. A handsome permanent building, in place of the usual tent, was last year erected, and the Implement Galleries are, this year, made to extend over double the space formerly so occupied. Ladies are enabled to view this National Exhibition with perfect comfort.—Open from Daylight till Nine in the Evening; Lighted up after Three in the Afternoon.—Admittance, One Shilling.

ROYAL POLYTECHNIC INTSTITUTION. By Permission.—Professor SCHONBEIN'S GUN COTTON, differing from all other specimens recently before the Public, is lectured on, with other Explosive Compounds, by Dr. Ryan, daily at half-past Three, and on the Evenings of Mondays, Wednesdays, and Fridays. The principal of the Electric Telegraph demonstrated by Professor Bachhoffner. The Oxyhydrogen and Opaque Microscopes, the Physioscope, Diving Experiments, the Dissolving Views, by Charles Smith, &c., &c.—Admission, 1s.; Schools, Half-price.

LONDON: Printed by CHARLES WYMAN, of 49, Cumming-street, Pentonville, in the County of Middlesex, Printer, at the Printing-office of J. & H. COX, *Brothers*, 74 & 75, Great Queen street, Lincoln's-Inn-fields, in the Parish of St. Giles-in-the-Fields, in the same County, and published by the said CHARLES WYMAN, at the office of "THE BUILDER," 2, York-street, Covent Garden, in the Parish of Saint Paul, Covent Garden, in the said County.—Saturday, December 5, 1846.

The Builder,

A JOURNAL FOR

The Architect, Engineer, Operative & Artist.

VOL. IV.—No. 201. | DECEMBER 12, 1846. | *Price* ..... 3*d.* *Stamped*..... 4*d.*

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ADVERTISEMENTS.

PARTNER WANTED in an established concern as Engineer, Smith, and furnishing generally.—Any gentleman of capital and active habits will find this an eligible opportunity.—Apply, post-paid, to F. W. PIKE, Esq., 26, Bedford-row.

TO ARCHITECTS' ASSISTANTS.

WANTED by an Architect, an experienced Middle-aged Drawing Clerk, who thoroughly understands building, surveying, and valuing.—Address, stating particulars, post-paid, to A. B., 33, Paternoster-row, St. Paul's.

WANTED by an Architect at the West-end of London, an experienced CLERK, capable of measuring, estimating, and making out working drawings.—Address, by letter only, A. B. PORTER, 16, Great Marlborough-street, St. James, Westminster, stating age, salary required, &c.

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WANTED, by a respectable and steady Person, a Situation as Clerk of Works, or Builder's Foreman. The Advertiser, who is about completing a railway station, is desirous of a re-engagement in town or country. A good draughtsman. Testimonials satisfactory.—Address, Y. Z., office of "The Builder," 2, York-street, Covent Garden.

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THE Advertiser wishes for an Engagement to superintend the practical part of a builder's business in all its branches; he is fully competent to make plans, working drawings, and estimates for alterations, improvements, shop-fronts, fittings, and general repairs, having had the management of a business nearly twenty years; salary required moderate, and satisfactory references can be given.—A letter to R. S., office of "The Builder," with real name and address, appointing an interview, will meet with prompt attention.

FREE ADMISSION.—Freemason's Tavern, Great Queen-street, Lincoln's-Inn-fields.—A LECTURE will be delivered at a Public Meeting of The Equitable Benefit Building and Investment Society, at the above Tavern, on Monday Evening, the 14th inst., when the attendance of all parties interested in Building Societies is respectfully solicited.—Doors open at half-past Seven. The Chair taken at Eight o'clock.—By order of the Council,
J. H. PITTS, Secretary.

TO BUILDERS, PAINTERS, AND OTHERS.

MESSRS. WOOD and Co., GRAINERS and WRITERS to the Trade only.
62, WATERLOO-BRIDGE ROAD.
An Apprentice wanted, to board and lodge with his friends. Premium, 30*l.*

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 168, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

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Shop Fronts are more damaged and disfigured by the Shutter Bar than from any other cause. Bars are a trouble to put up and take down, and troublesome when down. JENNINGS'S REGISTERED SHOP SHUTTER FASTENER supersedes the destructive Bar, and answers the purpose also of a shutter-shoe. The shoes and fasteners being made of brass, afford greater protection to the corner of the shutter, and leave no rusty deposit on the stall-board in damp weather. Hundreds of shops have been secured by the inventor, and testimonials of their ease and efficiency may be obtained from the occupiers. A front, containing eight shutters, secured for 24*s.*, or a new front shod and secured for 40*s.* A liberal discount allowed to Builders, Ironmongers, and Painters, who introduce it to the notice of persons whose shops they decorate. To be had of the Inventor, 39, Great Charlotte-street, Blackfriars'-road; or of any respectable ironmonger.

CAEN SUFFERANCE WHARF, ROTHERHITHE.

LUARD and BEEDHAM beg to inform architects, surveyors, builders, and others, that they have removed from Norway Wharf, Greenwich, the whole of their Caen stone business, to the above extensive premises, where a large stock will be kept up by continual fresh arrivals from their quarries at Allemange. Orders received at the wharf, and further particulars may be obtained of Mr. GEORGE GATES, 18, Southwark-square, Borough, London.—Orders shipped direct from Caen to any port.
The Waterman steam-boats call at Lavender-wharf, adjoining Caen Wharf.

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SAMUEL CUNDY begs to inform Architects and others that GOTHIC WINDOWS, and every other branch of Stone-work, &c., is executed at the cheapest possible rate, and packed for the country either for fixing or fixed, enabling ARCHITECTS to have the most difficult TRACERY for CHURCHES, or other buildings in the PROVINCES, executed under their immediate inspection in TOWN.
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Box Chimney-pieces from 12*s.* upwards.
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BARRETT, STONE MERCHANT, 24, Wharf, Harrow Road, Paddington, respectfully informs Builders, Stone Masons, and others, that he has opened a Depôt at the Great Western Terminus for the sale of Wall's Quarry Stone. Having been established at the above place for the last twelve months, and the sale of the stone increasing so much, the Great Western Company has had the kindness to favour me with a Depôt at their Terminus. The Wall's Quarry Stone is equal to Portland for Staircases, Hall Floors, Porticoes, Balconies, Chimney-pieces, Coping, Window Sills, &c. The same stone being used in Gloucestershire for all the above purposes. The stone is sawn to all sizes while in the Quarry to save expense of waste and sawing in London, on which account can be rendered much cheaper, and is free from all flints, shells, and holes.—List of prices and samples sent to any part of London, carriage free, by directing all letters to No. 24, Wharf, Paddington.
P.S. Nailsworth and Paniswick Stone in Block.

CONTRACTS.

TO BUILDERS.

NOTICE IS HEREBY GIVEN, that SEALED TENDERS for a Contract for constructing a Military Post at Pickleeombe Point, Mount Edgecumbe, for a specific sum, will be received at the Ordnance Office, Pall Mall, London, on or before the 16th Dec. inst. Detailed drawings and specification of the different works and buildings, with the terms and conditions of the contract, may be seen, and forms of tenders obtained, after TUESDAY, November 3rd, at the Commanding Royal Engineer's Office, Devonport, between the hours of 9 and 4 o'clock, until the 12th inst.
R. BYHAM, Sec.
Office of Ordnance, 2nd Dec. 1846.

BUILDING CONTRACT, PARISH OF LAMBETH.

BUILDERS and OTHERS wishing to CONTRACT for alterations (chiefly sawn slate and plumbing) at the House of Industry, Norwood, and for laying on the water to the premises, can see the plans and specifications at the office of Mr. ROGERS, Architect, Palace Chambers, Lambeth. Tenders to be delivered at the Workhouse, Princes-road, sealed and directed to the Board of Guardians on or before Tuesday, 22nd December, at Ten o'clock. The Guardians do not bind themselves to accept the Lowest Tender.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.
Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.
In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.
Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 16*s.* per gallon.

TODD'S PATENT PROTOXIDE PAINT, manufactured by CHAS. FRANCIS and SONS, CEMENT WORKS, NINE ELMS, LONDON.
The properties of this Paint are peculiar for preventing iron from oxidation, wood from decay, and masonry from damp; it neither cracks nor blisters with the hottest sun, and is therefore most valuable for Railways, Boilers, Steam, Gas, and Water-pipes; Hothouses, Forcing-houses, and for Shipping. Its adhesion is so great to iron and wood, that the hardest friction will scarcely remove it. It prevents vegetation on stuccoed buildings, and is not affected by spray of sea-water.
PROTOXIDE PAINT is sold ground in oil, and, compared with white-lead, its property of concealing is as 75 to 50, so that one hundred weight is equal to one and a half of lead. It works well under the brush, and forms with oil an unctuous and cohesive mixture. If blended with other paints it has a softer tone than white-lead. For houses painted during occupation it is most preferable, being perfectly innoxious.

VARNISH, COLOURS, WHITE LEAD.

Genuine White Lead	per cwt.	27*s.*	0*d.*
Seconds	,,	25	0
Thirds	,,	23	0
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Turpentine.....	,,	4	6
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Patent Dryers	,,	36	0
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Varnishes equalled by none:

Fine Oak	per gallon	10*s.*
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,, Body Copal	,,	24
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,, Black Japan	,,	10

Painters' Brushes, and every article in this branch, at the Manufactory, 87, Bishopsgate-street, Without, London.—THOMAS MILLINGTON, Proprietor.

TO BUILDERS AND OTHERS.

MESSRS. H. G. and E. ROSHER, having closed their Lime Wharf at Montague Close, Southwark, have removed their business to Albion Wharf, Holland-street, Bankside, where they intend keeping a constant supply of Grey-stone, Flame-burnt, and Plasterers' Lime, Sand, Cement, Bricks, Tiles, Chimney Pots, Fire Bricks, Lumps, Fire Clay, and other building materials. Messrs. ROSHER have also Lime Wharfs at Limehouse, Millbank-street, Westminster, and Kingsland Basin, Kingsland-road.

TO ARCHITECTS AND BUILDERS.

DOOR SPRINGS AND HINGES.—GERISH'S PATENT DOOR SPRINGS, for CLOSING every description of DOOR, consists of Single and DOUBLE-ACTION BUTT HINGES in Brass and Iron for Doors to open one or both ways, and Rising Hinges for the convenience of Doors opening on uneven Floors. Likewise Swing Centres, which consist of a combination of power unequalled by any made at present. Manufactured by F. W. Gerish, East-road, City-road; and sold by all respectable Ironmongers in the United Kingdom.

By Her Majesty's Royal Letters Patent

WILKINS'S "SILENT" WATER-CLOSET.—To Architects, Surveyors, and Builders.

Gentlemen,—Your attention is respectfully invited to the above "Closet," the peculiar qualities of which are, that it is perfectly silent in the action of the Machinery and the supply of Water, and may be fixed in any convenient place in the House, without communicating the sound of a Water-closet to any of the adjoining Apartments, while it retains all that is useful in the ordinary Closets, it does away with the Ball levers, Wire, Cranks, &c., which cause much of the noise to which the old closets are liable. The want of a Water-closet more suitable for the present mode of fixing them in the internal parts of Dwelling Houses and Office Apartments, has long been felt, and the benefit to be derived from one that is "Silent" in the action of the Machinery and supply of water, is sufficiently obvious to render unnecessary any lengthened comment in its favour.

This Closet is simple in its construction, the whole of the apparatus (including the trap), being completed between the floor of the room and the seat of the Closet, thereby rendering it quite easy to remove any noisy Closet and fix the "Silent" one in its place, without interfering with the old trap, which is generally embedded between the floor and ceiling below the Closet. The "Silent" Closet is also clean and so free from any effluvia, as to allow of its being fixed in any bed-room (where there is a convenience of fixing a pipe down the outer wall of the house) without occasioning the least unpleasantness whatever.

May be viewed Daily, and Orders taken at No. 26, Gower-place, University College, London, from 8 in the Morning to 9 in the Evening.

WILSON'S PATENT
VENTILATING
SPIRAL CHIMNEY POT,



For the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success.

This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance.

The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory,

Southwark-bridge Iron
Roofing Works.

TO ARCHITECTS.

THE attention of Architects is directed towards the new Patent for CARVING IN WOOD, STONE, and MARBLE, by MACHINERY. This interesting invention will enable them to see their plans carried out, which in many cases they are prevented doing, owing to the enormous expense attending hand-carving. The work, when executed by this machine, whether in stone or wood, has the appearance of hand-carving done in a masterly style. Monuments beautifully executed to any design, at an immense saving in price. The works are in full operation, and Architects are invited to inspect their merit at Eccleston-place, Eccleston-street, Pimlico, late Chauntrey's foundry.

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COMMISSIONERS OF FINE ARTS' REPORT ON THE MEANS OF PREVENTING DAMP IN WALLS.

THE DIRECTORS of the SEYSSEL ASPHALTE COMPANY have much pleasure in recommending to the notice of Architects, Builders, and others, the application of the ASPHALTE of SEYSSEL as the only effectual means of preventing DAMP rising in WALLS.

J. FARRELL, Secretary.

Seyssel Asphalte Company's Works,
"Claridge's Patent."
Stangate Depôt, London.

The following account of its application is extracted from "The Appendix to the Commissioners of Fine Arts' Report," page 18:—

"In 1839 I superintended the construction of a house of three stories on the Lac d'Enghien. The foundation of the house is constantly in water, about 19½ inches below the level of the ground floor. The entire horizontal surface of the external and internal walls was covered, at the level of the internal ground-floor, with a layer of SEYSSEL ASPHALTE, less than half an inch thick, over which coarse sand was spread.

"Since the above date no trace of damp has shewn itself round the walls of the lower story, which are for the most part painted in oil of a gray stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so painted, yet the pavement of the floor, resting on the soil itself, is only about 2½ inches above the external surface of the soil, and only 19½, at the utmost, above that of the sheet of water.

"The layer of Asphalte having been broken and removed, for the purpose of inserting the sills of two doors, spots indicating the presence of damp have been since remarked at the base of the door-posts."

CHEAP AND DURABLE ROOFING.

By Her Majesty's Royal Letters Patent.

F. McNEILL and Co. of Lamb's Buildings, Bunhill Row, London, Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronized by

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HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

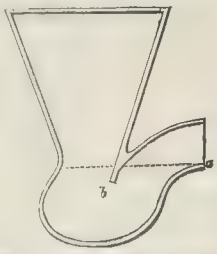
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Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, AS THE ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW, LONDON.

Roofs covered with the felt to be seen at the Factory, also the new Vice-Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the new Houses of Parliament.

A Liberal Discount allowed to the Trade.





CHEAP PAN FOR
WATER CLOSETS,
With Trap, in One Piece
DOULTON AND WATTS,
LAMBETH POTTERY, HIGH-STREET, LAMBETH, LONDON,

Manufacturers of the annexed in superior glazed STONE WARE,

Price 7s. 6d. each.

They are of the most durable ware, and are recommended in preference to iron on account of their cleanliness and cheapness.

If preferred, they can be had in two parts, the Pan at 4s. 6d., and the Trap at 3s.

N.B. Manufacturers of RAIN-WATER PIPING for houses.



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(REGISTERED PURSUANT TO ACT OF PARLIAMENT,)

May be had at most of the respectable Ironmongers in London and the Vicinity, and at his Manufactory,

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Where Prices and Particulars may be obtained on application.

THE IMPROVED COWL combines a perfect and ready action, with facility of sweeping and freedom from noise; and the working parts being wholly contained in the Dome Top, impervious to smoke or weather, it is not liable to become out of repair, and effectually prevents the annoyance experienced in gusty weather, or where the Chimney is subject to the eddies produced by a higher building.

A Working Model may be seen at the office of "The Builder."



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FOR

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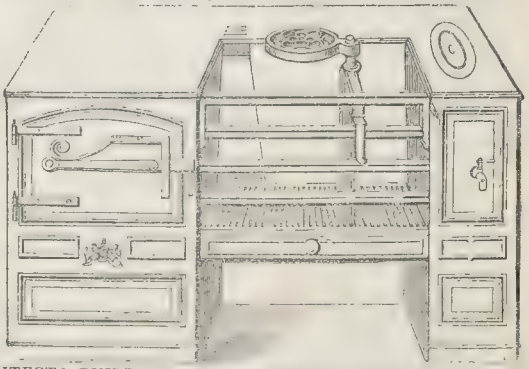
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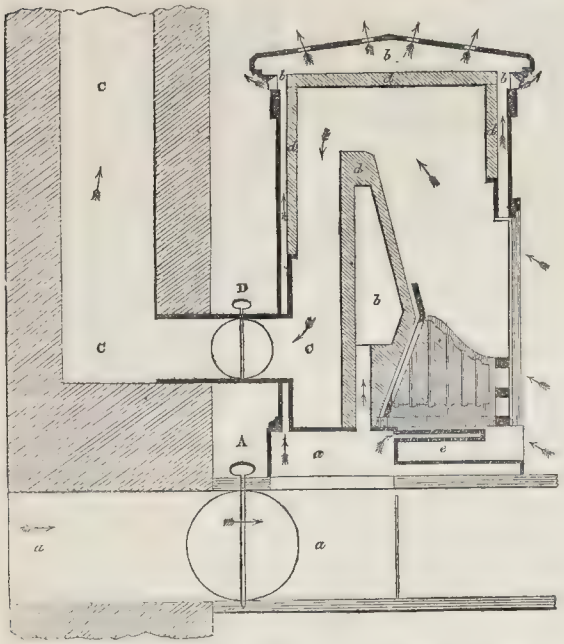
THE PANTILIAN IRON WORKS,
WHOLESALE AND RETAIL, 46, BAKER STREET, PORTMAN SQUARE.

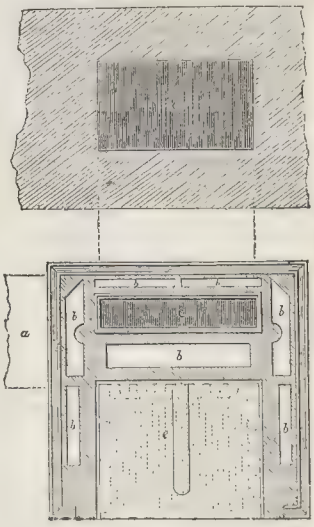


ARCHITECTS, BUILDERS, and Others, about to supply STOVES and KITCHEN APPENDAGES, will find at this Establishment the most unique and elegant assortment of STOVE-GRATES, FENDERS, and FIRE-IRONS ever offered to the Public, at prices considerably below the usual charges. The Proprietors at the same time beg to invite attention to their extensive Stock of FURNISHING IRONMONGERY, Tinned Copper, Tin and Iron Cooking Vessels, Block Tin Dish-Covers, Japanned Ware, Table Cutlery, and especially their Sheffield Plate and German Silver Wares, embracing every Article suitable for the Table, comprising Dish and Plate Covers, Liquor Frames, Epergnes, &c. &c. The plan adopted by the Proprietors of affixing the price to each article for cash, enables all purchasers to have the same advantage. The Patent Thermio Stove is in daily operation. ALSO CUNDY'S IMPROVED HOT-AIR STOVES, for Heating and Ventilating Rooms.

THORPE, FALLOWS & COMPANY, 46, Baker-street, Portman-square, London.

CUNDY'S PATENT IMPROVED OPEN FIRE PLACE, HOT AIR, VENTILATING STOVE.





PLAN.

Description of Diagram.

a a a a Fresh air channel, for admission of external air.
b b b b Hot air chambers (formed with artificial stone, *d d d d*) through which the air passes into the room, and is heated without being injured.
C C C The direction the smoke and vitiated air takes after it has passed through the fire and heated the artificial stone of the hot air chambers.
e Blow pipe to preserve perfect combustion placed immediately underneath the grating of fire place.
A and D are regulators.
The arrows shew the way the external fresh air is admitted, next passing through the hot-air chambers into the room, and lastly taken out of the room through the fire and up the chimney—thus completing ventilation.

This STOVE embraces the following most important principles connected with the economy of

WARMING AND VENTILATING CHURCHES,

And other Public and Private Buildings, viz.:—

HEAT by RADIATION from the Open Fire.

HEAT by CONDUCTION.—A copious and continuous stream of PURE WARM AIR is conducted into the room through the large Stove, at a regulated rate, by means of an air channel underneath the floor, communicating with the external air.

HEAT by REFLECTION.—The external casing of the Stove becoming warm, communicates its heat to the surrounding atmosphere.

VENTILATION produced by the OPEN FIRE—which will carry off the Vitiated Air through the chimney at the same rate the Pure Air is conducted into the room through the interior HEATING APPARATUS of the Stove, thereby keeping up a regular and agreeable system of Ventilation.

ECONOMY of FUEL.—This Stove, from the peculiar construction of the Fire Place, will produce a most BRILLIANT FIRE with the least possible quantity of fuel, and will continue to burn so long as any particle of coal remains.

TESTIMONIALS AFTER A WINTER'S TRIAL.

Gothic Villa, St. John's Wood, Oct. 22, 1846.

SIR,—Perhaps there are few private individuals who have had more experience in stoves than I have had; I have tried most of the newly invented ones, and rejected all but yours, two of which I have tried in my temporary church, and found them to succeed so well, that I have introduced them into All Saint's Church, St. John's Wood.

The following reasons induce me to approve of them:—Exemption of effluvia; the emission of a great body of pure warm air; the perfect system of ventilation; the sight of the fire; the consumption of vitiated air; the little attention requisite; the cleanliness connected with them; and though last, not least, the great economy of fuel.

All more I can say in favour of your stoves is, that whenever I require a stove, either for my house or church, I shall purchase your patent Stoves, and recommend all my friends to do the same.

Yours truly,

ED. THOMPSON, M.A.
Incumbent of All Saint's, St. John's Wood.

29, Charter-house-square, Monday, Feb. 17, 1845.

DEAR SIR,—The Stoves which you have recently erected in my church have been highly successful, and I have great pleasure in expressing to you the entire satisfaction which they have given to all parties. The church, which was notoriously noted for its coldness and bad ventilation, is now most agreeably warmed and well ventilated. I shall be most happy, on any occasion, to bear testimony to the excellency of your stoves; and I will endeavour, to the best of my power, to make them known, and I will certainly recommend them to my friends.

I remain, Dear Sir, yours faithfully,
WM. ROGERS, St. Thomas's Charter-house.

St. Thomas's, Charter-house.

We, the undersigned, do hereby certify, that during the last three winters we suffered severely from the cold in the Church of St. Thomas's, Charter-house, although we had three large Arnott's Stoves, which consumed one sack and half of coals each day they were lit. The building was never warm; in consequence of which the congregation fell off, though we had a zealous preacher in the Rev. Dr. James. We have now two of Cundy's Patent Stoves, which consume but one cwt. of coal per day between them, and they impart to the church a comfortable heat and ventilation.

WILLIAM BUSHMAN, Verger.
THOMAS GEORGE, Beadle.

St. John's, Fulham, 2nd May, 1846.

My Dear Sir,—I have very great pleasure in giving my testimony to the efficiency of your Stove, as combining the double advantage of thoroughly warming and constantly ventilating any large church or building. Your invention appeared to me to be in theory all that could be desired; and I can honestly say, that I have not yet discovered the point in which the practice falls short of the theory.—The area of my church is computed to be nearly 200,000 cubical feet, and though a second stove will be required, the one already erected has fully answered my highest expectations, and realized all that you had given me to expect. If confirmation were needed for evidence of its efficiency, I might further state, that I had peculiar difficulties to contend with,—that various attempts had been made, and that every attempt had proved a signal failure,—that I was exposed to the charge of boldness in attempting what had baffled others; but that such is the power, the efficiency, and the comfort communicated by your Stove, that I know not of a dissentient voice, and have heard only of approval with unanimous consent.—I might add, that I was first led to the making inquiry respecting your stove, having gathered indirectly, that a disposition not unfavourable towards it was entertained in a certain high quarter, where, on account of ability of discernment, the smallest approach to approval must carry with it great weight.—I remain, Dear Sir, yours faithfully,

WILLIAM GARRATT, Minister of St. John's, Fulham.

Letter from the Rev. MATTHEW O'BRIEN, (Professor of Natural Philosophy and Astronomy), M.A., F.R.S., &c., King's College.

Upper Norwood, 22nd June, 1846.

I beg to certify that one of Mr. Cundy's Patent Stoves was put up in my lecture room at King's College, last year, in place of a common stove (of Arnott's construction, I believe). I have no hesitation in saying from actual experience, that Mr. Cundy's Stove is far superior both in producing warmth over the whole room, and in promoting ventilation, without disagreeable currents of air, or close smell.

MATTHEW O'BRIEN.

*** Since this stove was put up, four others have also been fixed, one of which is placed in the Medical Library.

Letter from Professor BRADLEY.

King's College, London, July, 1846.

Sir,—I am happy to be able to bear testimony to the efficiency of your stove, which is fixed in my lecture-room at this Institution. It seems to have all the essential requisites of a good stove, a rapid draught, freedom from all smoke, and from that smell which arises from iron, heated in contact with the air of a dwelling-room, which is entirely avoided by your arrangement.—I am, Sir, your obedient Servant,

THOMAS BRADLEY.

To be had of the Manufacturers,

MESSRS. DOWSON, 69, WELBECK-STREET, CAVENDISH-SQUARE,

Where they may be SEEN IN OPERATION, and where also may be seen an ELEGANT assortment of REGISTER and other STOVES, FENDERS, CULINARY APPARATUS, &c. &c. ARCHITECTS and BUILDERS supplied with IRON and BRASS CASTINGS, at Messrs. DOWSON'S FOUNDRY, 5, SEYMOUR-PLACE, BRYANSTON-SQUARE. Smith's Work, Gas Fittings, and all other works appertaining to a Smith and Founder, undertaken at estimated prices.

STEAM POWER, SOHO-SQUARE.—Wanted to rent two or three HORSE STEAM POWER, with light workshops, in the neighbourhood of Soho-square, London.—Letters addressed to Mr. DRAPEL, at Mr. Kissick's, stationer, 10, Tottenham-court-road.

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TO BE DISPOSED OF, a good business and premises in the sawing, planing, and moulding, capable of great improvement; parted with in consequence of the proprietor having entered into a business in the country.—Further particulars may be had on applying to Messrs. OVERTON and HUGHES, Solicitors, 25, Old Jewry, London.

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TO BRICKMAKERS.

TO BE LET, a Seven-acre FIELD of superior CLAY, at Bell-green, Sydenham, about a mile from Forest-hill and Sydenham Stations on the Croydon Railway.—To view, apply to Mr. DALE, at Bell-green; for particulars by letter, post-paid, to G. M., Mr. Pigott's, 3, Charles-street, Grosvenor-square.

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TO BE LET, on BUILDING LEASES, for ninety-six years, several very eligible plots of Freehold Building Ground, land-tax redeemed, for fourth-rate houses, situated in streets leading from the Queen's-road, Dalston, to Lansdown-place. This is one of the most rapidly improving neighbourhoods near London, and will be the principal thoroughfare from all parts westward to the new Victoria Park, from which it is only a quarter of a mile distant.—Apply to Mr. PALMER, on the premises.

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BUILDING PLOTS TO BE LET in this most desirable and salubrious situation!! commanding picturesque views of the SURROUNDING BEAUTIFUL NEIGHBOURHOOD, and elevated within a few feet of the summit of the monument, with the best approaches of any suburban district near the metropolis, and greatest facilities of access to all the fashionable resorts and promenades of the West End and the City!—For particulars and plans, apply to W. H. TWENTYMAN, Esq., 14, Regent's-villas, Avenue-road, Regent's-park.

A NUMBER of MARBLE CHIMNEY-PIECES, consisting of Statuary and Vein, some of which are suitable for drawing-rooms, &c., and some of moderate dimensions, suitable for second and third-rate houses. Also two monumental tablets, TO BE SOLD Cheap, under peculiar circumstances. Approved Bills (if required) at three or six months, according to the amount.—Apply, 34, Chichester-place, King's-cross.

TO ARCHITECTS, MASONS, AND BUILDERS.

FOR SALE, on account of a Dissolution of Partnership, and to clear the premises, a valuable and well-selected stone merchant's stock, consisting of large blocks and scantling of Portland stone, Yorkshire paving, landings, steps, sinks, curbs, coping, and window-cills, rubbed slabs, and a large quantity of Box-stone chimney-pieces, and a few marble ditto, strong stone trucks and carts, powerful sheer legs and geer, chain slings, crab blocks and falls various, and about 50,000 feet superficial Rockhill paving. Country builders are invited to purchase this prepared stock at No. 30, Commercial-road, Lambeth.

TO BUILDERS and OTHERS, who wish to DISPOSE OF THEIR PROPERTY quickly and to advantage, the system we pursue is admirably adapted to carry out their views. Property is surveyed by us, published in our MONTHLY REGISTER (which has a most extensive circulation), and when necessary advertised, and otherwise made known, without any charge, until sold, and then all the various expenses are included in our trifling commission. The same applies to property intended for public auction.—BECKWITH and SALMON, Auctioneers and Land Agents, 25, Bucklersbury.

SILCOCK and Co.'s PATENT PLANES may be had at the following places:—

Archer, 45, Goodge-street, Tottenham-court-road; Blyth, Whitechapel; Cock, 424, Oxford-street; Dean, 46, King William-street; Fenn, 105, Newgate-street; Holtzapffel and Co., 64, Charing-cross: and of all ironmongers and tool dealers in the United Kingdom.

DECORATIONS in WOOD.—The unrivalled perfection at length attained by the patent process of Carving, enables its proprietors to offer to the public, at an extremely reduced price, every possible variety of Carved Wood for external and internal enrichment—thus substituting the genuine material for those numerous imitations which have invariably been found fragile or unsatisfactory.

Mouldings and Carvings of all kinds are thus supplied, adapted for Church or Library Fittings, Altar Chairs, Picture Frames, Chimney-pieces, and every description of Gothic or Elizabethan Furniture.

Specimens may be seen and Drawings obtained at the Patent Wood Carving Offices, 444, West Strand, or at the Works, Ranelagh-road, Thames-bank.

SALES BY AUCTION.

IN CHANCERY.—Regent's Canal Basin.—To Carpenters, Builders, Masons, Coal Merchants, and others requiring Water-side Premises.

MR. GEO. ROBINSON is instructed to SELL at the Mart, Bartholomew-lane, City, on THURSDAY, December 17th, 1846, at Twelve o'clock, the LEASES of very eligible Business Premises, with extensive frontage to the canal, situate in Augustus-street and Edwards-street, Cumberland Market, held for long terms at low rents, together with the good-will of the business of a slate merchant.—May be viewed, and Particulars and Conditions of Sale had at the Mart; of HY. CROCKER, Esq., 99, Chancery-lane; of P. JOHNSON, Esq., 57, Lincoln's-inn Fields, and at Mr. GEO. ROBINSON'S Offices, 83, Wigmore-street, Cavendish-square.

BUILDER'S STOCK.—HARROW-ROAD, NEAR WESTBOURN-PARK.

MR. H. BIERS will SELL by AUCTION, at Mr. Pink's premises, Harrow-road, near Westbourn-park, on MONDAY, Dec. 14th, 1846, at Twelve, the stock, comprising oak and fir timber, cut deals, battens and plank, prepared doors, sashes and frames. Ironmongery, Portland and York stone. A large quantity of very superior scaffolding, standard and other ladders, brick and rubbish carts, joiner's spring cart, a powerful cart, and a useful coal-waggon horse, harness, bricks, cement, slates, tiles, carpenter's and other work benches, wheelbarrows, wheeling planks, &c.—May be viewed on Saturday previous and morning of sale, when catalogues may be had on the premises, or at Poland House, 13, Broad-street, Golden-square.

Now on View, Valuable and important Stock of Moulds, Fixtures, Trade Implements, Horse, Cart, and other Effects.

MESSRS. RUSHWORTH and JARVIS have received instructions from the Sheriff of Middlesex to SELL by AUCTION, on the Premises, No. 33, Duncan-terrace, City-road, near the New River, this day, at Eleven for Twelve, the valuable Stock of Moulds, comprising figures, vases, animals, terminal ornaments for gate-piers, a great variety of trusses of every description; cantilevers, blocks, soffits, chimney shafts and pots, and a few lots of castings in cement and plaster; trade, stable implements, &c. Catalogues may be had on the premises, and at the office of Messrs. RUSHWORTH and JARVIS, Saville-row, Regent-street, and 19, Change-alley, Cornhill.

Splendid Chimney-pieces in the Louis Quatorze style, of the most rare and beautiful marbles, elegant Porcelain Mantel-pieces, with a variety of the usual description.

MR. EDMUND ROBINS will SELL by AUCTION, at his Rooms, in Covent-garden, on THURSDAY, Dec. 17, at Twelve, twelve Italian Marble Chimney-pieces, of a truly tasteful description, embellished with the most elaborate and beautiful sculpture, in the style of the Louis Quatorze period, of pure statuary, Egyptian grain, black and gold, bardilla and rouge royal marbles, calculated to adorn first-rate drawing-rooms, libraries, and vestibules; also several elegant Porcelain Mantel-pieces, presenting objects of decoration for the drawing-room and boudoir, of a novel character, and most attractive in appearance. Likewise a variety of statuary, black and gold, dove and vein marble chimney-pieces, of superior description, for sitting-rooms and bed-chambers. May be viewed three days prior, and catalogues had at the Auction-rooms, in Covent-garden.

TO BUILDERS, CARPENTERS, AND OTHERS.

MESSRS. EVERSFIELD and HORNE will SELL by AUCTION on the premises, near the Engine-house, Horseferry-road, Westminster, on Thursday, December 17th, at Twelve o'clock, the remaining stock of a Builder, consisting of yellow deals and planks, prepared yellow battens and floor-boards, matched boarding, &c., also a small assortment of ironmongery and brasswork, a rubbish-cart, light spring-cart, ladders, benches, screw-jack, and numerous other effects.—May be viewed one day prior to the sale, and catalogues had on the premises and of the auctioneers, Coal Exchange, or 1, Little Smith-street, Westminster.

EXTENSIVE SALE OF BUILDING MATERIALS, BRITISH MUSEUM.

MESSRS. EVERSFIELD and HORNE have received instructions from the Commissioners of Her Majesty's Woods, Forests, Land Revenues, Works and Buildings, to SELL by AUCTION on the premises, Great Russell-street, Bloomsbury, on TUESDAY, December 15th, at Twelve o'clock, the very valuable materials of the recently erected building known as the Townley Gallery, consisting of a large quantity of lead in flats, gutters, cisterns, and pipes. Sound oak and fir timber in roof joists and girders, wainscot and other floor boards, excellent large and small sashes and frames.—Moulded doors and frames, mahogany show cases, four fluted stone columns and caps 14 feet 6 inches high; a fire-proof room with wrought-iron folding and other doors; Portland stone and other staircases, several thousand feet super of stone paving, stout stringing, ashlar and coping the hot-air apparatus to the whole building, stoves, piping, &c., also the very excellent sound brickwork and numerous other effects. The whole of these materials are of the very best description, and will be put into Lots to be taken down and cleared away by the purchasers.—May be viewed one day previous and catalogues had on the premises, also at the Office of Woods and Forests, Whitehall, and of the Auctioneers, Coal Exchange, or No. 1, Little Smith-street, Westminster.

TO PLUMBERS AND GLAZIERS, PAINTERS, BUILDERS, AND OTHERS.

MESSRS. BROWN and ROBERTS will SELL by AUCTION, on the Premises, No. 5, Spencer-place, Brixton-road, on Thursday, Dec. 17, at Eleven, in Lots, by order of the assignee of Mr. James Ullathorne, a bankrupt, the lease of the business premises, held for about 21 years, at a ground-rent of 31*l.* 10*s.* per annum. Also the stock in trade, consisting of crown and sheet glass, in crates, including box sizes, stained and ground glass; about 2 tons of sheet and pipe lead, 2 tons of putty, 2 cwt. of solder, pan closets and basins, brass barrel, force, and other pumps; stock of useful ironmongery; bags of nails; an assortment of copper and brass work, in balls, cocks, locks, &c.; wood planks and ropes, scales and weights; firkins of white lead; pipes of oil and turpentine; ground and dry colours; 600 pieces of paper hangings; quantity of glue, lamp black, color, stones, and mullers; two light carts; a brick cart; bay cart-mare, harness, truck, brewing copper, useful fixtures, and various effects. May be viewed on Wednesday, and Catalogues had of B. JOHNSON, Esq., Official Assignee, Basinghall-street; of Messrs. JENKINSON, SWEETING, and JENKINSON, 29, Lombard-street; Messrs. COOK and SANDERS, 1, New-inn, Strand; of Messrs. HENRY BROWN and T. A. ROBERTS, 22, Throgmorton-street.

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ARCHITECTURAL ENRICHMENTS.—BIELEFELD'S IMPROVED PAPIER MACHE, which has been almost universally adopted for architectural decorations, has been patronised by her Majesty, by the Hon. Commissioners of the Board of Works, by the highest of the Nobility and Gentry, and by the most eminent architects of the day. It has been used at the royal palaces, at the present House of Lords, at Dublin Castle, at Drayton Manor, the new Conservative Club-house, at Grocers' Hall, &c., also at the British Museum, and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier mâché ornaments, with a tariff, price 1*l.*—Works, 15, Wellington-street, North, Strand.

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PARTNERSHIP or ASSISTANCE.—An Architect wishes to meet with a Partner who requires active services, and would allow him to take a proportionate share, in consideration of not paying a premium; or to assist any member of the profession in making fair and Working Drawings, or Perspective. He would prefer doing them at his own office, but does not insist on it. The most satisfactory references as to connection and abilities will be given. Address to A. B., care of Mr. B. Wertheim, Bookseller and Publisher, Aldine Chambers, Paternoster-row.

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TO ARCHITECTS, &c.

THE Advertiser is desirous of an engagement in an office, where, from steady attention to business, and competency in drawing in general, colouring, &c., he may give satisfaction.—Address to B. F., at the office of "The Builder."

TO ARCHITECTS, SURVEYORS, BUILDERS, AND CONTRACTORS.

THE Advertiser, a Young Man of the highest respectability, and fully competent, wishes for an engagement immediately, for part of the day only, to make up the books, to get out the Christmas accounts, for a permanence, or otherwise.—Address, K. Z., office of "The Builder," 2, York-street, Covent Garden, London.

TO ARCHITECTS AND BUILDERS.

A YOUNG MAN capable of performing satisfactorily all the duties of the above offices, requires Employment. He has had several years' extensive practice therein, and on Works. Salary moderate.—Address, J. G. D., 2, Perry's-place, Oxford-street.

TO MASTER BUILDERS AND FOREMEN.

A YOUNG MAN, who has had five years' practice at joiners' work in the country, wants A SITUATION in a good shop in London, where he will have opportunity of improvement.—For further particulars, apply, if by letter pre-paid, to G. G., 51, Moneyers-street, Hoxton New Town.

N.B.—A premium given if required.

TO SURVEYORS, BUILDERS, &c.

A YOUNG MAN, aged Twenty-seven, is desirous of obtaining an engagement, either in a surveyor's or builder's office. He is proficient in mensuration, estimating, preparing working drawings, &c. Has also had good experience in building, and can assist in book-keeping if required. In addition, the Advertiser is a good land surveyor, and can map well.—Address A. M., office of "The Builder."

TO MASTER CARPENTERS AND BUILDERS.

A STRONG, healthy Youth of Sixteen, who has just seen enough of the trade to be fond of it, and to have acquired a tolerable notion of cutting, planing, mortising, &c., wishes to give his work and a moderate Premium for an in-door situation, in Town or Country, for one or two years.—Direct, A. B., at Mr. Lee's, grocer, Dorset-place, Clapham-road, Surrey.

HOLBORN-HILL, SNOW-HILL, and FARRINGDON-STREET VIADUCT COMPANY.—Registered provisionally.

Capital 200,000*l.*, in 20,000 shares of 10*l.* each.

Deposit 11*s.* per share.

NOTICE.—The Share List being closed, no further application can be received, and the directors are now proceeding in the allotment of the shares.—By order,

CHAS. THOMAS, Secretary.

15th December, 1846.

THE WORKING MAN MAINTAINED IN HIS TRUE POSITION BY THE

NATIONAL FRIENDLY SOCIETY.

TRUSTEES.

Luke J. Hansard, Esq., Southampton-street, Bloomsbury.
Henry C. Holland, Esq., Duke-street, Bloomsbury.
Edward Lomax, Esq., C.E., Lennard Villa, St. John's Wood.

This Society enables the industrious classes to avoid the degradation of pauperism.

A man, aged 21, may secure

£50 at his death, to his wife or children, by paying 1*s.* 7*d.* monthly.

Or, 10*l.* a year when he is 55, as a provision in old age, by paying 2*s.* 8*d.* monthly.

Or, 100*l.* when he is 55, or all the payments to be returned if he dies before, by paying 3*s.* 2*d.* monthly.

Or, 10*s.* 6*d.* weekly, when disabled, from disease or accident, with the highest medical aid and medicines, by paying 1*s.* 9½*d.* monthly.

Thirty Medical Attendants are appointed for the Metropolis.

Also, Periodical Divisions of Surplus Funds, among the Members, and many other advantages.

Prospectuses, giving full particulars, gratis, and Rules, at the Chief Office, 21, Red Lion-square, Holborn.

By order of the Board,

W. J. REYNOLDS, Secretary.

*** Prospectuses sent by post on receipt of a penny stamp.

TO BANKING OR OTHER PUBLIC COMPANIES,—First Class Commercialists or Traders, requiring great space, extensive premises, and first-rate situation at the West-end of London.

TO LET on LEASE, for any term beyond Twenty-one years parties may desire, those extensive premises, No. 160, New Bond-street, containing on the ground floor an entrance hall, two noble parlours, most extensive corridor, leading to a magnificent banqueting hall for upwards of 100 persons, with several minor rooms, comprehending an area of about 5,000 square feet. Stabling for nine or ten horses, and standing for three or four carriages. The house is replete with conveniences, including an excellent bath room. The drawing-room and library are also well proportioned rooms.—For cards to view, apply to Mr. LESLIE, at the offices and manufactory for his new Patent Ethereal Gas Burner, 59, Conduit-street, Hanover-square.

CONTRACTS.

TO CONTRACTORS, BUILDERS, AND OTHERS.

PARTIES desirous of CONTRACTING for the erection of a House, to be built half-way between Louth and Grimsby, may view the drawings and specifications at my office, between the hours of nine o'clock in the morning and six o'clock in the evening.—Sealed Tenders to be delivered as above, on or before the 28th inst.

PEARSON BELLAMY, Architect, &c.

Lincoln, Dec. 15, 1846. No. 11, Broad gate, Lincoln.

Also, Wanted an experienced Clerk of Works, capable of superintending the Erection of a Church. Application also as above.

TO BUILDERS AND OTHERS.

PARTIES desirous of TENDERING for EIGHT COTTAGES, proposed to be built on ground near the Licensed Victuallers' Asylum, Old Kent-road, for the Peckham Building Investment Company, are requested to apply at the office of Mr. SINGLE, Coleman-street, City, where Plans and Specifications of the works may be seen. Tenders to be delivered on or before the 28th inst. at the above office, sealed and endorsed, "Tender for houses for Peckham Building Investment Company." The Company do not bind themselves to accept the lowest Tender, unless satisfactory security for the due performance of the work be given.

Kingsland, Dalston, and De Beauvoir Town Literary and Scientific Institution.—To Builders.

THE Committee of the above Institution HEREBY GIVE NOTICE that they are ready to receive TENDERS for the several works required in completing the carcase of the building, plans and specifications of which are now prepared, and may be seen between the hours of Ten and Four (Sundays excepted) at the office of the architect, Mr. JOHN CLARK CATHING (removed to), No. 10, Middleton-road, Dalston. Sealed Tenders to be delivered at Six o'clock P.M., on Thursday, the 7th day of January, 1847. The committee do not pledge themselves to accept the lowest, or any other tender not fully approved of.

By order, ROBERT SIMONS, Secretary.

10th December, 1846.

TO BUILDERS.

PERSONS desirous of CONTRACTING for the erection of the CHAPEL, CATACOMBS, and other BUILDINGS of the proposed Church of England Cemetery, at Marstone, in the borough of Birmingham, are requested to signify the same forthwith to the Architects, Messrs. HAMILTON and MEDLAND, Gloucester. The Drawings and Specifications may be seen, and full particulars obtained, at the Office of the Clerk of the Works, on the grounds at Marston-e-lane, Birmingham, between Friday, the 18th December instant, and Saturday, the 9th of January next.

Sealed Tenders, with the names of the sureties, must be delivered not later than Twelve o'clock at noon, on Monday, the 11th of January next, at the offices of JOHN B. HERBERT, Esq., Solicitor, Temple-street, Birmingham.

TO BUILDERS, PAINTERS, AND OTHERS.

MESSRS. WOOD and Co., GRAINERS and WRITERS to the Trade only.

62, WATERLOO-BRIDGE ROAD.

An Apprentice wanted, to board and lodge with his friends. Premium, 30*l.*

DECORATIONS in WOOD.—The unrivalled perfection at length attained by the patent process of Carving, enables its proprietors to offer to the public, at an extremely reduced price, every possible variety of Carved Wood for external and internal enrichment—thus substituting the genuine material for those numerous imitations which have invariably been found fragile or unsatisfactory.

Mouldings and Carvings of all kinds are thus supplied, adapted for Church or Library Fittings, Altar Chairs, Picture Frames, Chimney-pieces, and every description of Gothic or Elizabethan Furniture.

Specimens may be seen and Drawings obtained at the Patent Wood Carving Offices, 444, West Strand, or at the Works, Ranelagh-road, Thames-bank.

H. MORRELL'S FINE PREPARED DRAWING PENCILS.—Under the patronage of Her Majesty's Stationery Office, the Honourable Board of Ordnance, and the Honourable East-India Company.

The attention of Artists and the Public generally, is respectfully solicited to these BLACK LEAD PENCILS, which are prepared perfectly free from grit, of great variety of shade, and possess all the requisites for the most highly finished drawings.

Sold wholesale at the Manufactory, No. 149, Fleet-street, London, and may be had retail of all the principal Booksellers and Stationers in Town and Country.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS.

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee having fixed a great number of his shutters in London, and given universal satisfaction, can confidently recommend them both for security and durability, the edges being sheathed with Iron. Their construction is so simple that the largest establishment can be opened or closed with the greatest possible ease without the use of machinery. Their superiority over other revolving shutters consists in their great strength and stiffness, being without metal hinges, consequently cannot rust, buckle, be strained, or get out of order, and are safer. Persons dissatisfied with the patent rising gear now used for iron shutters can have it removed, and the shutters made to draw up in any part of the premises with the slightest exertion, without machinery, thereby avoiding the unpleasant use of oil.

INJUNCTION.

BUNNETT and CORPE'S Patent REVOLVING IRON SHUTTERS.—Since the verdict found in favour of the Patentees, in the Court of Exchequer, in the action tried by order of the Court of Chancery, that Court has granted a perpetual Injunction for restraining all infringements of this Patent, and therefore all parties are hereby cautioned against infringing the same.

THE PRICES ARE GREATLY REDUCED, and BUNNETT AND CORPE'S PATENT IRON SHUTTERS ARE THE CHEAPEST AS WELL AS THE BEST. They are made with convex laths, if required. The worm and wheel motion for raising and lowering revolving iron shutters (as secured by this Patent) is the only safe and durable mode of effecting that object. In large shutters it is indispensable.

Some thousands of Bunnett and Corpe's Shutters have now been put up, without a single complaint of their want of strength or security; and nine years' practical experience (during which they have adopted every real improvement) enables the Patentees to challenge comparison with any others. They will guarantee all Shutters put up by them to keep in order, and last twice as long as any with thin convex laths.

B. and C. also manufacture REVOLVING WOOD SHUTTERS (the Patent for which has expired), at the same prices as other makers, but greatly superior, being fitted with their patent raising gear, and proper metallic hinges, without which no shutter can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop-fronts fitted with Iron Shutters, Patent Brass or Zinc Sashes, Plain or ornamental, handsomely Engraved, Moulded, Stall-board Plates, best Plate Glass, and Internal Brass Fittings of all kinds, superior in quality and workmanship, and lower in price than any other house.

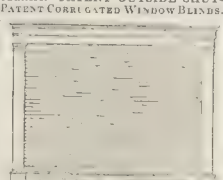
Contracts taken in Town or Country.

Metal Drawing and Stamping for the Trade.

Office at No. 26, Lombard-street, London; Works, at Deptford, Kent.

Steam-engines, Sawing, Planing, and Moulding, Cutting-machines on Improved Plans, especially adapted for Builders' purposes, may be seen in operation at the Works.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.—Patent Panelled Iron Safety Shutters. PATENT OUTSIDE SHUTTER BLINDS.—PATENT CORRUGATED WINDOW BLINDS. The attention of Architects, Builders, and Blind Makers is requested to the IMPORTANT PATENTED IMPROVEMENTS in the undermentioned Articles, and inspection invited, at the Manufactory of Patentees, R. HOWARD & Co. 115, Old Street, London.



The great importance of strength and stiffness in the Laths of REVOLVING IRON SHUTTERS, when required for security, is so obvious, that it is only necessary to point out the fact, that the Patent Convex Laths are twelve times stronger than the ordinary flat Laths (as shewn by the engravings and description), to insure their general adoption.

The Patentees invite attention to their greatly improved Gearing for Raising and Lowering their patent Shutters, which, possessing all the advantages of the endless screw (worm and wheel), cannot, even by wear, be liable to run down, and entirely avoids the necessity of using the ratchet wheel; it is at once simple and THOROUGHLY EFFECTIVE, and is SAFER and MORE DURABLE than any plan yet adopted for that purpose, thus rendering their patent Revolving Shutters the SAFEST and MOST EFFICIENT in use. These Shutters are fixed horizontally (either above or below the window or door), or vertically, for which position the great additional strength of the Convex Laths renders them peculiarly suitable.

REVOLVING IRON SHUTTERS, MADE OF THE COMMON FLAT LATHS, at a considerable reduction of price.

CAUTION.—The Patentees beg to caution all persons against Making or Using the Rent or Convex Laths for REVOLVING IRON SAFETY SHUTTERS (whether winding horizontally or vertically), so as to obtain increased strength and stiffness, as they thereby render themselves liable to legal proceedings for infringing this patent.

Engravings and Prospectuses will be forwarded on application.

DRAWN METALLIC SASH BARS, ASTRIGALS, MOULDINGS, STALL BOARD PLATES, &c.

Patentees and Manufacturers, R. HOWARD and Co., London.

PREPARED FLOORING BOARDS.

AT REDUCED PRICES.

ALWAYS ON SALE, a Large Assortment of DRY PREPARED FLOORING BOARDS, and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ⅜ inch to 1¼ inch thick.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Wilton-road, Pimlico (late C. Moore and Son), and Great Smith-street, Westminster.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, at Old-Barge-Wharf, Upper Ground-street, Blackfriars, and at Hy. Castle's, Ship-yard, Millbank-street, Westminster, a large, very general, and well-seasoned stock of all kinds of Prepared Floor and Match Boarding, planed to a parallel breadth and thickness, fit for immediate use; also a great variety of machine-prepared mouldings, very accurately finished.

A. R., in calling the attention of builders and consumers, confidently presumes on being able to supply them on such terms as will ensure and merit their favours, &c.

TO BUILDERS, &c.

JOHN NEWSON having now completed his machinery for preparing floor-boards with the smallest possible waste, and as cheap as heretofore, is enabled also now to complete every kind of sawing and grooving at the same mills. A good assortment of planks, deals, battens, cut boards, match boarding and mouldings; oak and deal sash sills, mahogany, oak, birch, and beech, in planks and boards, veneers, &c., all dry and fit for immediate use, being well covered by extensive drying sheds.—Also single double wine and pantile laths for sale at his Timber Yard, Grosvenor-row, Pimlico.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Pantiles.

MUIR'S PATENT PLANING MACHINERY.



SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.

TO PLASTERERS.

LIME FOR PLASTERING, that may be used immediately without risk of blistering, manufactured expressly for Plastering, and sold at the usual price, at FORREST'S WHARF, Earl-street, Blackfriars. Sheds for the slacking and mixing of lime. Accommodation for loading and landing bricks, sand, ballast, &c.

RAWLINGS'S LIME WHARF.—TO BUILDERS, &c.

BANGOR WHARF, KING'S ROAD BRIDGE, CAMDEN NEW TOWN, Builders, &c. are respectfully informed, that they can have Blue Lias, Grey Stone, and Chalk Lime, Roman Cement, Thames Ballast, Sand, Tiles, Cement Pots, and all kinds of Welch goods, of the best quality at lowest terms, being the nearest Lime Wharf to the North of London.

FIRE GOODS.

W. ALLDER, FALCON CEMENT WHARF, 80, Bankside, has always on hand for Sale a Large Assortment of Fire Goods, Welch, Stourbridge, and Newcastle, at Lowest Prices. Also Roman Cement; Pots, both Red and Cement; Bricks, Tiles, Hair, and Laths.

FIRE BRICKS, Stourbridge, Welsh, and Newcastle; also Lumps, Tiles, and Clays, a large Stock of the best made Goods are selling at very reduced prices (a great reduction having taken place in freights) at WARD'S Honduras Wharf, Bankside. Windsor Nonsuch, and Town-made Oven Tiles, PP.N. and Circular Red Fire Bricks, Country Pan, Plain and Ridge Tiles, Paving Bricks, Coro Drying and Patent Malting Tiles.—Country Builders promptly supplied. Tough River Ballast for Concrete and Thames Sand, above and below bridge, by freights or loads. Prepared Sand for Plastering.

TO BUILDERS AND OTHERS.

MESSRS. H. G. and E. ROSHER, having closed their Lime Wharf at Montague Close, Southwark, have removed their business to Albion Wharf, Holland-street, Bankside, where they intend keeping a constant supply of Grey-stone, Flame-burnt, and Plasterers' Lime, Sand, Cement, Bricks, Tiles, Chimney Pots, Fire Bricks, Lumps, Fire Clay, and other building materials. Messrs. ROSHER have also Lime Wharfs at Limehouse, Millbank-street, Westminster, and Kingsland Basin, Kingsland-road.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.

Manufactured by J. B. WHITE and SONS, of Millbank-street, Westminster; and sold at their warehouses—Earl-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

GREAVE'S LIAS CEMENT, stone-colour, free from vegetation, does not crack, and is well adapted for every description of modelling and casting.

GROUND LIAS LIME, for concrete, or as mortar for sewers, dock-walls, and hydraulic works generally; is superior to any other lime or cement.—Office, 2, South Wharf, Paddington, and Stratford-on-Avon.

Agent for Liverpool—Mr. Wylie, 56, Gloster-street.
Ditto, Manchester—Mr. J. Thompson, Back King-street.
Ditto, Chester—Mr. J. Harrison, Linen Hall-street.

N.B. Marble Floors. A large quantity of Vein and Black Marble on sale at reduced prices.

CHEAP ROMAN CEMENT is sold in Casks that will not contain five bushels, even by some manufacturers of a very respectable name. Consumers should see that the standard size cask is 29 inches long by 17½ across the head, outside measure. Any workman with a rule in his pocket can ascertain this.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and undestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Seel-street, Liverpool.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.

2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.

3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

TO ARCHITECTS, BUILDERS, &c.

GAS LAMPS, GAS BRACKETS, GAS PILLARS, BURNERS, &c. &c. In calling the attention of architects, builders, &c., to their assortment of Gas Furniture in general, C. DEBAUFER and SON respectfully announce they continue to fit up premises of every description on the most approved and newest system of gas fitting. An experience of forty years justifies us in making the above assertion.—P.S. Country orders attended to with dispatch.—10 and 11, Creed-lane, St. Paul's.

FILTERED WATER.—As the rainy season produces its dirty water, JOHN DAY, proprietor of Defouville's system of filtration, the only one known by which large quantities of liquids are easily filtered, begs to announce that he continues to supply these apparatus, which are easily applied to cisterns and water-butts, and when fixed require no care or attention from servants, and never get out of order. The prices are from Two to Four Guineas, producing from 100 to 300 gallons daily; for brewers, distillers, paper makers, hospitals, and large establishments, to an unlimited quantity, the prices varying accordingly.

40, Love-lane Platform, Rotherhithe; Office, 33, Conduit-street, Bond-street.

THE BUILDER.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 55, Chiswell-street, Finsbury-square, near Whitbread's Brewery.

Best Patent Cut Clasp.

3d. 4d. 6d. 8d. 10d. 20d.
6d. 7d. 8d. 1s. 1s. 6d. 2s. per 1000.

Best Sheet Floor Brads 15s. 6d. per cwt.
Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

Best Patent Sash Line.

1 2 3 4 5 6
4s. 3d. 5s. 6s. 6d. 7s. 6d. 10s. 12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6½d., 7d., 8d. per inch.
Self-acting Kitchen Ranges with Oven and Hack Boiler.
Wrought Bars and Bright Fittings.

3 ft., 3l. 3s. 3 ft. 6 in., 3l. 12s. 6d. 4 ft., 4l.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft. 3 ft. 3 in. 3 ft. 6 in. 3 ft. 9 in. 4 ft.
3l. 6s. 3l. 13s. 3l. 16s. 4l. 4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft. 3 ft. 3 in. 3 ft. 6 in. 3 ft. 9 in. 4 ft.
5l. 5l. 15s. 6l. 5s. 6l. 10s. 7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 3d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

HOT WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories, and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises. BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

SASHES primed, glazed, and sent to any part of London at 5d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.

FOREIGN SHEET. BRITISH SHEET.
BRITISH CROWN. PROPAGATING GLASSES.

Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Shew-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.

Dry and Good Colours of the best quality; Brushes Dryers, and every article used in the Trade Warranted.

VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.

For complete lists priced.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

WINDOW GLASS, Crown Squares, in 100 feet Boxes, per foot:—

4 by 3 and under 5 by 3 ..... 1d.
5 .. 3 ,, 6 .. 4 ..... 1½
6 .. 4 ,, 7 .. 5 ..... 1½
7 .. 5 ,, 9 .. 7 2
9 .. 7 ,, 10 .. 8 ..... 2½
10 .. 8 ,, 14 .. 10 ..... 2½
14 .. 10 and under 2 feet 3

Crates averaging 50 inches:—

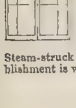
ccc ..... 18 table ..... each 40s.
cc 18 47
Fourths ..... 18 table 65
Thirds..... 18 table 78

Foreign Sheet Glass, 3rds, superior to English, in 200 feet boxes, about 16 oz. 3d. per foot; best quality, Sheet Glass, about 16 to 18 oz., in 100 feet cases, 8d. per foot: this is a most superior article, nearly approaching to plate glass.

Water-closets, Pumps, and all kinds of brass work. Sash glazing, 4½d. per foot.—Address THOMAS MILLINGTON, 87, Bishopsgate-street, Without, London.

HERRING'S PATENT SAFETY WINDOWS.—No invention ever offered the advantages to builders and the public; it will positively add 5 to 10 per cent. to all houses having it, repay the cost every two years, abolish all danger to life and limb, cleaning and repairing. It is in full operation (four different ways), forms a complete ventilator and sun-blind, all simple, cheap, and effective.—Apply for licenses and to inspect its real merits, to Herring's Patent Steam Bed-feather Factory, 14, Kingsgate-street, London.

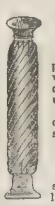
CHAS. WM. WATERLOW,



Manufacturer of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square. Well-seasoned materials, superior workmanship, lowest prices. Upwards of 400 Doors and a large variety of Sashes and Frames always on Sale. Glazed goods securely packed for the country.



Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.



ROBERT STEDALL'S
PATENT SCOLECOTHIC VENTILATOR,
AND CURE FOR SMOKY CHIMNEYS.

The most effectual and most ornamental Chimney-pot yet invented, entirely obviating the objection to which all others are open, namely, that of soon becoming clogged with soot, and, consequently, useless.

A large quantity has been made in various parts of the kingdom, which have given the greatest satisfaction.

Price, Strong Painted Iron..... 32s.
,, Strong Galvanized Iron .. 40s.

To be had of ROBERT STEDALL, 13, Nelson-street, Greenwich.—The Trade supplied, and also licences granted to Manufacturers.



SMOKY CHIMNEYS EFFECTUALLY CURED.
WILSON AND CO.'S
PATENT
VENTILATING CHIMNEY POT,

For the cure of smoky chimneys, has been tested extensively throughout the Kingdom for the last two years, and have proved to be an effectual remedy. The Patent Pots cannot corrode or get out of order, and can be effectually swept by the Sweep's machine. They are now manufactured of artificial Stone Cement. The Trade supplied with them at the Manufactory, Vale Place, Hammersmith Gate, Middlesex.

N.B. Licenses granted to Manufacturers.



RICHARDSON'S IMPROVED CHIMNEY COWL,
(REGISTERED PURSUANT TO ACT OF PARLIAMENT,)

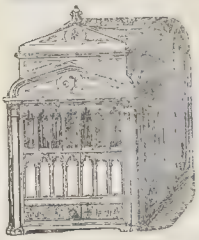
May be had at most of the respectable Ironmongers in London and the Vicinity, and at his Manufactory,

62, EDGEWARE ROAD, MARYLEBONE,

Where Prices and Particulars may be obtained on application.

THE IMPROVED COWL combines a perfect and ready action, with facility of sweeping and freedom from noise; and the working parts being wholly contained in the Dome Top, impervious to smoke or weather, it is not liable to become out of repair, and effectually prevents the annoyance experienced in gusty weather, or where the Chimney is subject to the eddies produced by a higher building.

A Working Model may be seen at the office of "The Builder."



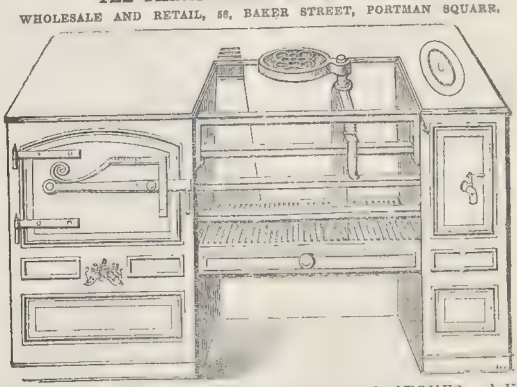
NOTT'S PATENT STOVE,
FOR
CHURCHES, HALLS, WAREHOUSES, &c.

THE PATENT having expired, the present Proprietors are enabled to offer these excellent Stoves at
THREE-FOURTHS OF THE PRICES HITHERTO CHARGED.

Engravings of the Patterns, with
THE REDUCED PRICES,
will be forwarded on application to the Warehouse,
80, GREAT QUEEN STREET, LINCOLN'S INN FIELDS.

N.B. Hot-water Pipes can be attached to the Stoves for warming distant apartments, Conservatories, &c.

THE PANKLIBANON IRON WORKS,
WHOLESALE AND RETAIL, 58, BAKER STREET, PORTMAN SQUARE.



ARCHITECTS, BUILDERS, and Others, about to supply STOVES and KITCHEN APPENDAGES, will find at this Establishment the most unique and elegant assortment of STOVE-GRATES, FENDERS, and FIRE-IRONS ever offered to the Public, at prices considerably below the usual charges. The Proprietors at the same time beg to invite attention to their extensive Stock of FURNISHING IRONMONGERY, Tinned Copper, Tin an Iron Cooking Vessels, Block Tin Dish-Covers, Japanned Ware, Table Cutlery, and especially their Sheffield Plate and German Silver Wares, embracing every Article suitable for the Table, comprising Dish and Plate Covers, Liquor Frames, Epergnes, &c. &c. The plan adopted by the Proprietors of affixing the price to each article for cash, enables all purchasers to have the same advantage. The Patent Thermo Stove is in daily operation. ALSO CUNDY'S IMPROVED HOT-AIR STOVES, for Heating and Ventilating Rooms.

THORPE, FALLOWS & COMPANY, 58, Baker-street, Portman-square, London.

JAMES BARKER, SASH MAKER and JOINER to the TRADE, 83, Theobald's-road, Bedford-row, respectfully invites the attention of builders and gentlemen building, to the subjoined list of prices for joiners' work, prepared from the very best materials, in a most superior manner, for ready money.

SASHES, at per Superficial Foot.

Inch	s.	d.
1¼ Ovolo	0	4½
2 Ditto	0	5
2 Lamb's Tongue, or Gothic	0	5½
2½ Shop Front	0	6½
1¼ Green-house, or Skylights	0	4
2 Ditto	0	4½

French Casements, Sash-doors, Fanlights, and Circular Sashes, made to order at proportionate prices.

SASHES WITH FRAMES, per Superficial Foot.

Inch	s.	d.
1¼ Ovolo, sashes and frames	0	9
1¼ Ditto, both sashes to hang	0	10
2 Ovolo sashes and frames	0	11
2 Ditto, both sashes to hang	1	0
2 Lamb's Tongue, or Gothic, ditto	1	0½

Gothic Frames and Sashes, Mullion Windows, Wainscot and Mahogany Sashes.

SHUTTERS, at per Superficial Foot.

Inch.	s.	d.
1¼ Square Sliding Shutters	0	6½
1¼ Ditto, moulded one side	0	7½
1¼ Moulded bead and butt back	0	8½
1¼ Boxing Shutters, with front moulded, and back, with 1 inch back flaps, bead and butt	0	8
1¼ Shutters and back flaps, moulded front and head, and butt back	0	9

DOORS, at per Superficial Foot.

Inch.	s.	d.
1¼ Dwarf square	0	6½
1¼ Ditto, moulded front	0	7½
1¼ Four panel square	0	7
1¼ Ditto, moulded front	0	8
1¼ Ditto, square	0	8
1¼ Moulded one side	0	9
1¼ Ditto, both sides	0	11

DOORS, at per Superficial Foot, continued.

Inch.	s.	d.
1¼ Ditto, bead, butt, and square back	0	10
1¼ Ditto, bead, flush, and ditto	0	11
1¼ Ditto ditto, and moulded back	1	0
1¼ Six panel square	0	9
1¼ Ditto, moulded one side	0	10½
1¼ Ditto ditto both sides	1	0
2 Four panel square	0	10
2 Ditto, moulded one side	0	11
2 Ditto ditto, both sides	1	0½
2 Ditto, bead, butt, and square	0	11½
2 Ditto, bead, flush, and square	1	0½
2 Ditto ditto ditto, and moulded back	1	2
2 Six panel square	0	11
2 Ditto, moulded one side	1	0½
2 Ditto ditto, both sides	1	2
2 Ditto, bead, butt, and square	1	1
2 Ditto, bead, flush, and square	1	2

Front, jib, and covered doors, to any design.

Prices for Architraves, Base Mouldings, &c.; and all kinds of Joiners' Work in Wainscot or Mahogany, TO BE HAD ON APPLICATION.

TO HOUSE AGENTS AND LANDLORDS.

WANTED to Rent some Premises, with large Workshops at the back, suitable for a Cabinet-maker, about Shoreditch, Spitalfields, or Whitechapel.—Direct, with particulars, to A. Z., 68, Great Cambridge-street, Hackney-road.

REGENT-STREET.—Extensive Premises TO LET, situated a few doors from Regent-street, comprising several ranges of Workshops, large Yards, a Hot Room, and a Residence. Gas is laid on, and there is a Warm-water Apparatus. They are most desirable Premises for a Builder's Joiner, Coach or Cabinet Manufactory, or any business requiring great space.—For particulars, inquire of Messrs. DRUCE and CO., Bazaar, Baker-street.

TO BUILDERS.—MATERIALS AND MONEY ADVANCED.

TO BE LET, on BUILDING LEASES, for ninety-six years, several very eligible plots of Freehold Building Ground, land-tax redeemed, for fourth-rate houses, situated in streets leading from the Queen's-road, Dalston, to Lansdown-place. This is one of the most rapidly improving neighbourhoods near London, and will be the principal thoroughfare from all parts westward to the new Victoria Park, from which it is only a quarter of a mile distant.—Apply to Mr. PALMER, on the premises.

ST. JOHN'S WOOD PARK!!! IMMEDIATE CONNECTION WITH REGENT'S PARK.

BUILDING PLOTS TO BE LET in this most desirable and salubrious situation !! commanding picturesque views of the SURROUNDING BEAUTIFUL NEIGHBOURHOOD, and elevated within a few feet of the summit of the monument, with the best approaches of any suburban district near the metropolis, and greatest facilities of access to all the fashionable resorts and promenades of the West End and the City !—For particulars and plans, apply to W. H. TWENTYMAN, Esq., 14, Regent's-villas, Avenue-road, Regent's-park.

TO BUILDERS, CARTERS, AND OTHERS.

A SAND BARGE TO BE SOLD, named the "Young Nelson," and at present employed on the River Thames in that line. A favourable opportunity now offers for a bargain. Apply to Mr. W. BENNETT, 6, Crosier-street North, Stangate, Lambeth, or to Mr. SMITH, Barge-builder, Fore-street, Lambeth.

TO BE SOLD, the Lease of Twenty years, or TO BE LET, a jobbing Carpenter and Cabinet Business (with the pattern making), established sixteen years, the proprietor leaving in consequence of entering in the public line. Any person who can command 50l. will find this an advantageous concern. With immediate possession, direct to E. E., at Mr. TAAFFE, Stationer, 128, Crawford-street, Portman-square.

TO ARCHITECTS, MASONS, AND BUILDERS.

FOR SALE, on account of a Dissolution of Partnership, and to clear the premises, a valuable and well-selected stone merchant-s stock, consisting of large blocks and scantling of Portland stone, Yorkshire paving, landings, steps, sinks, curbs, coping, and window-cills, rubbed slabs, and a large quantity of Box-stone chimney-pieces, and a few marble ditto, strong stone trucks and carts, powerful sheer legs and geer, chain slings, crab blocks and falls various, and about 50,000 feet superficial Rockhill paving. Country builders are invited to purchase this prepared stock at No. 30, Commercial-road, Lambeth.

SALES BY AUCTION.

SALE NOTICE—MONDAY NEXT.

Commercial-road, Pimlico, Builder's Surplus Stock, Clearance out before Christmas.

MESSRS. BARTON and SON will SELL by AUCTION as above on MONDAY next, December 21st, at Twelve o'clock, without the slightest reservation, a prime assortment of new and old timber, some very good fittings, and much convertable stuff suitable to builders, carpenters, and jobbers.—On view; catalogues at the William IV., Commercial-road, Pimlico, of the auctioneers, in the Westminster-road.

ON TUESDAY NEXT—SALE NOTICE—CLEARANCE OUT BEFORE CHRISTMAS.

TO BUILDERS.—Wandsworth-road, Surrey, a large quantity of New Spruce and Yellow Pine Plank, Oak and Fir Timber of a superior quality, Floor Boards, Large Assortment of Convertible and Useful Fittings, and Capital Stuff, also Paving Stones, Stoves, Glazed Sashes, &c.

MESSRS. BARTON and SON will SELL the above by AUCTION on the grounds at the Store Yard, opposite the "Stag Inn," Wandsworth-road, on TUESDAY next, December 22, at Twelve o'clock. —May be viewed, and Catalogues had at the place of sale, or of the auctioneers, in the Westminster-road.

TO BUILDERS, CARPENTERS, AND OTHERS.

MESSRS. EVERSFIELD and HORNE will SELL by AUCTION, on the premises, Horse-ferry-road, Westminster, on TUESDAY, Dec. 22nd, at Twelve, the remaining stock of a builder, consisting of deals and planks, prepared yellow battens and floor boards, matched boarding, &c. Also a small assortment of Ironmongery and Brass work; a rubbish cart, light spring cart, chaise and harness, ladders, benches, screw jack, erection of timber stages and sheds, office fittings, a large bell, and numerous other effects.—May be viewed one day prior to the sale, and catalogues had on the premises, and of the Auctioneer, Coal Exchange, or 1, Little Smith-street, Westminster.

OXFORD-STREET, near Berners-street.—Capital Business Premises, with immediate Possession.

MESSRS. RUSHWORTH and JARVIS are directed by the Assignees of Mr. John Lambe, a Bankrupt, to SELL by AUCTION, on the Premises, on THURSDAY, December 24, at Twelve for One precisely, the valuable LEASE of the superior Business Premises, No. 15, on the north side of Oxford-street, in the division between Berners-street and Newman-street, one of the choicest situations at the west-end of the metropolis for a retail trade. The shop has been fitted up for a hoser and haberdasher, with plate-glass front, in the most approved modern style, with light show-room behind. The dwelling-house is very compact and conveniently arranged, held at the very low rent of 20l per annum, for twelve years from Mid-summer last.—May be viewed daily, and printed particulars had on the Premises: of Mr. THOMAS PARKER, solicitor, 18, St. Paul's Churchyard, of Messrs. COX, SON, and WALROND, solicitors, 14, Size-lane; of Mr. JOHN FOLLETT, Official Assignee, Sambrook-court; and of RUSHWORTH and JARVIS, Saville-row, Regent-street, and 19, 'Change-alley, Cornhill.

PATENT KAMPTULICON COMPANY, Office, 18, Cornhill.

STOCK ON SALE.—3,000 feet super. Kamptulite Pavement, similar to that laid under the portico of Buckingham Palace, Norman Gateway, Windsor Castle, Admiralty Court Yard, Lord Radnor's stables, &c.; 2,000 yards of Cork and India-rubber Floor-cloth, for preventing damp, noise, &c., similar to that used in numerous churches, public offices, banking houses, railway carriages, buffers, &c.; 3,000 feet of Cork and India-rubber Planking, similar to that ordered for her Majesty's riding-house at Windsor Castle.

Two LIFE BOATS, one capable of saving 100 lives at a time, built of a material that cannot be destroyed by rocks, or by being thrown against a ship's side.

Samples may be seen at the Office as above.

CAEN SUFFERANCE WHARF, ROTHERHITHE.

LUARD and BEEDHAM beg to inform architects, surveyors, builders, and others, that they have removed from Norway Wharf, Greenwich, the whole of their Caen stone business, to the above extensive premises, where a large stock will be kept up by continual fresh arrivals from their quarries at Allemange. Orders received at the wharf, and further particulars may be obtained of Mr. GEORGE GAIES, 18, Southwark-square, Borough, London.—Orders shipped direct from Caen to any port.

The Waterman steam-boats call at Lavender-pier, adjoining Caen Wharf.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

SAMUEL CUNDY begs to inform Architects and others that GOTHIC WINDOWS, and every other branch of Stone-work, &c., is executed at the cheapest possible rate, and packed for the country ready for fixing or fixed, enabling ARCHITECTS to have the most difficult TRACERY for CHURCHES, or other buildings in the PROVINCES, executed under their immediate inspection in TOWN.

BUILDERS and MASONS can have every description of Stone in the London Market, either in the rough block, or cut to sizes from the saw, or prepared ready for fixing or fixed, avoiding either waste in the goods or carriage.

Box Chimney-pieces from 12s. upwards.

THE WORCESTER ENCAUSTIC TILES, in all their beautiful variety, may be inspected, in addition to the usual extensive stock of Chimney-pieces and FONTS.

Estimates given for building generally.

BARRETT, STONE MERCHANT, 24, Wharf, Harrow Road, Paddington, respectfully informs Builders, Stone Masons, and others, that he has opened a Depôt at the Great Western Terminus for the sale of Wall's Quarry Stone. Having been established at the above place for the last twelve months, and the sale of the stone increasing so much, the Great Western Company has had the kindness to favour me with a Depôt at their Terminus. The Wall's Quarry Stone is equal to Portland for Staircases, Hall Floors, Porticoes, Balconies, Chimney-pieces, Coping, Window Sills, &c. The same stone being used in Gloucestershire for all the above purposes. The stone is sawn to all sizes while in the Quarry to save expense of waste and sawing in London, on which account can be rendered much cheaper, and is free from all flints, shells, and holes.—List of prices and samples sent to any part of London, carriage free, by directing all letters to No. 24, Wharf, Paddington.

P.S. Nailsworth and Paniswick Stone in Block.

PORTER'S CORRUGATED and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanizing Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway and other Iron and Smith's work Manufactured of the best quality. Iron Fence and Hurdles as usual.—The Trade Supplied.

By Her Majesty's Royal Letters Patent.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED METAL.—This article was at first sold under the name of Galvanised Tin Plates, but the Patentees finding that the public, in some instances, overlooking the word Tin, confounded the article with Galvanised Iron, and that the character of their metal has thereby sustained injury, are desirous of giving it a name so distinctive as to prevent such mistakes, and consequent disappointment to purchasers in future. They therefore respectfully request purchasers to inquire for MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON. In order to enable the public readily and at first sight to distinguish between the two metals, it may be well to inform them, that Galvanised Iron has a plain zinc-like appearance, while M. and R.'s Patent Galvanized Tinned Iron has a smooth crystalline surface.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON, Patronized by the Admiralty and the Honourable Board of Ordnance, being extensively used in her Majesty's Dock-yards, at the Tower, and elsewhere, for every variety of Roofing, and other purposes, where a strong, light, cheap, and durable material is required.

It has been found by experience that this article is beyond all comparison superior to zinc; possessing, as it does, all the advantages arising from the strength and firmness of iron, combined with perfect immunity from rust; whilst it is free from the very serious objection which applies to zinc, viz. its contraction and expansion, consequent upon every change of temperature, and from which circumstance leakage must of course result.

This material is not likely to be destroyed by fire, as is the case with zinc and lead, which melt and run down, thus freely admitting fresh air to the fire, and causing it to burn more fiercely. It is, therefore, obviously well adapted for all the purposes above-named, and most importantly so, when there is the possibility of fire. It is also peculiarly suitable for chimney-tops, gutters, spouting, and out-door work generally, possessing the strength of iron, without its liability to corrosion. It is by far the most economical metal roofing that can be obtained, in consequence of its strength, as it may be laid without boards, and upon the lightest rafters.

This mode of preserving metal from rust does not only apply to sheet-iron, but also to manufactured iron in any form, as bolts, nuts, hinges, nails, &c. &c.

For full Particulars apply to S. HOLLAND, 34, Grace-church-street.

PUBLICATION.

New Edition, for 1847, price 4s.

WILL BE PUBLISHED ON THE 20th DECEMBER,

LAXTON'S BUILDERS' PRICES, containing nearly 11,000 Prices and Memoranda connected with building, together with the whole of the new Metropolitan Buildings Act, and the modification of the Act. —To be had at the office of the "Civil Engineer and Architects' Journal," No. 10, Fludyer-street, Whitehall; WEALE, High Holborn; SIMPKIN, MARSHALL, and Co., Paternoster-row; and at the office of "The Builder," 2, York-street, Covent-garden.

WORCESTER ENCAUSTIC TILES.

Specimens of these beautiful Tiles in all their Varieties, may be seen and information obtained at the London Agents, Messrs. GRIEVE and GRELLIER, Marble-wharf, Belvidere-road, Waterloo-bridge, or at the Encaustic Tile Works, of Messrs. F. ST. JOHN G. BARR, and Co., Worcester.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—J. M. BLASHFIELD, Agent. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, dabs, and tiles for fire-places, &c.

TO BRICK AND TILE MAKERS.

THE AINSLIE PATENT TILE MACHINE COMPANY (James Smith, Esq., of Deanstone, Chairman), invite attention to their improved Brick and Tile Machines, and to their new improved Patent Kilns for drying and burning Bricks and Tiles, by which a saving of from two-thirds to three-fourths of the fuel is effected, and all the articles are burnt equally without loss or damage. The Machines at work, and a model of the Kilns, to be seen, and all particulars to be obtained from Mr. JOHN PATON, Secretary, 193a, Piccadilly, London.—Agents wanted.

JENNINGS'S SHUTTER FASTENER.

Shop Fronts are more damaged and disfigured by the Shutter Bar than from any other cause. Bars are a trouble to put up and take down, and troublesome when down. JENNINGS'S REGISTERED SHOP SHUTTER FASTENER supersedes the destructive Bar, and answers the purpose also of a shutter-shoe. The shoes and fastencrs being made of brass, afford greater protection to the corner of the shutter, and leave no rusty deposit on the stall-board in damp weather. Hundreds of shops have been secured by the inventor, and testimonials of their ease and efficiency may be obtained from the occupiers. A front, containing eight shutters, secured for 24s., or a new front shod and secured for 40s. A liberal discount allowed to Builders, Ironmongers, and Painters, who introduce it to the notice of persons whose shops they decorate. To be had of the Inventor, 29, Great Charlotte-street, Blackfriars'-road; or of any respectable ironmonger.

HOLBORN AND FINSBURY SEWERS, MIDDLESEX.

THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persons about to Purchase or Rent Houses or Property, or take Land for Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Persons to apply for at the above Office.

By the Court,
STABLE and LUSH, Clerks.

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDDLESEX, No. 1, Greek-street, Soho-square.

TO BUILDERS and Others interested in buildings or in ground for building upon, within the district under the jurisdiction of this Court, drained by watercourses falling into the river Thames, between the city of London and the parish of Fulham.

The Commissioners hereby give notice, that by an Act of the 47th Geo. III. (chap. 7, local) it is required that, previously to the making of any new sewer in any street, lane, or public way, or in any part intended to become a street, lane, or public way, or to carry or drain off water from any house, building, yard, or ground, into any sewer under their management, or within their jurisdiction, a notice in writing shall be given to them, or to their clerk at their office, and that such new sewer or sewers shall be constructed and made in such manner and form as shall be directed by the said Commissioners, and not otherwise.

And, in order to prevent the serious evils and inconvenience that must arise from ground proposed to be built upon being excavated at too great a depth, the Commissioners have directed that, upon application being made at this office previously to the excavation of such ground, information shall be given as to the lowest depth at which the same can be drained.

And the Commissioners do also give notice that, whenever the lower floors or pavements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any sewers, or drains into sewers, to be made for the service of such buildings.

It is recommended to all persons about to purchase or take houses, or other premises, to ascertain whether such premises have separate and distinct drains into common sewers.

All petitions must be delivered at this office at least three clear days before they are presented to the commissioners; and all such petitions will be called on in the order of their application, and the name of any party not present when called on to support the application will be struck out, and the proceedings must in consequence be commenced de novo.

All communications made with any sewer without leave of the Commissioners will be cut off, and the parties making the same will subject themselves to a fine.

The provisions of the Metropolitan Buildings Act (7 and 8 Victoria, c. 84) do not supersede the authority of the Commissioners of Sewers in the above respects, but their powers are expressly reserved, and their regulations made subservient to the purposes of the Act. The execution of such works, under the superintendence of the district surveyor alone, cannot therefore exempt the making of any sewers or drains within this commission, nor relieve the parties makin them from the penalties above mentioned.

By order of the Court,
LEWIS C. HERTSLET, Clerk.

LONDON: Printed by CHARLES WYMAN, of 49, Cumming-street, Pentonville, in the County of Middlesex, Printer, at the Printing-office of J. & H. COX, *Brothers*, 74 & 75, Great Queen-street, Lincoln's-inn-Fields, in the Parish of St. Giles-in-the-Fields, in the same County; and published by the said CHARLES WYMAN, at the office of "THE BUILDER," 2, York street, Covent Garden, in the Parish of Saint Paul, Covent Garden, in the said County.—Saturday, December 19, 1846.

The Builder,

A JOURNAL FOR

The Architect, Engineer, Operative & Artist.

VOL. IV.—No. 203. | DECEMBER 26, 1846. | Price ..... 3d. Stamped ..... 4d.

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R. BYHAM, Secretary.

Ordnance, 18th December, 1846.

Sewers Office, Guildhall, Dec. 19, 1846.

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By order, ROBERT SIMONS, Secretary.

10th December, 1846.

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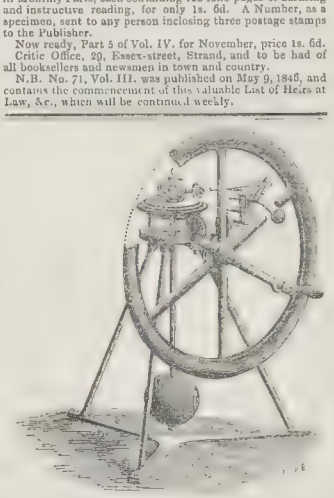
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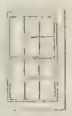
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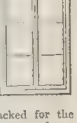
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4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6½d., 7d., 8d. per inch.
Self-acting Kitchen Ranges with Oven and Back Boiler.

Wrought Bars and Bright Fittings.

3 ft., 3l. 3s.	3 ft. 6 in., 3l. 12s. 6d.	4 ft., 4l.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
2l. 6s.	3l. 13s.	3l. 16s.	4l.	4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5l.	5l. 15s.	6l. 5s.	6l. 10s.	7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 3½d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

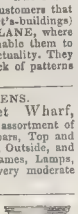
HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 168, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

IRON-WORK FOR BAKERS' OVENS.

F. A. TIDDEMAN, Purfleet Wharf, Earl-Street, Blackfriars, keeps an assortment of Stocks, or mouth-pieces; Plates, Furnace-bars, Top and Fall Pieces, Stoppers, Chimney-bars, Inside, Outside, and Ash-pit, Doors and Frames, Boilers and Frames, Lamps, &c. &c.: all of the best description, at very moderate prices.—CAST-IRON OFFSETS.

SMOKY CHIMNEYS EFFECTUALLY CURED.

WILSON AND CO.'S
PATENT
VENTILATING CHIMNEY POT,



For the cure of smoky chimneys, has been tested extensively throughout the Kingdom for the last two years, and have proved to be an effectual remedy. The Patent Pots cannot corrode or get out of order, and can be effectually swept by the Sweep's machine. They are now manufactured of artificial Stone Cement. The Trade supplied with them at the Manufactory, Vale Place, Hammersmith Gate, Middlesex.

N.B. Licenses granted to Manufacturers.

WILSON'S PATENT
VENTILATING
SPIRAL CHIMNEY POT,



For the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success.

This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance.

The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory,

Southwark-bridge Iron Roofing Works.

By Her Majesty's Royal Letters Patent

WILKINS'S "SILENT" WATER-CLOSET.—To Architects, Surveyors, and Builders.

Gentlemen,—Your attention is respectfully invited to the above "Closet," the peculiar qualities of which are, that it is perfectly silent in the action of the Machinery and the supply of Water, and may be fixed in any convenient place in the House, without communicating the sound of a Water-closet to any of the adjoining Apartments, while it retains all that is useful in the ordinary Closets, it does away with the Bull Levers, Wire, Cranks, &c., which cause much of the noise to which the old closets are liable. The want of a Water-closet more suitable for the present mode of fixing them in the internal parts of Dwelling Houses and Office Apartments, has long been felt, and the benefit to be derived from one that is "Silent" in the action of the Machinery and supply of water, is sufficiently obvious to render unnecessary any lengthened comment in its favour.

This Closet is simple in its construction, the whole of the apparatus (including the trap), being completed between the floor of the room and the seat of the Closet, thereby rendering it quite easy to remove any noisy Closet and fix the "Silent" one in its place, without interfering with the old trap, which is generally embedded between the floor and ceiling below the Closet. The "Silent" Closet is also clean and so free from any effluvia, as to allow of its being fixed in any bed-room (where there is a convenience of fixing a pipe down the outer wall of the house) without occasioning the least unpleasantness whatever.

May be viewed Daily, and Orders taken at No. 26, Gower-place, University College, London, from 8 in the Morning to 9 in the Evening.

CHEAP AND DURABLE ROOFING.

By Her Majesty's Royal Letters Patent.

F. McNEILL and Co. of Lamb's Buildings, Bunhill Row, London, Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING
HOUSES, VERANDAHS, SHEDS, &c.

Patronized by

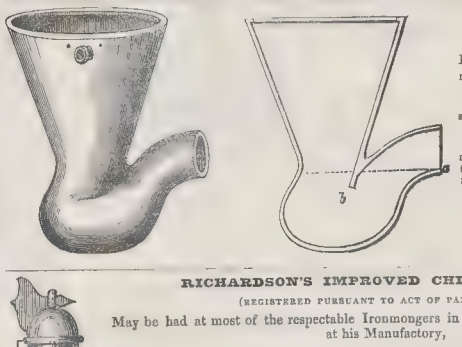
HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE BOARD OF ORDNANCE,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing, also used for under slates at the Royal Agricultural Society's House, in Hanover-square.

Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, as THE ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW, LONDON.

Roofs covered with the felt to be seen at the Factory, also the new Vice-Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the new Houses of Parliament.

A Liberal Discount allowed to the Trade.



CHEAP PAN FOR
WATER CLOSETS,
With Trap, in One Piece
DOULTON AND WATTS,
LAMBETH POTTERY, HIGH-STREET, LAMBETH, LONDON,

Manufacturers of the annexed in superior glazed STONE WARE,

Price 7s. 6d. each.

They are of the most durable ware, and are recommended in preference to iron on account of their cleanliness and cheapness.

If preferred, they can be had in two parts, the Pan at 4s. 6d., and the Trap at 3s.

N.B. Manufacturers of RAIN-WATER PIPING for houses.

RICHARDSON'S IMPROVED CHIMNEY COWL,

(REGISTERED PURSUANT TO ACT OF PARLIAMENT,)

May be had at most of the respectable Ironmongers in London and the Vicinity, and at his Manufactory,

62, EDGEWARE ROAD, MARYLEBONE,

Where Prices and Particulars may be obtained on application.

THE IMPROVED COWL combines a perfect and ready action, with facility of sweeping and freedom from noise; and the working parts being wholly contained in the Dome Top, impervious to smoke or weather, it is not liable to become out of repair, and effectually prevents the annoyance experienced in gusty weather, or where the Chimney is subject to the eddies produced by a higher building.

A Working Model may be seen at the office of "The Builder."



NOTT'S PATENT STOVE,

FOR

CHURCHES, HALLS, WAREHOUSES, &c.

THE PATENT having expired, the present Proprietors are enabled to offer these excellent Stoves at

THREE-FOURTHS OF THE PRICES HITHERTO CHARGED.

Engravings of the Patterns, with

THE REDUCED PRICES,

will be forwarded on application to the Warehouse,

80, GREAT QUEEN STREET, LINCOLN'S INN FIELDS.

N.B. Hot-water Pipes can be attached to the Stoves for warming distant apartments, Conservatories, &c.

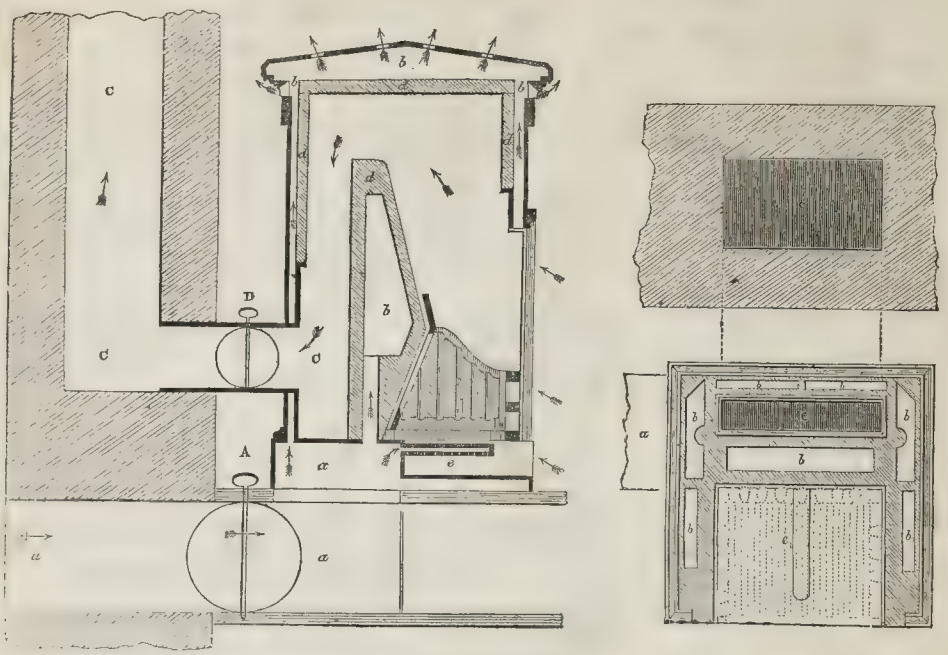
THE PANKLIBANON IRON WORKS,
WHOLESALE AND RETAIL, 58, BAKER STREET, PORTMAN SQUARE.



ARCHITECTS, BUILDERS, and Others, about to supply STOVES and KITCHEN APPENDAGES, will find at this Establishment the most unique and elegant assortment of STOVE-GRATES, FENDERS, and FIRE-IRONS ever offered to the Public, at prices considerably below the usual charges. The Proprietors at the same time beg to invite attention to their extensive Stock of FURNISHING IRONMONGERY, Tinned Copper, Tin and Iron Cooking Vessels, Block Tin Dish-Covers, Japanned Ware, Table Cutlery, and especially their Sheffield Plate and German Silver Wares, embracing every Article suitable for the Table, comprising Dish and Plate Covers, Liquor Frames, Epergnes, &c. &c. The plan adopted by the Proprietors of affixing the price to each article for cash, enables all purchasers to have the same advantage. The Patent Thermio Stove is in daily operation. ALSO CUNDY'S IMPROVED HOT-AIR STOVES, for Heating and Ventilating Rooms.

THORPE, FALLOWS & COMPANY, 58, Baker-street, Portman-square, London.

CUNDY'S PATENT IMPROVED OPEN FIRE PLACE, HOT AIR, VENTILATING STOVE.



Description of Diagram.

a a a a Fresh air channel, for admission of external air.
b b b b Hot air chambers (formed with artificial stone, *d d d d*) through which the air passes into the room, and is heated without being injured.
C C C The direction the smoke and vitiated air takes after it has passed through the fire and heated the artificial stone of the hot air chambers.
e Blow pipe to preserve perfect combustion placed immediately underneath the grating of fire place.
A and D are regulators.
The arrows shew the way the external fresh air is admitted, next passing through the hot-air chambers into the room, and lastly taken out of the room through the fire and up the chimney—thus completing ventilation.

This STOVE embraces the following most important principles connected with the economy of

WARMING AND VENTILATING CHURCHES,

And other Public and Private Buildings, viz.:—

HEAT by RADIATION from the Open Fire.

HEAT by CONDUCTION.—A copious and continuous stream of PURE WARM AIR is conducted into the room through the large Stove, at a regulated rate, by means of an air channel underneath the floor, communicating with the external air.

HEAT by REFLECTION.—The external casing of the Stove becoming warm, communicates its heat to the surrounding atmosphere.

VENTILATION produced by the OPEN FIRE—which will carry off the Vitiated Air through the chimney at the same rate the Pure Air is conducted into the room through the interior HEATING APPARATUS of the Stove, thereby keeping up a regular and agreeable system of Ventilation.

ECONOMY of FUEL.—This Stove, from the peculiar construction of the Fire Place, will produce a most BRILLIANT FIRE with the least possible quantity of fuel, and will continue to burn so long as any particle of coal remains.

TESTIMONIALS AFTER A WINTER'S TRIAL.

Gothic Villa, St. John's Wood, Oct. 22, 1846.

SIR,—Perhaps there are few private individuals who have had more experience in stoves than I have had; I have tried most of the newly invented ones, and rejected all but yours, two of which I have tried in my temporary church, and found them to succeed so well, that I have introduced them into All Saint's Church, St. John's Wood.

The following reasons induce me to approve of them. Exemption of effluvia; the emission of a great body of pure warm air, the perfect system of ventilation, the sight of the fire, the consumption of vitiated air; the little attention requisite; the cleanliness connected with them: and though last, not least, the great economy of fuel.

All more I can say in favour of your stoves is, that whenever I require a stove, either for my house or church, I shall purchase your patent Stoves, and recommend all my friends to do the same.

Yours truly,
ED. THOMPSON, M.A.
Incumbent of All Saint's, St. John's Wood.

29, Charter-house-square, Monday, Feb. 17, 1846.

DEAR SIR, The Stoves which you have recently erected in my church have been highly successful, and I have great pleasure in expressing to you the entire satisfaction which they have given to all parties. The church, which was notoriously noted for its coldness and bad ventilation, is now most agreeably warmed and well ventilated. I shall be most happy, on any occasion, to bear testimony to the excellency of your stoves; and I will endeavour, to the best of my power, to make them known, and I will certainly recommend them to my friends.

I remain, Dear Sir, yours faithfully,
WM. ROGERS, St. Thomas's Charter-house.

St. Thomas's, Charter-house.

We, the undersigned, do hereby certify, that during the last three winters we suffered severely from the cold in the Church of St. Thomas's, Charter-house, although we had three large Arnott's Stoves, which consumed one sack and half of coals each day they were lit. The building was never warm, in consequence of which the congregation fell off, though we had a zealous preacher in the Rev. Dr. James. We have now two of Cundy's Patent Stoves, which consume but one cwt. of coal per day between them, and they impart to the church a comfortable heat and ventilation.

WILLIAM BUSHMAN, Verger.
THOMAS GEORGE, Beadle.

St. John's, Fulham, 2nd May, 1846.

My Dear Sir,—I have very great pleasure in giving my testimony to the efficiency of your Stove, as combining the double advantage of thoroughly warming and constantly ventilating any large church or building. Your invention appeared to me to be in theory all that could be desired; and I can honestly say, that I have not yeth discovered the point in which the practice falls short of the theory.—The area of my church is computed to be nearly 200,000 cubical feet, and though a second stove will be required, the one already erected has fully answered my highest expectations, and realized all that you had given me to expect. If confirmation were needed for evidence of its efficiency, I might further state, that I had peculiar difficulties to contend with,—that various attempts had been made, and that every attempt had proved a signal failure,—that I was exposed to the charge of boldness in attempting what had baffled others; but that such is the power, the efficiency, and the comfort communicated by your Stove, that I know not of a dissentient voice, and have heard only of approval with unanimous consent.—I might add, that I was first led to the making inquiry respecting your stove, having gathered indirectly, that a disposition not unfavourable towards it was entertained in a certain high quarter, where, on account of ability of discernment, the smallest approach to approval must carry with it great weight.—I remain, Dear Sir, yours faithfully,
WILLIAM GARRATT, Minister of St. John's, Fulham.

Letter from the Rev. MATTHEW O'BRIEN, (Professor of Natural Philosophy and Astronomy), M.A., F.R.S., &c., King's College.

Upper Norwood, 22nd June, 1846.

I beg to certify that one of Mr. Cundy's Patent Stoves was put up in my lecture room at King's College, last year, in place of a common stove (of Arnott's construction, I believe). I have no hesitation in saying from actual experience, that Mr. Cundy's Stove is far superior both in producing warmth over the whole room, and in promoting ventilation, without disagreeable currents of air, or close smell.

MATTHEW O'BRIEN.

*** Since this stove was put up, four others have also been fixed, one of which is placed in the Medical Library.

Letter from Professor BRADLEY.

King's College, London, July, 1846.

Sir,—I am happy to be able to bear testimony to the efficiency of your stove, which is fixed in my lecture-room at this Institution. It seems to have all the essential requisites of a good stove, a rapid draught, freedom from all smoke, and from that smell which arises from iron, heated in contact with the air of a dwelling-room, which is entirely avoided by your arrangement.—I am, Sir, your obedient Servant,
THOMAS BRADLEY.

To be had of the Manufacturers,

MESSRS. DOWSON, 69, WELBECK-STREET, CAVENDISH-SQUARE,

Where they may be SEEN IN OPERATION, and where also may be seen an ELEGANT assortment of REGISTER and other STOVES, FENDERS, CULINARY APPARATUS, &c. &c. ARCHITECTS and BUILDERS supplied with IRON and BRASS CASTINGS, at Messrs. DOWSON'S FOUNDRY, 5, SEYMOUR-PLACE, BRYANSTON-SQUARE. Smith's Work, Gas Fittings, and all other works appertaining to a Smith and Founder, undertaken at estimated prices.

LONDON: Printed by CHARLES WYMAN, of 19, Cumming-street, Pentonville, in the County of Middlesex, Printer, at the Printing-office of J. & H. COX, *Brothers*, 74 & 75, Great Queen-street, Lincoln's-Inn Fields, in the Parish of St. Giles-in-the-Fields, in the same County; and published by the said CHARLES WYMAN, at the office of "THE BUILDER," 2, York-street, Covent Garden, in the said County.—Saturday, December 26, 1846.

The Builder,

A JOURNAL FOR

The Architect, Engineer, Operative & Artist.

VOL. IV.—No. 178. JULY 4, 1846. Price ..... 3d. Stamped..... 4d.

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ADVERTISEMENTS.

BUILDERS' CLERK.

WANTED, a Youth capable of the general routine of a Builder's office. Salary, 50*l.* per annum. Apply by letter (prepaid), to E. H., 23, Hanover-square.

TO CARPENTERS AND BUILDERS.

WANTED a Situation, by a Person aged Twenty-five, quite steady, at 24*s.* per week, possessing sufficient stock of tools.—Address to G. A., No. 1, Berwick-street, Eccleston-square.

TO ENGINEERS AND IRONMONGERS.

WANTED, a PARTNER in an extensive concern in town, connected with the general business of Smith, Stove Manufacturing, and Engineering. A moderate capital required.—Apply, post-paid, stating particulars, to F. W. PIKE, Esq., 24, Bedford-row.

TO PARENTS AND GUARDIANS.

WANTED, a Respectable Youth, Sixteen or Seventeen Years of age as Apprentice to the Pianoforte Making; a premium required; one who has learned the use of his tools with a joiner or cabinet-maker, and has a ear for music would be preferred.—For further particulars, apply to W. A., 52, Marsham-street, Westminster.

TO MARBLE MASONS, STATUARIES, &c.

WANTED, a Master for a Stout Lad Fifteen Years of Age; he has served one year to the business, has a knowledge of drawing; a failure is the cause of this application.—Apply, post free, to U. N., No. 45, Mount-street, Grosvenor-square. The country would not be objected to.

TO ARCHITECTS, BUILDERS, ENGINEERS, &c.

WANTED by a Respectable Person, a Situation as Clerk of Works or Foreman; being a good draughtsman, &c., and having in his possession a valuable invention of considerable advantage to any of the above. As the object of this advertisement is bona fide, the strictest security may be relied upon.—Address, post-paid, Y. Z., 71, Chalton-street, Clarendon-square, New-road.
N.B. No objection to Country or Abroad.

TO BUILDERS.

A YOUNG MAN of some Years' Experience in Builders' Offices, is desirous of a re-engagement; he is a thorough book-keeper and accountant, can also measure, estimate, and draw; the highest testimonials offered from a most respectable builder, in whose establishment he has been engaged for the last four years.—Address, A. B. C., 38, Crown-street, Finsbury.

TO ARCHITECTS, BUILDERS, &c.

TWO BROTHERS engaged in the Profession would be happy, for a trifling remuneration, to undertake any of the following works, in the shape of Evening Employment, viz. Tracing Drawings, Copying Plans and Specifications, Bills of Quantities, Moneying Quantities, Abstracting and Squaring Dimensions, &c. Any quantity of the latter done in one night.—Address, B. C., at Mr. Tayton's, 4, Princes-street, Coventry-street.

METROPOLITAN BUILDINGS ACT.—NOTICE TO CANDIDATES FOR DISTRICT SURVEYORSHIPS.

Office of Metropolitan Buildings,
6, Adelphi-terrace; 1st July, 1846.

NOTICE IS HEREBY GIVEN, that the Examiners appointed by and in pursuance of the Metropolitan Buildings Act, will hold their next examination of persons desirous to obtain a certificate of qualification for the Office of District Surveyor on Friday, the 31st day of July, instant.

Persons desirous to be examined must apply on or before the 25th inst. and their applications must be accompanied by a preliminary statement according to the course of examination prescribed in the rules for that purpose, copies of which, and any information on the subject, may be had at this Office, or at Mr. WEALE'S, Architectural Bookseller, 59, High Holborn.

Subsequent examinations will be held in the months of October, January, and April, or at such other periods as shall be appointed, of which due notice will be given.

(Signed) ARTHUR SYMONDS,
Registrar of Metropolitan Buildings.

MORTGAGE AND ANNUITY OFFICE, No. 123, CHANCERY-LANE.

PERSONS requiring LOANS by way of MORTGAGE or otherwise upon any available security, may at all times procure an advance to the extent of from 100*l.* to 150,000*l.*, or so much as the property will bear, by applying to Mr. BRAY, surveyor, at the offices as above, where a registry for the sale of estates, houses, land, life interests, and reversions, is kept for inspection.

N.B. To expedite the procuration, personal application at the office would in all cases be better, the party bringing with them the abstract of title, plans, &c.

HOLBORN AND FINSBURY SEWERS, MIDDLESEX.

THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persons about to Purchase or Rent Houses or Property, or take Land for Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Persons to apply for at the above Office.

By the Court,
STABLE and LUSH, Clerks.

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDDLESEX, No. 1, Greek-street, Soho-square.

TO BUILDERS and Others interested in buildings or in ground for building upon, within the district under the jurisdiction of this Court, drained by watercourses falling into the river Thames, between the city of London and the parish of Fulham.

The Commissioners hereby give notice, that by an Act of the 47th Geo. III. (chap. 7, local) it is required that, previously to the making of any new sewer in any street, lane, or public way, or in any part intended to become a street, lane, or public way, or to carry or drain off water from any house, building, yard, or ground, into any sewer under their management, or within their jurisdiction, a notice in writing shall be given to them, or to their clerk at their office, and that such new sewer or sewers shall be constructed and made in such manner and form as shall be directed by the said Commissioners, and not otherwise.

And, in order to prevent the serious evils and inconveniences that must arise from ground proposed to be built upon being excavated at too great a depth, the Commissioners have directed that, upon application being made at this office previously to the excavation of such ground, information shall be given as to the lowest depth at which the same can be drained.

And the Commissioners do also give notice that, whenever the lower floors or pavements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any sewers, or drains into sewers, to be made for the service of such buildings.

It is recommended to all persons about to purchase or take houses, or other premises, to ascertain whether such premises have separate and distinct drains into common sewers.

All petitions must be delivered at this office at least three clear days before they are presented to the commissioners; and all such petitions will be called on in the order of their application, and the name of any party not present when called on to support the application will be struck out, and the proceedings must in consequence be commenced de novo.

All communications made with any sewer without leave of the Commissioners will be cut off, and the parties making the same will subject themselves to a fine.

The provisions of the Metropolitan Buildings Act (7 and 8 Victoria, c. 84) do not supersede the authority of the Commissioners of Sewers in the above respects, but their powers are expressly reserved, and their regulations made subservient to the purposes of the Act. The execution of such works, under the superintendence of the district surveyor alone, cannot therefore warrant the making of any sewers or drains within this commission, nor relieve the parties making them from the penalties above mentioned.

By order of the Court,
LEWIS C. HERTSLET, Clerk.

CONTRACTS.

TO BUILDERS, CARPENTERS, AND OTHERS.

ALL PERSONS willing to CONTRACT for the alteration of reading room, &c., about to be effected in the LONDON MECHANICS' INSTITUTION, are requested to send in sealed tenders for the performance of the same on or before Monday, the 20th day of July, 1846, addressed to the Special Building Committee. The plan and specification may be seen on application at the office of C. DAVY, Esq., Architect, 11, Furnival's-inn.

The committee do not bind themselves to accept the lowest tender.

TO BUILDERS.—Such Builders as may be desirous of offering TENDERS for the erection of St.....'s Church, Portswood, near Southampton, may see the drawings and specification at the offices of Messrs. RAPHAEL and J. A. BRANDON, Architects, 11, Beaufort-buildings, Strand, on and after Monday, the 20th inst., between the hours of 9 and 5. The tenders to be sealed up and endorsed "Tender for the Erection of St.....'s Church, Portswood, Hants," and to be delivered at the Rev. W. D. HARRISON'S, South Stoneham Vicarage, near Southampton, on or before the 11th July, 1846, and they will be opened on the 13th July, 1846, at 1 o'clock. The committee do not pledge themselves to accept the lowest tender, and sufficient sureties will be required for the performance of the work.

The quantities will be taken out, and may be had on application at the Architect's Office.

GRAVESEND AND MILTON UNION WORKHOUSE. TO BUILDERS.

THE GUARDIANS of the Gravesend and Milton Union are ready to receive TENDERS for the Erection of a New Workhouse in the Parish of Gravesend. The Drawings, Specifications, and Conditions may be seen at the Board Room of the present Workhouse, in the said parish, after Thursday next, the 25th day of June instant, between the hours of Ten and Six o'clock, until Thursday, the 16th day of July next.—Tenders are to be delivered at my Office, in Milton, next Gravesend, before Eleven o'clock on that day, sealed, and indorsed "Tender for New Workhouse."

Any information that may be required in respect of the said drawings, specifications, conditions and works may be obtained on application to Mr. JNO. GOULD, jun., surveyor, Bath-street, Gravesend, surveyor to the guardians. The guardians do not pledge themselves to accept the lowest or any tender.—By order of the Board of Guardians,

FRAS. SOUTHGATE, Clerk to the Board.

Gravesend, 22nd June, 1846.

TO ARCHITECTURAL DRAUGHTSMEN.

THREE or FOUR APPLICATIONS from Architects have been made, within the last day or two, to the ASSOCIATION OF ARCHITECTURAL DRAUGHTSMEN, for Temporary and Permanent Assistance in their Offices.—Applicants may receive the names and addresses of the parties, by applying, by letter only, to C. JAYNE, 33, Southampton-street, Strand.

WELL ENGINES for Raising and Drawing Water for the use of Railway Stations, Union Workhouses, and County Asylums; manufactured by J. TYLER and SON, Hydraulic Engineers and General Brass Founders, Warwick-lane, Newgate-street, London. Estimates and Engravings forwarded on application.

COLOURED PHOTOGRAPHIC PORTRAITS, by MR. BEARD (sole patentee of the Daguerréotype), are taken daily from Nine to Six at 85, King William-street, City (where application for licenses should be made); 34, Parliament-street, Westminster, and the Royal Polytechnic Institution, Regent-street.

"The colour is uniform, and so transparent as not to affect the likeness in any degree."—*Builder*, April 18, 1846.

ST. MARY-LE-BONE INVESTMENT ASSOCIATION, Established December, 1845. The next MONTHLY MEETING for the payment of Subscriptions will be held at the Institution, 17, Edwards-street, Portman-square, on THURSDAY, the 9th July, at Seven o'clock in the Evening. At half-past Eight o'clock precisely, a further sum of 1,000*l.* will be offered for competition to the persons then present. The Association since its establishment has advanced to the members 3,200*l.*—Further information can be obtained of the Solicitor, Mr. GOMM, 31, Edwards-street, Portman-square; or the Secretary, Mr. RATHBONE, 33, Berners-street.

PAVING, 2*s.* 9*d.* PER SQUARE YARD Basements, Foot walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen at 27*s.* 6*d.* per ton.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 36, Chiswell-street, Finsbury-square, near Whitbread's Brewery

Best Patent Cut Clasp.

3d. 4d. 6d. 8d. 10d. 20d.
5d. 6d. 7d. 11d. 1s. 1d. 1s. 10d. per 1000.

Best Sheet Floor Brads 12s. per cwt.
Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

Best Patent Sash Line.

1 2 3 4 5 6
4s. 3d. 5s. 6s. 6d. 7s. 6d. 10s. 12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6d., 7d., 8d. per inch.
Self-acting Kitchen Ranges with Oven and Back Boiler.
Wrought Bars and Bright Fittings.

3 ft., 3l. 3s. 3 ft. 6 in., 3l. 12s. 6d. 4 ft., 4l.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft. 3 ft. 3 in. 3 ft. 6 in. 3 ft. 9 in. 4 ft.
3l. 6s. 3l. 12s. 3l. 16s. 4l. 4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft. 3 ft. 3 in. 3 ft. 6 in. 3 ft. 9 in. 4 ft.
5l. 5l. 15s. 6l. 5s. 6l. 10s. 7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 3½d., and 4d. do.

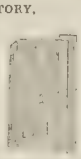
Manufacturer of WOLFE'S TON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

HENDRY and GLOVER, IRON-FOUNDERS, beg to inform their customers that they have removed their Foundry (from Smart's-buildings) to CHARLES-STREET and 168, DRURY-LANE, where they have adopted every improvement to enable them to compete successfully in quality, price, and punctuality. They have also an extensive and well-arranged stock of patterns for every description of Castings.

FIRE-PROOF SAFE MANUFACTORY,
LEADBEATER,





125, Aldersgate-street, City. Nine Years Sole Manufacturer for Chubb, St. Paul's Church Yard, has on sale a large assortment of fire-proof book-safes and chests, wrought-iron fire-proof doors for strong rooms; fire-proof jewel cases, cash, and deed boxes; fire-proof plate-chests. &c., &c., all secured by LEADBEATER'S IMPROVED DETECTOR LOCKS, throwing from three to twenty bolts, at prices 20 per cent. under any other house in London. All the above-named fire-proof articles, manufactured in the best manner, afford perfect security against fire and thieves.

LEADBEATER'S IMPROVED DETECTOR LOCKS for universal purposes, afford perfect security against false keys and pick-locks. Sold at prices equally reduced.

WILSONS PATENT
VENTILATING
SPIRAL CHIMNEY POT,



For the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success.

This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance.

The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory,

Southwark-bridge Iron
Roofing Works.

CAEN STONE.

LUARD and BEEDHAM have a quantity of the above stone, of the best quality, direct from their Quarries at Allemange, which may be inspected at the Norway Sufferance Wharf, Greenwich.—Further particulars at Mr. G. GATES', 18, SOUTHWARK-SQUARE, SOUTHWARK.

TO BUILDERS, ROAD SURVEYORS, &c.

JOHN SUTTON, Stone Merchant, Rocky-hill, Maidstone, takes this method of informing the Public he has, in addition to his Kentish Rag-stone Quarries at Boughton, Monchelsea, and at Kaut, on the Medway above Maidstone, OPENED AN EXTENSIVE QUARRY on the MEDWAY, below the Allington Lock, where he can supply any quantity of RAG-STONE on the shortest notice, in hammer-dressed loaders, rough-dressed rag for walling, rough rag-stone for foundations, hassock for internal walls to plaster on, broken rag for roads, block rag for sea walling, &c., also for lime. Any description of dressed stone for quoins, buttresses, copings, strings, labels, &c., can be supplied from Boughton Quarries as usual—delivered alongside any wharf in London.

CHEAP PAN FOR WATER CLOSETS,
With Trap, in one Piece.

DOULTON and WATTS, Lambeth Pot-tery, London, Manufacturers of the above in superior glazed STONE WARE, price 7s. 6d. each. They are of the same durable ware, and are recommended in preference to iron on account of their cleanliness and cheapness. If preferred, they can be had in two parts, the pan at 4s. 6d., and the Trap at 3s. 6d. N.B. Manufacturers of RAIN WATER PIPES for houses.

BEST PAN WATER-CLOSETS, with Round Valve, complete, 30s. each.

WASHING COPPERS, above 12lb., 1s. 1d. per lb.

COCKS, Bib, Ball, and Stop, ½-in. 1s. 8d., ¾-in. 2s. 4d.

Lifting Force Pumps, 2¼-in., 4l. 4s., and every description of Copper and Brass Work equally low, at Messrs. MACGLASHAN & CO., 16, Long Acre, London.

BUILDERS' CASTINGS, Beams, Pillars, Air-bricks, Eave-gutters, Pipes, and every description of builders' castings; also Turntables, Cranes, Water-cranes, Weighing-machines, and all apparatus connected with railways; also engines of every kind and size may be obtained of the best description and at the lowest possible price, by applying to JAMES CURRIE, 16, Wellington-street, North, Strand, London. There is a communication by steam-packet with the works at Aberdeen, twice a week.

RAIN WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from ½ in. to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, and No. 6, Bankside, Southwark.

TO BUILDERS, PAINTERS, DECORATORS, AND OTHERS.

MESSRS. WOOD AND COMPANY, Grainers and Writers to the Trade only, by contract, measure, or otherwise.

69, Waterloo Bridge-road. All letters post paid.

N.B. Workmen sent to any part of the kingdom.

*** An Apprentice wanted.

HEAL & SONS' LIST FOR BEDDING.

CONTAINING a full description of Weights, Sizes, and Prices, by which purchasers are enabled to judge the articles that are best suited to make a good set of bedding. Sent free by post, on application to their establishment, the largest in London, exclusively for the manufacture and sale of bedding (no bedsteads or other furniture being kept).

HEAL and SON, Feather Dressers and Bedding Manufacturers, 196 (opposite the Chapel), TottenhamCourt Road.

REMOVED TO LAWRENCE POUNTNEY HILL, CANNON STREET.

By Her Majesty's  Royal Letters Patent.

CROGGON'S PATENT ASPHALTE ROOFING FELT,
With which the Committee Rooms of the Houses of Parliament are entirely Covered.

THE above Material has been used and highly approved by the Nobility, Gentry, and Agriculturists generally, and Patronized by many Members of the Royal Agricultural Societies of England, Scotland and Ireland. It has been used for several Years at the Royal Horticultural Society's Gardens, Chiswick; the Swiss Gardens, Shoreham, Sussex; on the Duke of Buccleuch's, and the Marquis of Anglesea's Property, &c., &c., and (under slate) at the Royal Agricultural Society's House, Hanover-square; its advantages are—CHEAPNESS, LIGHTNESS, DURABILITY, and ECONOMY. Being a Non-Conductor, it has been proved an efficient "Protective Material" to Plants.

PRICE ONE PENNY PER SQUARE FOOT.

ECONOMICAL RADIATING STOVE-GRATE
SHOW-ROOMS AND MANUFACTORY,
5, JERMYN STREET, REGENT STREET.

PIERCE and KOLLE solicit the inspection of an extensive variety of new and elegant STOVE GRATES, with FENDERS and FIRE-IRONS, *en suite* from the most *recherché* designs; just completed in the Grecian, Elizabethan, Louis Quatorze, and Gothic Styles, upon their much-improved

RADIATING PRINCIPLE.

These Grates combine the useful and ornamental, blend economy with comfort, display a cheerful fire with a clean hearth, diffuse a genial warmth throughout the apartment, retain the heat many hours after the fire is burnt out, and are adapted for general use. P. & K. being the sole manufacturers, are enabled to guarantee a select style with first-rate workmanship.

They also invite attention to their IMPROVED METHOD OF HEATING BY HOT WATER through large pipes, combining WARMTH WITH VENTILATION; being the most healthy, simple, and economical mode that can be adopted for warming Mansions, Halls, Churches, or other large Buildings; possessing also the important advantage of safety from fire, and freedom from dust or smell; and is so arranged as to warm the entire of a large mansion from one moderate fire, without excluding the use of the ordinary Grates.

Grates expressly made to cure Smoky Chimneys; references to noblemen, gentlemen, and architects furnished with them.

KITCHENS, LAUNDRIES, BREW-HOUSES, &c., fitted up in the most complete and efficient manner, with Ranges, Ovens, Coppers, Hot Hearths, Smoke-Jacks, and every other requisite, with the latest improvements.

BATHS of every description, comprising the Warm, Cold, Vapour, Shower, Douche, Fumigating, Hip, and Sponging, in great variety, both portable and otherwise.

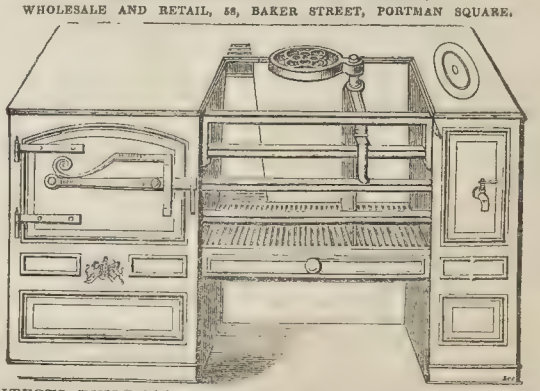
OPINIONS OF THE PRESS.

"ROYAL EXCHANGE.—Among the useful additions to Lloyd's Rooms, may be reckoned the hospitable-looking, yet really Elegant Stove Grates, that have been fitted up by Pierce and Kolle of Jermyn-street. To judge from the very powerful heat thrown out by the fires, these Grates appear to combine all the warmth of a German Stove with the cheerfulness as well as healthful ventilation of the open fire. These Stove-Grates, with their massive fenders, are really ornaments to Lloyd's Rooms, and are highly creditable to Pierce and Kolle."—*Morning Herald*, Dec. 30, 1844. See also the *Morning Post* and *Observer*, Jan. 5, 1845.

"FINE ARTS AS APPLIED TO GRATES.—A few months since we had occasion to speak with eulogium of the manner in which the works generally had been done at the new Royal Exchange, and more particularly alluded to the admirable way in which the warming and ventilation of its large rooms had been managed. The Grates, too, came in deservedly for their share of praise. They were from the Messrs. Pierce and Kolle, who have since been completing several splendid works for large mansions, and amongst others for Lord Francis Egerton, for his new mansion at Worsley Hall, which is now near completion; for Crewe Hall, the seat of Lord Crewe, one of the most perfect specimens of the earlier Elizabethan style of architecture in this country; and also for Merivale Hall and Coolhurst, in Sussex; and moreover for the banqueting-room of Beaufort House. All these Grates exhibit a correct taste, and it is highly creditable to the Manufacturers to find that Artists of unquestionable talent and standing have been employed thereon. It is really to be wished that such exquisite works of art were generally exhibited for awhile, or ably lithographed, that the Public might possess some more accurate and detailed notion than the pen is capable of affording."—*Morning Post*, April 23, 1845. See also the *Morning Chronicle* and the *Standard*, April 28, 1845.

PIERCE AND KOLLE, FURNISHING IRONMONGERS,
No. 5, JERMYN STREET, REGENT STREET.

THE PANKLIBANON IRON WORKS,
WHOLESALE AND RETAIL, 58, BAKER STREET, PORTMAN SQUARE.



ARCHITECTS, BUILDERS, and Others, about to supply STOVES and KITCHEN APPENDAGES, will find at this Establishment the most unique and elegant assortment of STOVE-GRATES, FENDERS, and FIRE-IRONS ever offered to the Public, at prices considerably below the usual charges. The Proprietors at the same time beg to invite attention to their extensive Stock of FURNISHING IRONMONGERY, Tinned Copper, Tin and Iron Cooking Vessels, Block Tin Dish-Covers, Japanned Ware, Table Cutlery, and especially their Sheffield Plate and German Silver Wares, embracing every Article suitable for the Table, comprising Dish and Plate Covers, Liquor Frames, Epergnes, &c. &c. The plan adopted by the Proprietors of affixing the price to each article for cash, enables all purchasers to have the same advantage. The Patent Thermio Stove is in daily operation. Also Cundy's Improved Hot-air Stoves, for Heating and Ventilating Rooms.

THORPE, FALLOWS & COMPANY, 58, Baker-street, Portman-square, London.

THE BUILDER.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

PAINTED GLASS.

THE Subscribers, who have been appointed to furnish the PAINTED GLASS for the WINDOWS of the HOUSE OF LORDS, are ready to prepare Designs adapted to every style of Ecclesiastical or Domestic Architecture, and to execute Work, to any extent, within the shortest possible period.
BALLANTINE and ALLAN, 42, George-street, Edinburgh.

FOREIGN SHEET GLASS, &c., any size in cases as imported of the STOUTEST KIND, 15, 16, and 17 oz. to the foot at 4d. per foot. GLASS PAN TILES equally low in price. English Manufactured Glass of every description on the lowest terms. For ready money only, at C. JARVIS'S Windsor Glass Warehouse, 36, Great Castle-street, a few doors from Regent-street. A large stock of small glass to be sold at a very reduced price.

BRITISH and FOREIGN SHEET GLASS for Horticultural purposes, &c., may be had at JAMES BROMLEY'S, 315, Oxford-street, London, at the following reduced prices:—

In crates, containing about 260 feet, of coarse 13 oz., at 4½d. per foot, or fourth quality, 5d. per foot; ditto, 16 oz. coarse, 5½d.; ditto, fourth quality, 6d.; or cut to any size not exceeding 40 inches long by 10 inches wide at 4½d. per foot extra. Also Microscopical Glass, French Shades, Plate and Crown Window Glass.—A discount to the trade.

TO THE PLATE GLASS TRADE.

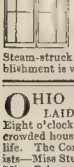
THE BIRMINGHAM PLATE AND CROWN GLASS COMPANY, "Registered," beg to inform the Trade and Public, that the extension of their Works at Smethwick, near Birmingham, being now completed, their Warehouse, 141, Fleet-street, London, is now open for the Sale of their Crystal Plate Glass, which will be found to stand unrivalled by that of any other manufactory. They are also in a position to supply Rough Plate of any substance for Skylights or Floorings on the shortest notice.—Orders addressed to B. MOSS, Company's Warehouse, 141, Fleet-street, London, will be promptly attended to.

WINDOW GLASS, LEAD, VARNISH, and COLOUR MANUFACTORY.—Crown Window Glass, in squares under two feet, 4½d. per foot; glazing, 5d. per foot; sheet glass, 4d. per foot; best white lead, 26s.; seconds, 24s.; thirds, 22s. per cwt.; linseed oil, 2s. 2d.; boiled oil, 2s. 6d.; turpentine, 3s. 9d.; fine oak varnish, 10s.; carriage, 12s.; copal, 14s.; body copal, 20s.; gold size, 10s.; paper varnish, 10s.; linseed oil putty, 7s. 6d. per cwt. per firkin; patent dryers, 42s.; black paint, 28s.; lead colours, 24s.; Oxford ochre, 42s. per cwt.; best pan water-closet, 34s. complete; ½-brass cocks, 2s. 8d. each. Milled sheet lead, patent pipe, beer-machines, tapping-cocks, and brushes and colour of every description. Thomas Millington being the manufacturer, can supply a much better article than most other houses. Address, THOMAS MILLINGTON, 87, Bishopsgate-street Without, London.—Established upwards of 90 years.

SASHES primed, glazed, and sent to any part of London at 6d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.
FOREIGN SHEET 6d. per foot.
BRITISH CROWN 5d. per foot.
Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Shew-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.
Dry and Good Colours of the best quality; Brushes Dryers, and every article used in the Trade Warranted.
VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.
For complete lists priced.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

CHAS. WM. WATERLOW,



Manufacturer of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square. Well-seasoned materials, superior workmanship, lowest prices. Upwards of 400 Doors and a large variety of Sashes and Frames always on Sale. Glazed goods securely packed for the country.



Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged on buildings.

OHIO MELODISTS.—ROYAL ADELAIDE GALLERY.—Every evening at half-past Eight o'clock.—These inimitable artists continue to delight crowded houses by the drollery of their personation of negro life. The Concert conducted by Mr. A. Sedgwick. Vocalists—Miss Stuart and Mr. Bunge. Also the juvenile dancers, Miss Palser and Master Waite. A large model of a new method, invented by Mr. Austin, for obviating the difficulties of the Break of Gauge on Railways. Nickel's Compressed Air Railway, Lecture on Chemistry, Microscope, Dissolving Views, and Chromatrope daily. On Tuesday, Thursday, and Saturday, at Three o'clock, Major Beniowski's Lecture on Artificial Memory, and on Tuesday and Friday, a Lecture on Phonography. Admission, 1s.

ROYAL POLYTECHNIC INSTITUTION.—A new and interesting Lecture by Dr. RYAN, on the Phenomena and Effects of Heat and Cold, at half-past three daily, and on the Evenings of Mondays, Wednesdays, and Fridays, at nine o'clock. Prof. Bachhoffner's Lectures on Natural Philosophy, with brilliant experiments, daily. Macintoshe's Revolving Engine, Coleman's Patent Locomotive Engine for ascending and descending inclined planes, Farrell's Archimedean Railway, the Atmospheric Railway, all in action. Portraits of distinguished Men in the Government and Army of Lahore, magnified by the Opaque Microscope. The Oxy-hydrogen Microscope, exhibiting a fine Collection of Living Objects. A beautiful Picture of the Chapel in the Convent of St. Catherine, near Jerusalem, by Mr. Charles Smith, is one of the series of Dissolving Views just introduced. On Mondays and Fridays, at 4 o'clock, a Solo on the Violin, with Brooks's Patent Clavic Attachment.—Admission, 1s.; Schools, Half-price.

FINE ARTS.

By Her Majesty's Royal Letters Patent.

LORIMIER'S TRANSPARENT PLANES for Perspective Drawing; BENJAMIN WEST, Patentee.

"This Instrument will enable Artists and others to make any Drawing, whether from Nature or Models, in perfectly true perspective, so that a likeness or landscape may be taken in a few minutes absolutely perfect. It is used by her Majesty's Royal Sappers and Miners, Chatham. To Travellers it would be found serviceable, since it can be employed without the knowledge of drawing."—*Art Union.*

Price 18s. and 26s. Apply for Agents to BENJAMIN WEST, 2, St. James's-walk, Clerkenwell.—Sold by BARRITT and Co., 173, Fleet-street, London; GRIFFIN and Co., Glasgow, and by all Fancy Stationers, &c.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters both for security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

REDUCTION IN THE PRICE OF
BUNNETT AND CORPE'S
PATENT REVOLVING IRON SHUTTERS.

THE validity of this Patent being completely established, the Patentees have much pleasure in stating that the very extensive demand, and the employment of improved machinery in the manufacture, have given them an opportunity (of which they gratefully avail themselves) of making a considerable reduction in the price of this well-known and tried invention, thereby rendering them the cheapest as well as the best iron shutters in use. Every improvement suggested by practical skill and most extensive application has been adopted, and no effective REVOLVING IRON SHUTTER can be constructed without infringing B. and C.'s patent. The worm and wheel, as patented by them, being the only safe, durable, and efficient mode of raising and lowering such shutters, these shutters can be applied horizontally, either above or below the window, or vertically, as introduced by BUNNETT and CORPE, in some of the largest establishments: they are made with bent or corrugated laths, if required.

BUNNETT and CORPE also manufacture
REVOLVING WOOD SHUTTERS,

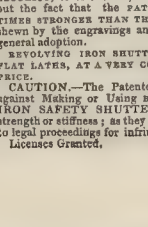
with their patent raising machinery, or with counterbalance weights, and with proper metallic hinges, without which no shutters can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop Fronts fitted in a superior manner with Iron Shutters, Patent Brass or Zinc Sashes, Moulded Engraved Stall Board Plates, best Plate Glass, and internal Brass Fittings of all kinds, on the most advantageous terms. Estimates given and contracts taken in Town or Country.—All kinds of metal works executed to any design. Metal Drawing, Rolling, and Stamping for the Trade. OFFICE, 26, LOMBARD-STREET, LONDON. WORKS, at DEPTFORD, KENT.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.
PATENT SAFETY IRON SLIDING SHUTTERS.





The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 115, Old Street, London; or at the Licensees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using BENT LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.
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